PEOPLE'S PRIMARY HEALTHCARE INITIATIVE (PPHI) BALOCHISTAN

Health Department, Government of Balochistan

PRIMARY HEALTHCARE — CLINICAL GUIDELINES, STANDARDS & PROTOCOLS

A Practitioner's Manual for the Basic Health Units of Balochistan

Aligned to the Essential Package of Health Services (EPHS)

For medical officers, lady health visitors, lady health workers, community midwives and support staff

Also serving as the syllabus for PPHI recruitment examinations for medics and paramedics

Draft for Review

Preserving the evidence-based clinical guidelines of PPHI Balochistan and completing them against the EPHS with current global best practice

Primary Healthcare — Clinical Guidelines, Standards & Protocols.

This master volume integrates the *PHC Facility-Level Clinical Guidelines* of PPHI Balochistan (retained in full) with foundational and cross-cutting chapters, the community health platform, and additional priority protocols, mapped to the Essential Package of Health Services (EPHS).

Produced by: People's Primary Healthcare Initiative (PPHI) Balochistan, in support of the Health Department, Government of Balochistan.

Technical basis: Essential Package of Health Services of Balochistan (February 2022); World Health Organization guidance; and the national vertical programmes (EPI, National TB Control Programme, Directorate of Malaria Control).

Important notice. This is a working draft. The clinical content must be technically reviewed and validated against current national guidelines before publication and clinical use. Medicine names and doses must always be checked against the current national formulary and weight-band charts and against each patient's allergies, weight and pregnancy status. Where a service is beyond the facility's capacity, stabilise the patient and refer.

Edition — Integrated Draft 1.

Foreword

Balochistan carries the largest land area of any province in Pakistan, yet its people are served across vast distances, difficult terrain and a thinly scattered population. For the family in a remote village, the Basic Health Unit is not one option among many — it is, very often, the only door to formal health care. What happens behind that door decides whether a mother survives childbirth, whether a child with pneumonia is recognised in time, and whether a person with tuberculosis or diabetes is placed on the right path to recovery.

The *PHC Facility-Level Clinical Guidelines* set out how each essential service should be delivered. This companion volume completes that work. It provides the foundations — the vision of primary health care, the standards of a functional facility, and the cross-cutting systems of safety, cleanliness, referral, information and community partnership — that turn a set of individual protocols into a coherent standard of practice. It then adds priority clinical protocols for two of Balochistan's heaviest burdens, malaria and tuberculosis, and a roadmap for completing the remaining chapters.

This is intended to be a working document, kept within reach at every BHU across all 36 districts, and revised as evidence and our own experience grow. It is grounded in the Essential Package of Health Services of Balochistan and in the best available global guidance, adapted to our realities. I commend it to every medical officer, lady health visitor, lady health worker, community midwife and support colleague who serves our people, and I thank the technical teams whose diligence made it possible.

This is a different PPHI Balochistan now — one that measures itself not by activity, but by the quality and dignity of the care our people receive.

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Dr. MB Raja Dharejo

Chief Executive Officer, People's Primary Healthcare Initiative (PPHI) Balochistan

How to Use This Booklet

This booklet is a practical, everyday reference for the whole primary-care team at Basic Health Units (BHU), BHU Plus and Rural Health Centres (RHC). It does not replace clinical judgement, national programme instructions, or the advice of a senior colleague — it supports them.

- **Read Part One first.** It explains what primary health care is trying to achieve and how your facility fits into the wider system. Every practitioner should understand it, regardless of role.
- **Keep Part Two beside you.** These are the systems you use in *every* consultation — triage, infection control, safe prescribing, referral, record-keeping and safety. Weak systems undo good clinical knowledge.
- **Use Part Three as a bedside protocol.** Each clinical protocol follows the same structure as the main Clinical Guidelines: brief description, provider, then step-by-step assessment, management and medicines.
- **Look for the coloured boxes.** They flag what matters most at a glance.

> **How the coloured boxes work**
>
> - ▶ RED — REFER / EMERGENCY: act now; a life may be at risk or the patient must be moved to a higher level.
> - ▶ GOLD — KEY POINTS: the essentials to remember for this topic.
> - ▶ NAVY — BALOCHISTAN CONTEXT: how the guidance applies to our province and PPHI systems.

Where this booklet gives medicines or doses, always check the expiry, the weight of the patient, allergies and pregnancy status, and follow the current instructions of the relevant national vertical programme (for example the National TB Control Programme and the Directorate of Malaria Control). When in doubt, stabilise and refer.

Abbreviations

Abbr.	Meaning	Abbr.	Meaning
ACT	Artemisinin-based combination therapy	LHV	Lady Health Visitor
AMR	Antimicrobial resistance	LHW	Lady Health Worker
ANC	Antenatal care	LLIN	Long-lasting insecticidal net
BHU	Basic Health Unit	MO	Medical Officer
BEmONC	Basic Emergency Obstetric & Newborn Care	NCD	Non-communicable disease
BLS	Basic Life Support	NTP	National TB Control Programme
CMW	Community Midwife	PHC	Primary health care
COPD	Chronic obstructive pulmonary disease	PNC	Postnatal care
CVD	Cardiovascular disease	PPE	Personal protective equipment
DHIS2	District Health Information Software 2	RHC	Rural Health Centre
DOTS	Directly Observed Treatment, Short-course	RDT	Rapid diagnostic test
EPHS	Essential Package of Health Services	SBCC	Social & behaviour-change communication
G6PD	Glucose-6-phosphate dehydrogenase	TB	Tuberculosis
HMIS	Health Management Information System	TPT	TB preventive treatment
IMCI	Integrated Mgmt of Childhood Illness	UHC	Universal health coverage
IPC	Infection prevention & control	WASH	Water, sanitation & hygiene
IRS	Indoor residual spraying	WHO	World Health Organization

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PART ONE — Foundations of Primary Healthcare Practice

Primary Health Care: Vision, Principles and the Path to Universal Health Coverage

Primary health care (PHC) is the foundation of a fair and effective health system. It was first defined at Alma-Ata in 1978 as essential care made universally accessible to individuals and families, at a cost the community and country can afford, with their full participation. Forty years later, the Declaration of Astana (2018) renewed this vision for the modern era, and in 2020 the World Health Organization and UNICEF issued an Operational Framework to turn that commitment into practical action.

The modern understanding of PHC rests on three components that must work together: multisectoral policy and action on the causes of ill-health; empowered people and communities who take part in their own care; and primary care supported by essential public health functions as the core of integrated health services. When a health system is organised around these ideas, it becomes what is called a *PHC-oriented* system — one whose main goal is the highest attainable health for all, with equity and solidarity at its centre.

> **Why PHC matters for Balochistan**
>
> - Most health need can be met close to home. A strong BHU prevents illness, treats common conditions early, and refers the rest at the right time.
> - PHC is the most equitable and cost-effective way to reach a scattered, remote population.
> - Universal health coverage — everyone getting the care they need without financial hardship — is built one functioning primary-care facility at a time.

The Operational Framework describes fourteen “levers” that governments use to strengthen PHC. Four are strategic (political commitment and leadership; governance and policy; funding and resource allocation; and engagement of communities and stakeholders) and ten are operational (including models of care; the primary-care workforce; medicines and supplies; digital technologies; quality; and primary-care-oriented financing). For the frontline practitioner, the message is simple: your daily work of prevention, early treatment, continuity and referral is the point at which all of this either succeeds or fails.

The principles below should guide every service in this booklet:

- **Equity** — give priority to those who are hardest to reach and most in need.
- **People-centredness** — organise care around the person and family, not the disease.
- **Continuity** — the same population, followed over time, with proper records and referral.
- **Comprehensiveness** — promotion, prevention, treatment, rehabilitation and palliation together.
- **First contact** — the BHU is the accessible entry point that guides the patient through the system.
- **Community participation** — people are partners, not passive recipients.

In Balochistan these principles are made concrete through the Essential Package of Health Services (EPHS), which prioritises the interventions of greatest impact for our population across the community and primary-care platforms. This booklet operationalises the primary-care platform of that package.

The Balochistan PHC Delivery System and the Basic Health Unit

Public health services in Balochistan are delivered through an integrated, district-managed complex. Care is organised in tiers: community-based services in the home; primary-care facilities (BHU, BHU Plus and RHC); first-level hospitals (Tehsil and District Headquarter Hospitals) for referral; and tertiary care. Population-level programmes (immunisation, disease control, nutrition) run across all tiers.

The three primary-care facility types

Facility	Typical catchment	Hours	Core role
BHU / Dispensary	~5,000–25,000	8 hrs / 6 days	First formal contact: MCH, immunisation, family planning, management of common illness, danger-sign recognition and referral; support to LHWs and community providers.
BHU Plus / MCH Centre	~25,000–40,000	24/7	Everything a BHU offers, plus round-the-clock delivery services and at least a two-bed facility for institutional delivery.
Rural Health Centre (RHC)	~40,000–60,000+	24/7	Comprehensive primary care with basic indoor beds, Basic Emergency Obstetric & Newborn Care, minor surgery, laboratory and X-ray; clinical and managerial support to 5–8 linked BHUs.

The primary-care team and who does what

Quality care depends on every member of the team knowing their role and working together. At facility and community level these roles typically include:

- **Medical Officer (MO)** — clinical leadership, diagnosis and treatment of referred and complex cases, minor procedures, emergency stabilisation, supervision and reporting.
- **Lady Health Visitor (LHV)** — antenatal, delivery and postnatal care, family planning, newborn and child care, and outreach.
- **Lady Health Worker (LHW)** — community-based worker for ~150–200 households; health education, family planning, MCH, immunisation and nutrition, and the vital link between household and facility.
- **Community Midwife (CMW)** — skilled birth attendance for home and birthing-station deliveries within her catchment.
- **Vaccinator / EPI technician** — routine immunisation and cold-chain integrity.
- **Dispenser / pharmacy staff** — stock, storage, cold chain and rational dispensing.
- **Support and sanitary staff** — cleanliness, waste handling and a safe environment.

> **The community platform is part of your facility**
>
> - The LHW's house is a designated "Health House" and, with the CMW's workstation, forms the first rung of care.
> - Every BHU is responsible for the management, supplies, supervision and continuing education of the LHWs and community providers in its area. Treat them as your team, not as outsiders.

Standards for a Functional BHU

A facility must be ready before it can be safe. The EPHS defines infrastructure, equipment and medicine standards for each facility type; the essentials are summarised here. Facility in-charges should audit against this list monthly (see Chapter 11).

Infrastructure and basic amenities

- Central registration/reception; consultation and examination rooms with privacy (curtains/screens); LHV room; dispensing and store area; waiting area protected from weather with health-education material and a complaint/suggestion box.
- Labour room (BHU Plus/RHC) with attached toilet, water and a newborn-care corner; operating/procedure area at RHC.
- Clean, preferably piped, drinking water with storage; separate functional toilets for male and female patients and staff; hand-hygiene facilities at points of care.
- Reliable electricity with an alternate source for the cold chain and emergencies; boundary wall and gate; visible facility sign board and a board listing services, hours and emergency contacts in local and national languages.
- Ramp and accessible entrance for people with disabilities; a rubbish pit and proper waste-disposal area; residential accommodation for staff where required.

Essential medicines, supplies and equipment

Each facility must hold the essential medicines and supplies specified in the EPHS annexures for its level, stored correctly and never allowed to expire (see Chapter 7). Community-level essential equipment includes the LHW kit bag, stethoscope, BP apparatus, thermometer, weighing scales (infant and adult), mid-upper-arm-circumference tape and a respiratory-rate timer. PHC facilities additionally require equipment for emergency and general services, growth monitoring, the delivery/labour room, a procedure room, basic laboratory reagents, and — at RHC — an operating theatre, dental unit and X-ray.

Readiness checklist — ask every morning

- Are hand-hygiene supplies, PPE and clean water available at points of care?
- Is the emergency tray stocked and in date, and is the cold chain within range?
- Are essential medicines in stock and not expiring this month?
- Are registers, referral forms and the ambulance/transport contact ready to use?

PART TWO — Cross-Cutting Clinical and Facility Systems

Person-Centred Care: Ethics, Consent, Dignity and Confidentiality

Every patient is entitled to competent care delivered with respect. Poor communication and disrespect are among the commonest reasons people avoid or delay care, especially women and the poor. The clinical content of this booklet only helps if it is delivered ethically.

Core duties to every patient

- **Respect and dignity** — greet the patient, explain what you are doing, protect their privacy during examination, and never shame or scold.
- **Informed consent** — before any examination, procedure or referral, explain in plain language what you propose, why, the risks and alternatives, and obtain the patient's agreement. For procedures, record consent.
- **Confidentiality** — keep what patients tell you and their records private. Discuss cases only with those involved in care. This is especially critical for HIV, STIs, mental health and gender-based violence.
- **Non-discrimination** — care is given on need alone, regardless of sex, ethnicity, language, disability, ability to pay or any other status.
- **Gender sensitivity** — offer a female provider or chaperone for women where possible; make the facility a place women feel safe to attend.
- **Truthfulness and honesty** — do not promise what you cannot deliver; acknowledge the limits of the facility and refer.

> **Protection from sexual exploitation and abuse (PSEA)**
>
> - There is a zero-tolerance standard for any sexual exploitation, abuse or harassment of the people we serve.
> - Care, and referral, must never be conditional on any favour. Know how to raise a concern safely through PPHI channels.

Special care is owed to children, older people, people with disabilities and survivors of violence. Where a patient cannot consent (for example an unconscious emergency, or a young child), act in their best interest and involve the appropriate guardian, while never delaying life-saving care.

Rapid Triage and Emergency First Response at the BHU

A small number of patients arrive with, or quickly develop, a life-threatening problem. Recognising them fast — before full history-taking — and starting first response saves lives. Every facility should triage at the point of first contact.

Look for emergency (danger) signs first

In any patient, immediately assess Airway, Breathing, Circulation, Disability (consciousness) and Exposure (ABCDE). Emergency signs include: obstructed or absent breathing; severe respiratory distress; central cyanosis; shock (cold, weak fast pulse, capillary refill > 3 seconds); coma, convulsions or altered consciousness; and signs of severe dehydration.

In a child (IMCI danger signs): unable to drink or breastfeed; vomits everything; convulsions (now or during this illness); lethargic or unconscious; convulsing now. Any one of these means urgent treatment and referral.

In pregnancy/childbirth: heavy vaginal bleeding; convulsions or severe headache with visual changes (eclampsia/pre-eclampsia); high fever; prolonged/obstructed labour; retained placenta; severe abdominal pain.

If any emergency sign is present

- Do not wait to complete the history. Call for help and start ABCDE first response now.
- Keep the airway open; give oxygen if available; position appropriately (recovery position if unconscious and breathing).
- Control visible bleeding with firm pressure; keep the patient warm.
- Give pre-referral treatment where indicated (e.g. IV/IM artesunate for severe malaria; IM magnesium sulphate for eclampsia; rectal/IV glucose for hypoglycaemia in a child) and arrange immediate transfer with a completed referral form and, where possible, an escort.

The emergency tray / box

Keep a dedicated, sealed and regularly checked emergency kit that everyone can find. Minimum contents: airway support (bag-valve-mask, oral airways), oxygen where available, IV cannulas and fluids (normal saline/Ringer's lactate), adrenaline, magnesium sulphate, glucose (oral and injectable), diazepam, hydrocortisone, oxytocin (cold-chain), gloves, and syringes. Restock immediately after every use and check expiry monthly.

Infection Prevention and Control (IPC) and WASH

Clean care is safer care. Health-care-associated infection and unsafe injections harm patients and staff and drive antimicrobial resistance. IPC is not optional housekeeping — it is a core clinical duty, built on the WHO core components and minimum requirements for primary-care facilities.

The essentials every facility must have and do

- **A named IPC focal person** and simple written IPC and cleaning procedures, reviewed and audited (see Chapter 11).
- **Hand hygiene at every point of care** — soap and running water with single-use (or clean reusable) towels, or alcohol-based hand rub. Practise WHO's "Five Moments": before touching a patient; before a clean/aseptic procedure; after body-fluid exposure risk; after touching a patient; and after touching the patient's surroundings.
- **Personal protective equipment** matched to the task — gloves, apron/gown, mask and eye protection as needed; remove and dispose of correctly.
- **Safe injection and sharps practice** — one sterile syringe and needle per patient, never recap by hand, dispose immediately into a puncture-proof safety box.
- **Decontamination and sterilisation** — clean, then disinfect or sterilise reusable instruments; use sterile technique for procedures and deliveries.
- **Environmental cleaning** — routine cleaning of surfaces and floors with the correct dilution; manage spills of blood/body fluids safely.
- **WASH minimum requirements** — safe water for all uses; at least two functional improved toilets (one for patients, one for staff) with menstrual-hygiene provision; and hand-hygiene stations that are always stocked.

> **Multimodal improvement — make good practice the easy default**
>
> - Build the system (supplies at the point of care), train and remind staff, monitor and give feedback, and create a culture where anyone can speak up about a breach. Hand hygiene is the single most important IPC action.

Rational Use of Medicines, Antimicrobial Stewardship and the Cold Chain

Medicines are only helpful when the right patient gets the right medicine, at the right dose, for the right duration — and when they are safe, in stock and correctly stored. Irrational use wastes scarce resources and fuels resistance.

Rational prescribing at PHC

- Prescribe only when needed, preferring the essential-medicines list; confirm allergies, pregnancy/breastfeeding and interactions.
- Explain to the patient what the medicine is for, how and how long to take it, and the side-effects to watch for; support adherence.

- Avoid unnecessary injections and multiple medicines; use oral routes where effective.

Antimicrobial stewardship

Antimicrobial resistance (AMR) is a growing threat that begins in everyday practice. Do not use antibiotics for viral illnesses such as the common cold or most sore throats and simple diarrhoea. When an antibiotic is indicated, choose the recommended first-line agent, give the correct dose and full course, and counsel completion. Reserve broader agents for defined indications and refer where diagnosis is uncertain.

Stock management and the cold chain

- Use "first-expiry, first-out"; track stock and reorder before stock-outs; record and remove expired medicines.
- Maintain the cold chain (typically +2°C to +8°C) for vaccines and heat-sensitive medicines such as oxytocin; check and log fridge temperature twice daily; act immediately on any excursion; protect against power cuts.

> **PPHI systems**
>
> - Use the PPHI ERP / inventory system and DHIS2 to keep stock visible and prevent stock-outs, and to feed procurement planning.

Healthcare Waste Management and Occupational Safety

Health-care waste can transmit infection and injure staff, patients and the community if mishandled. Every facility must segregate, contain and dispose of waste safely, and protect its workforce.

Segregation at the point of generation

- **Sharps** — into puncture-proof safety boxes only; never overfill (three-quarters full is the limit).
- **Infectious/contaminated waste** (blood-soaked, body fluids, used dressings) — into clearly marked bags/bins.
- **General (non-hazardous) waste** — kept separate from the above.
- Treat and dispose of hazardous waste by the approved method; keep the disposal area secure and away from patients and water sources.

Protecting staff

- Provide hepatitis B vaccination for clinical staff and ensure PPE is available.
- **Needle-stick / body-fluid exposure:** wash the area with soap and water (do not squeeze), report immediately, assess the source and risk, and arrange post-exposure prophylaxis and follow-up as per protocol.
- Support safe workloads, heat protection in Balochistan's climate, and staff wellbeing.

The Referral System and Continuity of Care

No BHU can do everything. Knowing *when* and *how* to refer — and closing the loop afterwards — is a mark of good, not weak, practice. Delays and poor communication at referral cost lives, especially in obstetric and newborn emergencies.

When to refer

- Any emergency sign the facility cannot definitively manage (see Chapter 5).
- Obstetric complications beyond BEmONC; newborns needing higher care; severe malnutrition with complications; severe or unresponsive infection; suspected surgical abdomen or major trauma.
- Diagnoses requiring services not available at the facility (e.g. confirmatory testing, imaging, specialist care, drug-resistant TB).

How to refer safely — stabilise and transfer

1. Stabilise first (ABCDE, control bleeding, treat shock/hypoglycaemia, give pre-referral medicines).
2. Explain to the patient and family, obtain consent, and reassure.
3. Communicate ahead to the receiving facility where possible; use telehealth support (Chapter 14) to guide management and confirm the destination.
4. Complete the referral form: identity, findings, vital signs, working diagnosis, treatment already given (with times and doses), and reason for referral.
5. Arrange the fastest safe transport and, where possible, a trained escort; continue monitoring en route.
6. Record the referral and follow up on the outcome; use the return information to continue care.

> **A good referral form travels with the patient**
>
> - Findings + vitals + treatment given (with times) + reason for referral. Keep a copy at the facility and record the outcome when it returns.

Documentation, Health Information and Reporting

If it is not recorded, it did not happen — for the patient's safety, for continuity, and for the system to see and improve. Accurate registers and timely reporting are part of clinical care, not paperwork bolted on afterwards.

- Maintain the standard registers (OPD, ANC/PNC, immunisation, family planning, stock, referral) completely and legibly, on the day of service.
- Report through DHIS2 / HMIS accurately and on time; verify totals before submission and reconcile with registers.
- Protect the confidentiality and physical security of records.
- **Use your own data:** review monthly numbers (deliveries, immunisation coverage, common diseases, stock-outs, referrals) in facility meetings and act on what they show.

Data quality is a leadership priority

- Independent monitoring and the PPHI ERP make facility performance visible. Enter real, verified data — decisions on staffing, supplies and support depend on it.

Patient Safety and Quality Improvement

Most harm in health care is preventable. A culture that looks honestly at problems — without blame — and improves systems is the essence of quality. Quality here means care that is effective, safe and people-centred.

Common, preventable risks at PHC — and their defences

- Medication errors — check patient, drug, dose, route, time; beware look-alike/sound-alike medicines and weight-based paediatric dosing.
- Infection — hand hygiene and safe injections (Chapter 6).
- Missed danger signs / delayed referral — triage every patient (Chapter 5).
- Diagnostic error — use protocols, re-examine when a patient does not improve, and refer when uncertain.

Improving, step by step

- Use short improvement cycles (Plan–Do–Study–Act): pick one problem, test a small change, measure, and keep what works.
- Use checklists for high-risk moments (delivery, procedures, referral, cold chain).
- **Supportive supervision:** monthly structured visits with a checklist, written feedback and joint problem-solving — not fault-finding.
- Hold brief team meetings to review data, near-misses and any maternal or newborn death, and agree a few concrete actions.

Community Engagement, Health Promotion and Behaviour Change

Health is made mostly in homes and communities, not clinics. A BHU that partners with its community prevents more illness, earns trust, and increases the use of services — particularly by women and children.

- Support health committees and women's groups; work hand-in-hand with LHWs and community midwives; involve local and religious leaders.
- Deliver clear, respectful health-promotion messages using social and behaviour-change communication (SBCC) — meet people's beliefs and barriers, do not lecture.
- Generate demand for high-impact services: antenatal and skilled birth care, exclusive breastfeeding, complementary feeding, full immunisation, family planning, handwashing and safe water, danger-sign awareness, and early care-seeking.

Priority health-promotion messages for every household

- Attend antenatal care early and deliver with a skilled attendant; recognise the danger signs of

pregnancy and newborn illness.

- Breastfeed exclusively for six months; continue with complementary feeding; complete the child's immunisations.
- Wash hands with soap; use safe drinking water; sleep under a treated net where malaria is present.
- Seek care early for fever, cough more than two weeks, or any danger sign — do not wait.

Emergency, Outbreak and Disaster Preparedness at Facility Level

BHUs are often the first to detect and the first to respond to outbreaks and disasters. Preparedness is an all-hazards habit, not a one-off plan.

Surveillance and notification

- Watch for and immediately notify priority and notifiable conditions (e.g. suspected measles, acute flaccid paralysis/polio, cholera/acute watery diarrhoea clusters, dengue, malaria upsurges, unusual clusters of illness or death).
- Report through the disease surveillance and DHIS2 channels without delay — early warning saves lives.

First steps in a suspected outbreak

7. Confirm and record cases; protect staff and patients with IPC (Chapter 6).
8. Notify the district health authority and the relevant programme at once.
9. Isolate/cohort where appropriate; strengthen hygiene and safe water; begin case management per protocol.
10. Support case investigation, contact tracing and community messaging.

Climate and terrain risks in Balochistan

- Plan for heat-waves (recognise and manage heat illness; protect staff and patients), drought and water scarcity, floods, and access being cut off. Keep buffer stocks of essentials and an updated transport/communication plan.

Telehealth and Digital Health at the BHU

Distance is Balochistan's central health challenge. Telehealth lets a frontline team reach expertise in real time, and lets patients — especially women — be assessed without long, costly and sometimes impossible journeys. PPHI Balochistan operates a satellite-connected hub-and-spoke telehealth network linking facilities to a central teleconsultation nerve centre.

Using telehealth well

- Use it to support diagnosis and management of difficult cases, to guide emergency stabilisation, and to decide and confirm referrals — not to replace hands-on assessment.

- Prepare before the call: patient identity and consent, history, vital signs, examination findings and any results ready to share.
- Follow and record the advice given in the patient's notes; complete any referral the consultation recommends.
- Protect privacy and confidentiality on every teleconsultation, and ensure women can consult in a private, dignified setting.

When to reach for telehealth

- The diagnosis or next step is unclear; a specialist opinion would change management; you need to guide an emergency before/after transfer; or referral needs to be arranged and confirmed.

PART THREE — The Community Health Platform

The community platform is the first rung of primary health care and the point at which most illness is prevented and most care begins. It is delivered mainly by Lady Health Workers (LHWs), Community Midwives (CMWs) and outreach teams, supervised by and linked to the BHU. The protocols below cover the EPHS community-level interventions in the same practical structure used throughout this book. Their emphasis is on promotion, prevention, early recognition and timely referral; the detailed clinical management of conditions they detect is given in the primary-care protocols that follow. Doses and schedules follow the current national programmes (EPI, National TB Control Programme, Directorate of Malaria Control) and national nutrition guidance.

Family-planning counselling and provision at community level

Brief Description of Intervention:

Counselling couples on healthy timing and spacing of pregnancies and providing short-acting contraceptives at the doorstep, with referral for long-acting and permanent methods. Birth spacing of at least two to three years improves the survival and health of both mother and child.

Main Provider(s) of Care:

Lady Health Worker (counselling and resupply), Lady Health Visitor and Community Midwife (method provision and referral).

SOPs for the Protocols:

Assessment

- Ask about reproductive intentions, number and ages of children, last menstrual period and breastfeeding status.
- Rule out current pregnancy before starting a method; screen for conditions that limit certain methods (for example high blood pressure, severe headaches/migraine with aura, current breastfeeding of a baby under six months, smoking in older women, or a history of clots).

Actions and counselling

- Explain the available methods, how each is used, benefits, side-effects and return/resupply; respect the couple's informed choice.
- Provide condoms, combined or progestogen-only pills, and injectables where trained and authorised; offer emergency contraception when needed.

- Refer to the BHU/RHC for IUD, implant or permanent methods, and for any complication.
- Give consistent messages on dual protection (condoms) against sexually transmitted infections and HIV.

Method	How it is used	Notes at community level
Male condom	New condom with every act of sex	Also protects against STIs/HIV; always keep in stock; resupply freely.
Combined oral pill	One pill daily	Avoid in breastfeeding under 6 months and in women with high BP, migraine with aura or clot history; refer if unsure.
Progestogen-only pill	One pill daily at the same time	Suitable during breastfeeding.
Injectable (DMPA)	One injection every 3 months	Provide where trained; counsel on delayed return of fertility.
Emergency contraception	As soon as possible after unprotected sex	Time-critical; does not end an existing pregnancy.
IUD / implant / permanent	Provided at facility	Long-acting and highly effective — counsel and refer.

Refer to the BHU / RHC

- For IUD, implant or permanent methods; for a suspected pregnancy in a woman using a method; and for heavy bleeding, severe pain, or other side-effects that worry the woman.

Iron–folic acid supplementation and maternal nutrition in pregnancy

Brief Description of Intervention:

Preventing and treating anaemia in pregnancy with daily iron–folic acid (IFA), dietary counselling and — for food-insecure households — food or caloric supplementation. Anaemia in pregnancy increases the risk of death, premature birth and low birth weight.

Main Provider(s) of Care:

Lady Health Worker and Lady Health Visitor.

SOPs for the Protocols:

Assessment

- Check for pallor (inner eyelids, palms, tongue) and ask about tiredness, breathlessness and dizziness.

- Confirm the woman is attending antenatal care; ask about adherence to IFA and any side-effects.

Actions and counselling

- Give one IFA tablet daily throughout pregnancy and continue for three months after delivery, following national guidance; explain that dark stools are normal and advise taking it with food if nausea occurs.
- Counsel a diverse diet (green leafy vegetables, pulses, eggs, meat and vitamin-C-rich foods) and provide food/caloric supplementation to women in food-insecure households as the programme allows.
- Support deworming and calcium supplementation where these are part of the national schedule.

> **Refer**
>
> - Severe pallor, breathlessness at rest, a fast heartbeat, or swelling — refer to the BHU/RHC for assessment and possible treatment of severe anaemia.

Community maternal and newborn care: birth preparedness and immediate newborn care

Brief Description of Intervention:

Preparing every pregnant woman and family for a safe birth with a skilled attendant, and ensuring the newborn receives immediate essential care. This includes birth-preparedness and complication-readiness planning, promotion of facility or skilled delivery, immediate newborn care, thermal care and kangaroo mother care for small babies, and early recognition of newborn danger signs.

Main Provider(s) of Care:

Community Midwife, Lady Health Visitor and Lady Health Worker.

SOPs for the Protocols:

Birth preparedness and complication readiness

- Agree a birth plan with every family: where the birth will take place (a facility or with a skilled attendant), how the woman will get there, who will accompany and decide, funds set aside, and a plan for blood/transport in an emergency.
- Promote delivery at a BHU Plus/RHC or with a skilled attendant; discourage unattended home delivery.
- Teach the family the danger signs of pregnancy and labour that require immediate care.

Immediate newborn care (the first minutes and hours)

- Dry the baby immediately and keep it warm (skin-to-skin on the mother's chest); delay the first bath.
- Start breastfeeding within the first hour; support exclusive breastfeeding.
- Keep the cord clean and dry; apply chlorhexidine to the cord where this is national policy.
- For a small or preterm baby, counsel and support kangaroo mother care (continuous skin-to-skin contact and frequent breastfeeding) and refer as needed.
- A baby that does not breathe at birth needs immediate help — the skilled attendant should begin newborn resuscitation (see the primary-care protocol) while urgent referral is arranged.

Newborn danger sign	Action
Not feeding well or not able to breastfeed	Refer urgently.
Fast breathing, chest indrawing, grunting or stopping breathing	Refer urgently; keep warm.
Very small or preterm baby	Kangaroo mother care; refer.
Fever or cold to touch (low temperature)	Warm the baby; refer urgently.
Convulsions or stiff/arched body	Refer urgently.
Yellow palms/soles, or yellow in the first 24 hours	Refer for assessment of jaundice.
Red/draining cord or skin pustules	Refer for possible infection.

Refer urgently

- Any newborn danger sign above, and any woman with heavy bleeding, convulsions, severe headache, high fever, or prolonged/obstructed labour — arrange immediate transfer to a BHU Plus/RHC or hospital.

Community screening for hypertensive disorders in pregnancy

Brief Description of Intervention:

Measuring blood pressure at every contact with a pregnant woman and recognising the danger signs of pre-eclampsia and eclampsia, so that women at risk are referred before they become critically ill. Hypertensive disorders are a leading cause of maternal death and are often silent.

Main Provider(s) of Care:

Lady Health Visitor, Community Midwife and trained Lady Health Worker.

SOPs for the Protocols:

Assessment

- Measure blood pressure correctly at every antenatal contact (woman seated and rested, correct cuff size).
- Ask about and look for danger signs: severe or persistent headache, blurred vision or flashing lights, pain in the upper abdomen, sudden swelling of the face/hands, and convulsions.

Actions and referral

- Blood pressure 140/90 mmHg or higher — refer to the BHU/RHC for assessment.
- Blood pressure 160/110 mmHg or higher, or any danger sign — this is an emergency; arrange immediate referral to a facility that can give magnesium sulphate and manage delivery.
- A convulsing pregnant woman (eclampsia) is a life-threatening emergency — protect her from injury, keep the airway clear, and transfer at once; magnesium sulphate is given at the facility.

Emergency referral

- BP ≥ 160/110, severe headache or visual changes, upper-abdominal pain, or any convulsion in pregnancy or after delivery — refer immediately; do not wait.

Promotion of breastfeeding and infant and young child feeding

Brief Description of Intervention:

Supporting mothers to breastfeed exclusively for the first six months, to introduce safe and adequate complementary foods from six months while continuing breastfeeding to two years, and to keep feeding a child during and after illness. Good feeding in the first 1,000 days is one of the strongest protectors of child survival and development.

Main Provider(s) of Care:

Lady Health Worker and Lady Health Visitor.

SOPs for the Protocols:

Assessment

- Ask how the child is being fed for its age; observe a breastfeed for attachment and positioning if there are difficulties.
- Monitor growth and weight gain; check for feeding problems during illness.

Actions and counselling

- Support early initiation (within one hour of birth) and exclusive breastfeeding — no water, other milk or foods — for the first six months.
- From six months, counsel timely, frequent, thick and varied complementary foods with continued breastfeeding; emphasise hygiene in preparation and feeding.
- Advise continued feeding and extra fluids during illness, and an extra meal a day for two weeks during recovery.

Age	Feeding
0–6 months	Exclusive breastfeeding, on demand, day and night. No water or other foods.
6–8 months	Continue breastfeeding; begin complementary foods 2–3 times a day plus 1–2 snacks; start thick and soft, increase variety.
9–11 months	Breastfeeding plus family foods (finely chopped/mashed) 3–4 times a day plus 1–2 snacks.
12–23 months	Breastfeeding plus family foods 3–4 times a day plus 1–2 snacks; a variety of animal foods, pulses, fruits and vegetables.
During/after illness	Continue and increase feeding and fluids; add an extra meal daily for two weeks in recovery.

Key messages

- Nothing but breast milk for the first six months; start complementary foods at six months, not before and not after.
- Keep breastfeeding to two years and beyond; feed more, not less, during illness.

Routine childhood immunisation (Expanded Programme on Immunisation)

Brief Description of Intervention:

Ensuring every child completes the national immunisation schedule on time, with catch-up for those who have missed doses, correct cold-chain handling, and safe management of any reaction. Immunisation is among the most cost-effective of all health interventions.

Main Provider(s) of Care:

Vaccinator/EPI technician (administration and cold chain), Lady Health Worker (mobilisation and tracking), Lady Health Visitor.

SOPs for the Protocols:

Actions

- Check the child's EPI card at every contact; give all doses that are due and record them; there are very few true contraindications — a minor illness is not a reason to delay.
- Actively find and vaccinate children who have missed doses (catch-up) and tell the family the date of the next visit.
- Maintain the cold chain (+2°C to +8°C), use a new sterile syringe for each child, and dispose of sharps safely.

- Counsel that mild fever or soreness is common; manage minor reactions and report any serious adverse event following immunisation (AEFI).

Age / visit	Vaccines
Birth	BCG; OPV-0; Hepatitis B (birth dose).
6 weeks	Pentavalent-1 (DTP–HepB–Hib); OPV-1; PCV-1; Rota-1.
10 weeks	Pentavalent-2; OPV-2; PCV-2; Rota-2.
14 weeks	Pentavalent-3; OPV-3; PCV-3; IPV.
9 months	Measles–Rubella-1 (MR-1); Typhoid conjugate vaccine (TCV).
15 months	Measles–Rubella-2 (MR-2).
Pregnant women	Tetanus–diphtheria (Td) doses per the national schedule.

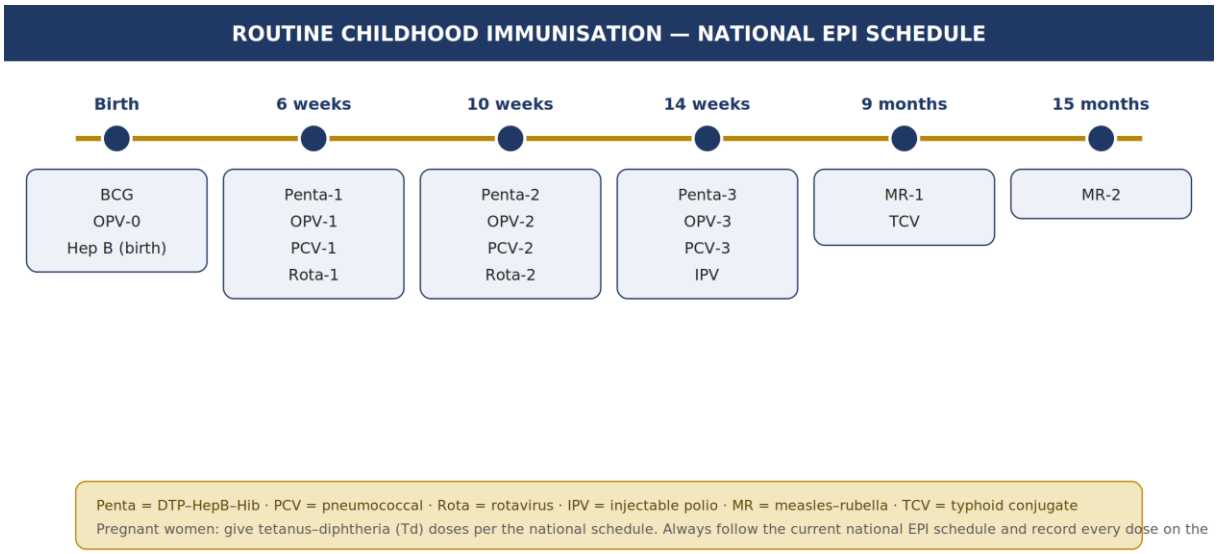


Figure: National EPI schedule (follow the current national schedule as updated).

> **Immunisation reminders**
>
> - Give every due dose at every opportunity; a missed chance is a child left unprotected.
> - Always follow the current national EPI schedule and record each dose on the EPI card.

Community recognition and referral of the sick child

Brief Description of Intervention:

Recognising danger signs in sick children, treating simple illness at community level, and referring promptly those who need higher care. This mirrors the Integrated Management of Childhood Illness (IMCI) approach at community level and is one of the highest-impact roles of the LHW.

Main Provider(s) of Care:

Lady Health Worker and Lady Health Visitor; linked to the BHU for classification and treatment.

SOPs for the Protocols:

Assessment — always check the danger signs first

Ask and look for the four general danger signs before anything else: not able to drink or breastfeed; vomits everything; convulsions; and lethargy or unconsciousness. Then assess the main symptoms.

Look for / ask	Classify and act
Any general danger sign	Serious illness — give pre-referral help and refer urgently.
Cough or difficult breathing; count breaths	Fast breathing or chest indrawing = possible pneumonia — treat per protocol/refer.
Diarrhoea; assess for dehydration	Give ORS and zinc; refer if signs of severe dehydration or danger signs.
Fever	Test/treat for malaria where present; look for measles/other cause; refer if danger signs.
Malnutrition — measure MUAC and check for swelling of both feet	Severe acute malnutrition or oedema — refer; support feeding of moderate cases.
Pallor (anaemia)	Refer severe pallor; counsel iron-rich feeding.

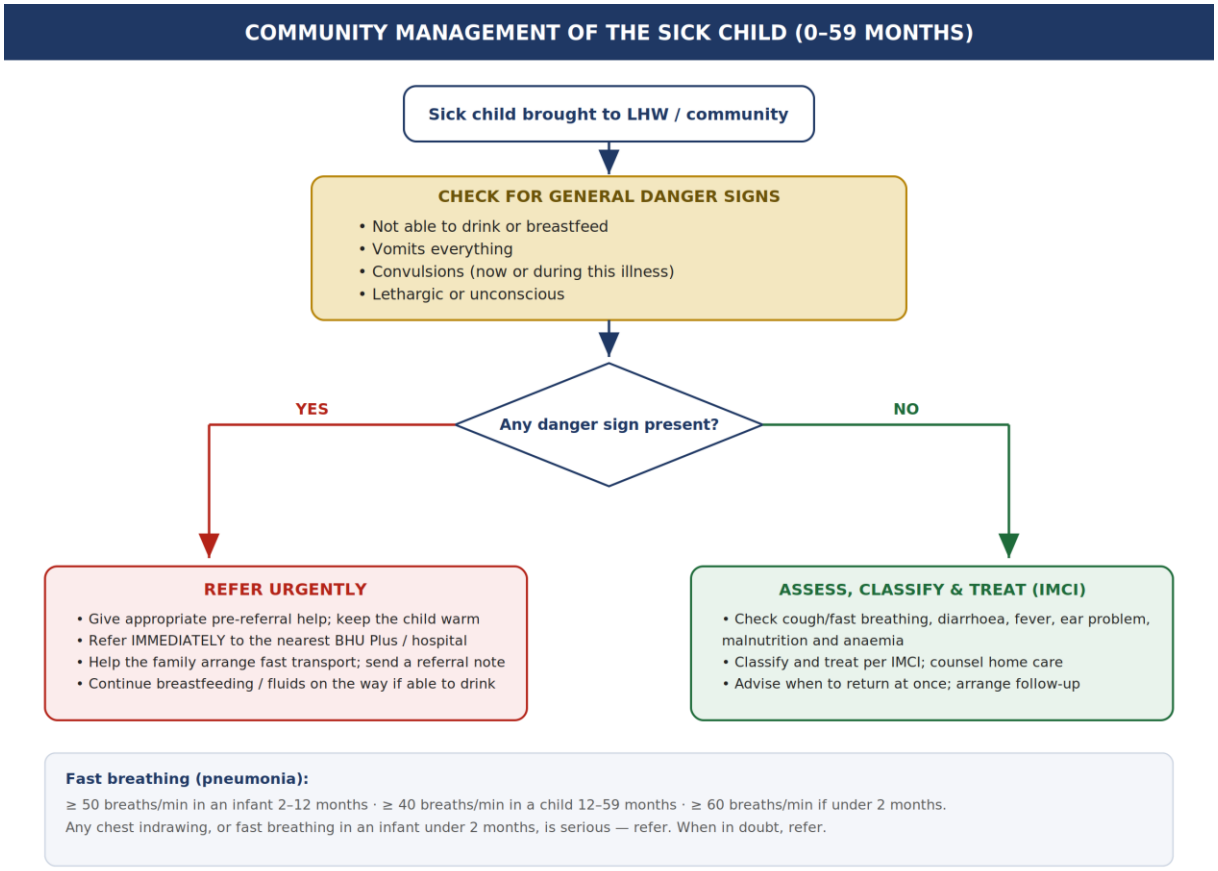


Figure: Community management of the sick child — danger-sign recognition and referral.

Actions

- Treat simple diarrhoea with oral rehydration solution and zinc, and counsel on feeding and fluids.
- Refer any child with a danger sign, fast breathing/chest indrawing, severe dehydration, or severe malnutrition.
- Counsel every carer on home care and the signs that mean "return immediately"; arrange follow-up.

Refer urgently

- Any general danger sign, chest indrawing, severe dehydration, severe acute malnutrition, or a child who is getting worse — give pre-referral help, keep warm, and refer at once.

Water, sanitation and hygiene (WASH) promotion

Brief Description of Intervention:

Promoting handwashing with soap, safe drinking water and safe disposal of human (especially children's) faeces to prevent diarrhoea, pneumonia and other infections. Simple hygiene is one of the cheapest and most powerful disease-prevention tools available.

Main Provider(s) of Care:

Lady Health Worker and Lady Health Visitor; supported by sanitation staff and community groups.

SOPs for the Protocols:

Actions and counselling

- Promote handwashing with soap at the five critical times: before eating, before preparing food, before feeding a child, after using the toilet, and after cleaning a child.
- Counsel household water treatment (boiling or chlorination) and safe storage in a covered container with a narrow mouth.
- Promote use of a latrine by everyone and the safe disposal of children's faeces; discourage open defecation.
- Link hygiene messages to child-feeding and to the facility's own infection-prevention practices (see the IPC chapter).

The critical hygiene behaviours

- Handwashing with soap at the five critical times; safe water, safely stored; and safe disposal of all faeces, including babies'.

Community action on TB, malaria and neglected tropical diseases

Brief Description of Intervention:

Finding people with tuberculosis early, supporting their treatment, promoting malaria prevention and prompt testing of fever, detecting neglected tropical diseases such as cutaneous leishmaniasis (common in parts of Balochistan), and recognising the early warning signs of outbreaks. The community worker is often the first to notice these problems.

Main Provider(s) of Care:

Lady Health Worker and Lady Health Visitor, working with the BHU, the National TB Control Programme and the Directorate of Malaria Control.

SOPs for the Protocols:

Tuberculosis — find cases and support treatment

- Identify any household member with a cough of two weeks or more (a presumptive TB case) and refer to the BHU for a sputum test.
- When someone is diagnosed, trace and screen household and close contacts (especially children under five and people living with HIV) and refer them for evaluation.

- Support daily treatment adherence (DOTS) and bring back anyone who misses doses; explain that TB is curable with a full course.

Malaria — prevent and act early

- Promote and support the correct, nightly use of long-lasting insecticidal nets, prioritising pregnant women and young children.
- Advise prompt testing and treatment of any fever at the BHU; support net distribution and breeding-site reduction campaigns.

Neglected tropical diseases and outbreaks

- Recognise and refer skin lesions suggestive of cutaneous leishmaniasis (a slowly growing sore) and other NTDs for diagnosis and treatment.
- Report at once any unusual cluster of illness or death — for example several cases of acute watery diarrhoea, fever with rash, or jaundice — to the BHU so an outbreak can be investigated early.

Refer and notify

- Refer any cough ≥ 2 weeks, any fever for testing, and any suspicious skin lesion. Notify the BHU immediately of any cluster of similar illnesses or of a death that may be due to an infectious cause.

CLUSTER 1: REPRODUCTIVE, MATERNAL, NEONATAL, CHILD AND ADOLESCENT HEALTH & NUTRITION (RMNCAH&N)

I. Provision of iron and folic acid supplementation to pregnant women, and provision of food or caloric supplementation to pregnant women in food insecure households (PHC).

Brief Description of Intervention:

This intervention entails the routine provision of iron (60 mg) and folic acid (400 µg) supplements to pregnant women as early as possible in pregnancy, along with the distribution of daily caloric supplements (Ready-to-Use Supplementary Food – RUSF) to pregnant women from food-insecure households. The aim is to address iron-deficiency anemia and protein–calorie malnutrition during pregnancy and improve maternal and newborn health outcomes.

Food insecure households: In the context of Sindh, Pakistan, food insecure households are those that lack consistent physical, social, or economic access to sufficient, safe, and nutritious food required for an active and healthy life.

Ready-to-Use Supplementary Food (RUSF) is a highly fortified, nutrient-dense food paste designed for the treatment of malnutrition.

Main Provider(s) of Care:

Lady Health Visitor (LHV), Physician/Medical Officer.

SOPs for the Protocols

Relevant History:

Upon presentation, the provider inquiries about the last menstrual period to determine gestational age using an obstetric calendar. A brief history is taken to assess symptoms of anemia such as weakness, fatigue, tiredness and shortness of breath during routine household work, as well as any pregnancy-related complications like itching, pedal edema, per vaginal discharge, or spotting.

Physical Examination:

Vitals including blood pressure, pulse, respiratory rate, and temperature are recorded. Weight and mid-upper arm circumference (MUAC) are measured. If MUAC is less than 23 cm, the pregnant woman is identified as suffering from protein–calorie malnutrition (*Miele et al 2021- BMJ open*). Equipment used includes a weighing scale, BP apparatus, thermometer, MUAC tape, and obstetric calendar.

Investigations:

Hemoglobin testing may be done where available. Point of care testing can be used in the absence of lab testing. Diagnosis of anemia and malnutrition can also be done on clinical signs such as pallor conjunctiva, koilonychia, tachycardia, breathlessness, dizziness, fatigue, tiredness, lightheadedness and MUAC measurement

Management Guidelines:

Treatment and/or Preventive Interventions:

Every pregnant woman is prescribed one sachet per day of RUSF (75g providing about 500kcal/day supplement from early pregnancy to until birth.

A daily prophylactic dose of iron 60 mg and folic acid 400 µg is provided from 14 weeks onward throughout pregnancy as a preventive measure (WHO). These are dispensed at the facility's medication counter following consultation.

	Severity of anemia	Haemoglobin level	
1	Mild	10-10.9 gm/dl	Elemental iron (60 mg) + folic acid(400µg) One tab daily
2	Moderate	7-10 gm/dl	Elemental iron (120 mg) +folic acid (400µg) in 2 doses daily. Check Hb after 4 weeks Refer for injection ferri- carboxy maltose 1 gram IV single dose at 34 weeks
3	Severe	< 7 gm/dl	Refer for injection ferri- carboxy maltose 1 gram IV single dose/ blood transfusion from 13 weeks onwards Maintenance dose of Elemental iron (120 mg) +folic acid(400µg) in 2 doses daily for 3 months Check Hb after 2 weeks Refer at 37 weeks for delivery at health facility
4	Very severe	< 4gm/dl	Refer for blood transfusion and delivery at tertiary health facility

Follow-up:

Follow-up is guided by WHO's antenatal care contact schedule:

- In the **first trimester**, the woman should have her first contact between 8–12 weeks,
- In the **second trimester**, two visits are planned: 20 weeks and 26 weeks.
- In the **third trimester**, at least five follow-up contacts are recommended, occurring at 30, 34, 36, 38, and 40 weeks, with a return for delivery at 41 weeks if labor has not started.
- Check compliance of iron therapy (taking medications regularly, if any GI upset then early referral for parenteral iron)
- It is best to take iron tablets on an empty stomach (i.e. one hour before or two hours after eating).
- Hemoglobin should be checked at booking then at 28 weeks and 36 weeks of pregnancy in non-anemic / mild anemia
- If moderate anemia check hemoglobin 4 weekly until it is normal.
- Maintenance therapy after correction of hemoglobin should continue for three months.
- Deworm with Albendazole 400mg once or Mebendazole 500mg after 12 weeks of pregnancy
- Give Intermittent Preventive Treatment for Malaria in high-risk areas

Postpartum

- Continue iron therapy for 3 months post-partum
- Counsel for birth spacing

References and Source Documents:

- WHO IMPAC Guidelines (2017)
- WHO Recommendations on Antenatal Care for a Positive Pregnancy Experience (2016)
- LHW Training Manual

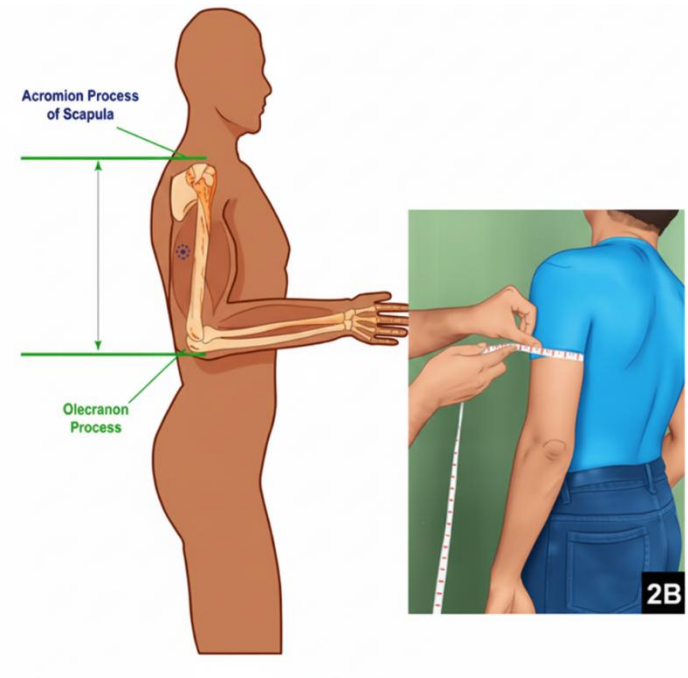
- CMW Training Manual

Locate the midpoint of the arm.

- Non-dominant arm elbow flexed at 90deg with palm facing upwards
- Measurer stands behind the subject & locates the lateral tip of the acromion and the most distal point on the olecranon process
- Place a tape measure so that it passes between these 2 landmarks and mark the midpoint

Measure the mid-arm circumference

- The subject stands erect with arms hanging freely at the sides and the palms facing the thighs
- Place the tape measure perpendicular to the long axis of the arm at the marked midpoint & measure the circumference to the nearest mm. (e.g. 18.1 cm)
- Provide the actual MAC in cm.



II. Management of labour and delivery in low-risk women by skilled attendant.

Brief Description of Intervention:

This guideline outlines the clinical management of normal labour and spontaneous vaginal delivery in low-risk pregnant women at PHC level by a skilled birth attendant. It includes registration, clinical assessment, delivery steps, newborn care, immediate postpartum care, and postnatal follow-up.

Low risk women: Low-risk pregnant women are those with a single, full-term pregnancy, the baby in a head-down position, and no medical or obstetric complications during pregnancy or labour. They have received routine antenatal care and have no history of high-risk conditions.

A high-risk pregnancy is one that has higher than normal risk for threatens the life of mother and fetus. High-risk pregnancies and labor require timely recognition, stabilization, and management including operative delivery (assisted vaginal birth or cesarean section). Comprehensive Emergency Obstetric and Newborn Care (CEmONC) facilities must ensure resuscitation, surgical preparedness, safe anesthesia, blood transfusion, and postoperative monitoring to reduce maternal and neonatal morbidity and mortality.

Main Provider(s) of Care:

Lady Health Visitor (LHV), Female Medical Officer

SOPs for the Protocols

Relevant History:

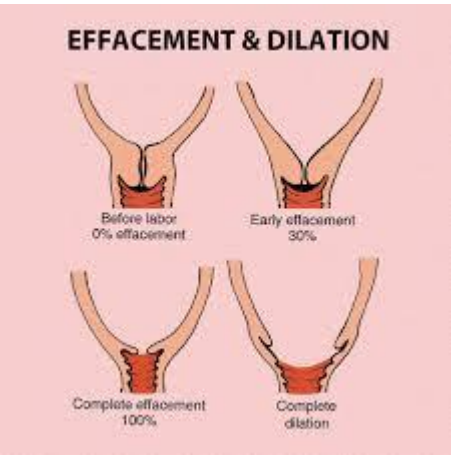
The woman is assessed for gestational age, frequency and duration of contractions, any vaginal discharge or bleeding, foetal movements, and signs of maternal distress or complications as fever, excessive vaginal bleeding, headache with blurred vision, convulsions, severe abdominal pain, fast or difficult breathing.

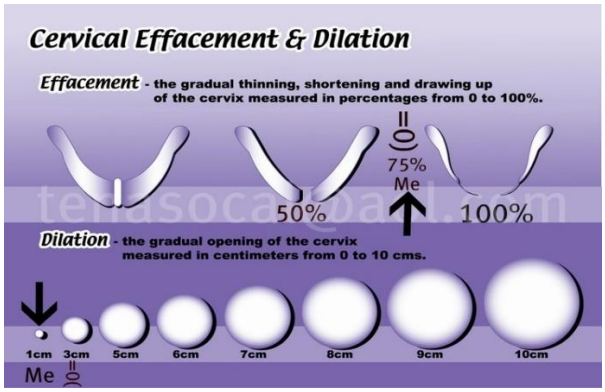
Physical Examination:

Vital signs are measured, including blood pressure, pulse, temperature, height and weight. Abdominal examination is performed to determine fundal height, presenting part, foetal heart rate, and contraction strength and pattern (with active labour defined as one contraction every three minutes, lasting 35–40 seconds).

The healthcare provider puts **two gloved fingers** gently into the vagina and feels the cervix opening.

0% effaced: Cervix is long and thick (approx. 3-4 cm).
50% effaced: Cervix is about half the original length (approx. 2 cm long). **100% effaced:** Cervix is paper-thin





The **distance between the fingers** shows how many centimeters the cervix has opened.

Measurement:

- **0 cm:** Cervix is closed.
- **0- 5 cm:** Early labor (latent phase of labor). uterine contractions weak < 2 in 10 min
- **6 cm:** Active labor (wider opening). Uterine contractions 3 in 10 min lasting 35-40 sec
- **10 cm:** Fully dilated — ready for delivery.

Descent shows **how far the baby's head (or presenting part)** has moved down into the mother's pelvis during labor.

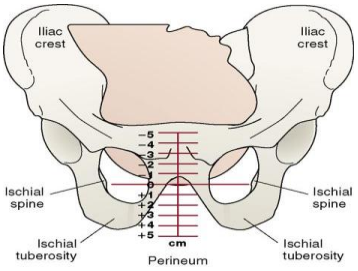
How to check:

During a **vaginal examination**, the healthcare provider feels the baby's head in relation to the **ischial spines** (bony points inside the pelvis).

These spines are the **"zero" level** — a reference point for measuring descent.

Measurement (in stations):

- **–5 station:** Head is high, not yet in the pelvis.
- **0 station:** Head is at the level of the ischial spines (engaged).



Investigations:

No formal lab or radiological investigations are required for routine, low-risk deliveries. Check Hemoglobin. If complications are suspected, immediate referral to a higher-level facility is necessary.

Management Guidelines:

- Give supportive care throughout labour
- Explain procedures, and discuss findings with woman, ensure respect and privacy.
- Ensure cleanliness of labour and birthing areas
- Encourage woman to walk during first stage of labour
- Support woman's choice of position for each stage of labour.
- Encourage support from chosen birth companion

Stages of labour:

First stage: From zero to full dilatation of cervix

a) Latent phase from zero to 6 cms cervical dilatation, uterine contractions mild to moderate, 1 or 2 in 10 min.
b) Active phase: from 6cms to full dilatation. Uterine contractions 3 in 10 min lasting 35-40 sec

Second stage: from full dilatation till delivery of baby

Third stage: from delivery of baby till delivery of placenta

First stage:

- Check vitals, perform examination, check fetal heart sounds and rule out fetal and maternal complications such as excessive vaginal bleeding, headache with blurred vision, convulsions, severe abdominal pain, fast or difficult breathing, previous cesarean delivery, fetal distress (heart rate <110, > 160 / min) growth restricted baby, malpresentation as breech.
- In case of any complication refer to health facility
- Maintain Labour care guide in active labour
- Monitor uterine contractions every 30 minutes, check fetal heart after contraction every 30 minutes.
- Check cervical dilatation every 4 hours and monitor progress of labour
- If nonprogress refers the patient

Second Stage:

- Perineum is thinning and bulging
- Visible descent of fetal head or during contractions
- Check fetal heart after every contraction
- In case head doesn't descent in spite of 1 hour of expulsive pushing refer the patient

WHO LABOUR CARE GUIDE

Name | **Parity** | **Labour onset** | **Active labour diagnosis** [Date]

Ruptured membranes [Date | **Time** | **Risk factors**

			Time	:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
			Hours		1	2	3	4	5	6	7	8	9	10	11	12	1	2	3
			ALERT	← ACTIVE FIRST STAGE →													← SECOND STAGE →		
SUPPORTIVE CARE	Companion	N																	
	Pain relief	N																	
	Oral fluid	N																	
	Posture	SP																	
BABY	Baseline FHR	<110, ≥160																	
	FHR deceleration	L																	
	Amniotic fluid	M+++, B																	
	Fetal position	P, T																	
	Caput	+++																	
	Moulding	+++																	
WOMAN	Pulse	<60, ≥120																	
	Systolic BP	<80, ≥140																	
	Diastolic BP	≥90																	
	Temperature °C	<35.0, ≥ 37.5																	
	Urine	P++, A++																	
LABOUR PROGRESS	Contractions per 10 min	≤2, >5																	
	Duration of contractions	<20, >60																	
	Cervix [Plot X]	10																	
		9	≥ 2h																
		8	≥ 2.5h																
		7	≥ 3h																
		6	≥ 5h																
		5	≥ 6h																
	Descent [Plot O]	5																	
		4																	
		3																	
		2																	
		1																	
		0																	
MEDICATION	Oxytocin (U/L, drops/min)																		
	Medicine																		
	IV fluids																		
SHARED DECISION-MAKING	ASSESSMENT																		
	PLAN																		
	INITIALS																		

In active first stage, plot 'X' to record cervical dilatation. Alert triggered when lag time for current cervical dilatation is exceeded with no progress. In second stage, insert 'P' to indicate when pushing begins.

INSTRUCTIONS: CIRCLE ANY OBSERVATION MEETING THE CRITERIA IN THE 'ALERT' COLUMN, ALERT THE SENIOR MIDWIFE OR DOCTOR AND RECORD THE ASSESSMENT AND ACTION TAKEN.IF LABOUR EXTENDS BEYOND 12H, PLEASE CONTINUE ON A NEW LABOUR CARE GUIDE.

Abbreviations: Y – Yes, N – No, D– Declined, U – Unknown, SP – Supine, MO – Mobile, E – Early, L – Late, V – Variable, I – Intact, C – Clear, M – Meconium, B – Blood, A – Anterior, P – Posterior, T – Transverse, P+ – Protein, A+ – Acetone

Unsatisfactory progress:

DIAGNOSIS	FINDINGS	TREATMENT
False Labor	Cervix not dilate, Infrequent or no contractions	• Examine for ruptured membranes, UTI, or other infection • Discharge and encourage return when in labor
Prolonged Latent Phase	No dilation beyond 5 cm after 8 hours of regular contractions	• If no cervix change or fetal distress, re-evaluate diagnosis • If cervix changes, augment with Oxytocin & reassess in 4 hrs • If no progression to active phase after 8 hrs Oxytocin → do C/S • If infection, augment & give antibiotics (Ampicillin)
Prolonged Active Phase	Cervical dilatation less than the range in alert column on LCG (labour care guide)	• If contractions adequate, suspect CPD, obstruction, or malpresentation • If contractions inadequate, augment with Oxytocin
Cephalopelvic Disproportion (CPD)	Arrest of dilatation & descent in presence of good contractions	• Fetus large or pelvis small; trial of labor is best test• Clinical assessment is indicated• Proceed for emergency cesarean section
Obstructed Labor	Arrest of dilatation & descent with moulding, caput, edema, Ballooning of lower segment, Maternal/fetal distress	• Perform emergency cesarean section
Inadequate Uterine Activity	< 3 contractions in 10 minutes, Each lasting < 40 seconds (Alert column on LCG)	• If contractions inadequate, augment with Oxytocin with caution and continuous fetal heart rate monitoring
Prolonged Expulsive Phase	Cervix fully dilated with urge to push, but no descent	• Rule out malpresentation/malposition and obstruction • Augment with Oxytocin; if no contraction, assist with vacuum or forceps if head is 1/5 or +1 station (CEmONC) and at +2 station or below in BEmONC facility • Proceed to Cesarean section

Augmentation of Labor at PHC is not applicable on just 08 hour waiting

ANS. This is for CEmONC

Is trail of labor given at PHC. Proper guidance may be given

Refer for augmentation to higher level.

How to augment?

Refer to higher level

Normal Vaginal Delivery by Skilled Attendant

- Ask the woman to lie in the lithotomy or allow her a comfortable position of her choice. Clean the perineal area with antiseptic and drape with a calibrated blood collection sheet.
- During a contraction, use the left palm to control the speed of the head's descent while the right-hand fingers support the perineum.
- Apply gentle pressure to the infant's brow or chin to help guide the delivery of the head.
- Allow the baby's head to rotate naturally so that the shoulders align in an anteroposterior position.

- Apply downward traction to deliver the anterior shoulder; gently lift the head to allow the posterior shoulder and body to be delivered.
- If delay in delivery of shoulder DO NOT Panic, call for help perform Mac Roberts
- Administer 10 IU of oxytocin IM or IV with delivery of head or anterior. If unavailable, give misoprostol 600 mcg sublingually. This completes **Active Management of the Third Stage of Labour (AMTSL).**
- Aspirate the baby's nose and mouth using a bulb syringe to remove mucus and stimulate breathing.
- Fully unfold the calibrated drape to begin postpartum blood collection.

Cord Management and Placental Delivery

- Delay cord clamping for 1-~~2~~ minutes or until pulsation ceases, whichever is later.
- Clamp the cord in two places, cut between the clamps, and place a plastic clip 2–3 cm from the umbilical insertion site.
- If trained and skilled, watch for signs of placental separation (gush of blood and lengthening of cord) perform controlled cord traction to deliver the placenta.
- If placenta does not deliver in 30 minutes go for manual removal of placenta
- If in one hour unable to deliver placenta, refer to health facility

Immediate Newborn Care

- Thoroughly dry the baby, wipe the eyes.
- Assess breathing and crying
- If baby is not crying assess breathing. If not breathing or gasping immediate newborn resuscitation
- Assess Apgar scores at 1 and 5 minutes.

Apgar score

	Score 2	Score 1	Score 0
Appearance	 Pink	 Extremities blue	 Pale or blue
Pulse	> 100 bpm	< 100 bpm	No pulse
Grimace	Cries and pulls away	Grimaces or weak cry	No response to stimulation
Activity	 Active movement	 Arms, legs flexed	 No movement
Respiration	Strong cry	Slow, irregular	No breathing

- Place the baby skin-to-skin on the mother's chest and initiate breastfeeding as early as possible.

Maternal Postpartum Assessment

- Recheck the mother's vital signs and vaginal bleeding. Check every 15 min for 2 hours.
- Assess per vaginal bleeding by visual estimation of blood loss in calibrated drape, uterine tone, and inspect for lacerations or perineal tears. In case of third-degree tears refer to hospital
- Ensure bladder is empty. Massage uterus to promote contraction and reduce bleeding.
- In case of heavy vaginal bleeding give E-MOTIVE bundle (massage of uterus, oxytocic 10 IU in 500mls in 10 min (Maintenance dose of 20IU in 1000ml of NS for 4 hours is given)/ 600 ug misoprostol, inj. transamine 1 gm diluted in 20 ml NS in 10 min, IV fluids) and refer to health facility if bleeding does not stop.
- Use the MEOWS (Modified Early Obstetric Warning Score) chart to identify any signs of maternal deterioration.
- If stable keep in health facility for 12-24 hours. Discuss birth spacing and family planning
- Refer immediately if any maternal (PPH, tachycardia > 110, BP < 100 systolic, rapid breathing > 25 /min) or newborn danger signs are detected.

																		Patient Identification:
Modified Early Warning Signs (MEOWS)																		
Date	**MEOWS**																	
Time	**SCORE**																	
Respiratory Rate	>31	**3**								**3**								
	25-30	**2**								**2**								
	20-24	**1**								**1**								
	10-19	**0**								**0**								
	<10	**2**								**2**								
	<8	**3**								**3**								
Oxygen % L/Min																		
Device used (Face Mask / Nasal Prong)																		
SpO2%	>95	**0**								**0**								
	90-94	**1**								**1**								
	85-89	**2**								**2**								
	<85	**3**								**3**								
Neurological	Alert	**0**								**0**								
	Voice/Pain/Confused	**3**								**3**								
Systolic Blood Pressure	220	**3**								**3**								
	210																	
	200																	
	190																	
	180																	
	170																	
	160																	
	150	**2**								**2**								
	140	**1**								**1**								
	130	**0**								**0**								

	120																
	110																
	100																
	90	**1**								**1**							
	80	**2**								**2**							
	70	**3**								**3**							
	60																
	50																
	40																
Diastolic Blood Pressure	120	**3**								**3**							
	110																
	100	**2**								**2**							
	90	**1**								**1**							
	80	**0**								**0**							
	70																
	60																
	50	**3**								**3**							
	40																
	30																
Heart Rate	130	**3**								**3**							
	120	**2**								**2**							
	110																
	100	**1**								**1**							
	90	**0**								**0**							
	80																
	70																
	60																
	50	**3**								**3**							
	40																
	30																
Temperature ◦ C	>38◦C	**2**								**2**							
	37.6◦C - 37.9◦C	**1**								**1**							
	36.1◦C - 37.5 ◦C	**0**								**0**							
	35.1◦C - 36.0◦C	**1**								**1**							
	<35◦C	**2**								**2**							
Proteinuria	Protein ≥++	**2**								**2**							
	Protein 1+	**1**								**1**							
	Protein Negative	**0**								**0**							

Amniotic Fluid	Clear (C) / Pink (P) 0									0								
	Meconium	Grade I 1								1								
		Grade II 2								2								
		Grade III 3								3								
CTG	Normal	0								0								
	Suspicious	2								2								
	Pathological	3								3								
LOCHIA	Normal / NA	0								0								
	Moderate	2								2								
	Heavy / Offensive	3								3								
MEOWS TOTAL																		
STAFF INITIAL																		
Escalation criteria (see flow chart at the back)																		
Key: Low risk Moderate risk High risk																		

Postnatal Follow-Up

- **First contact:** Day 3 (48-72) hours – *if home delivery first contact in 24 hours*.
- **Second contact:** between Day 7 and Day 14 postpartum. (7-14 days)
- **Third contact:** at 6 weeks postpartum at the clinic.

References and Source Documents

- Clinical Protocols and Guidelines for Emergency Obstetric and Newborn Care, Ministry of National Health Services, Regulations and Coordination (MoNHSRC), November 2023
- IMPAC Guidelines, WHO, 2017
- National Training Curriculum for Community Midwives

III. Tetanus toxoid immunization among schoolchildren and among women attending antenatal care

Brief Description of Intervention:

This guideline details the provision of tetanus toxoid immunization at the PHC level for school-aged children and women attending antenatal care. It covers the full process including screening, counselling, administration, documentation, follow-up, and monitoring.

School-aged children: *School-aged children are legally defined as those between the ages of 5 and 16 years. (Sindh Right of Children to Free and Compulsory Education Act, 2013)*

Main Provider(s) of Care:

Lady Health Visitor (LHV), Physician/Medical Officer, Vaccinator

SOP for the protocols

Diagnosis:

- **Relevant History:**
  Obtain immunization history, including last tetanus shot and any past adverse reactions to vaccines.
- Assess for pregnancy in adult females.
- Delay vaccine if acute illness or history of adverse reactions exists.

Physical Examination:

Check vitals (pulse, temperature).

Investigations:

Not routinely required unless clinically indicated (e.g., fever).

Management Guidelines:

Take relevant history including prior vaccination. Educate about the benefits and side effects of the vaccine. Check vaccine expiry date.

Vaccine Administration

Ensure hand hygiene. Wear gloves. Clean the injection site with an alcohol swab. Administer 0.5 mL tetanus toxoid IM in the upper arm for adults or thigh for children. Dispose of sharps properly. Observe patient for 15–30 minutes post-vaccination for any rash or difficulty breathing.

Follow-Up

Provide follow-up date as per EPI schedule. Guide on managing common side effects (e.g., icing for swelling, paracetamol for pain and fever). Record the date, batch number, and site of injection on vaccination card and clinic record.

Immunization Schedule:

Infants

- 1st dose: 6 weeks (0.5 ml IM in anterolateral thigh)
- 2nd dose: 10 weeks
- 3rd dose: 14 weeks

Children

- Booster: 4–5 years (0.5 ml IM in thigh)

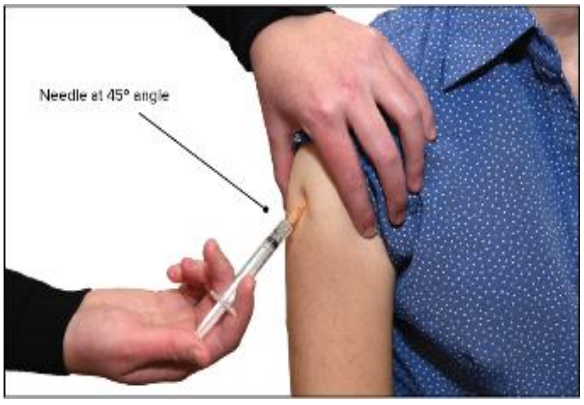
Pregnant Women

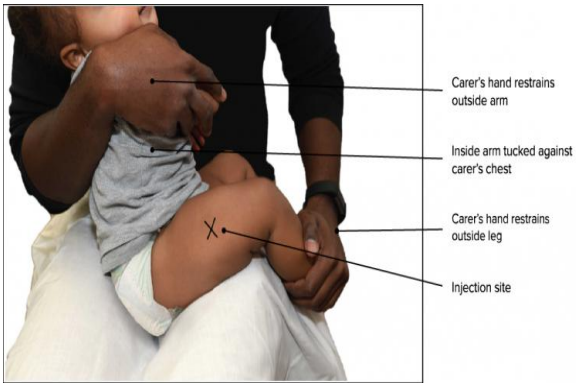
- Explain to women that vaccine is safe during pregnancy
- The injection site may become little swollen, red and painful, but it will go away in few days.
- Give 0.5 ml of TT IM, upper arm as per schedule
  - Td1: First contact
  - Td2: At least 4 weeks after Td1
  - Td3: At least 6 months after Td2
  - Td4: At least 1 year after Td3 or subsequent pregnancy
  - Td5: At least 1 year after Td4 or subsequent pregnancy

References and Source Documents:

- National EPI Program Guidelines
- 2022 National Immunization Policy, Pakistan

Dose for School age children may be defined
If child has no vaccination card and history of vaccination only then what should be





IV. Management of miscarriage or incomplete abortion and post abortion care

Brief Description of Intervention:

Identification and appropriate management of women presenting with miscarriage or incomplete abortion up to 24 weeks gestation using medical treatment at the PHC level, and timely referral when surgical management is indicated. Provision of post-abortion care including danger sign counselling, family planning, and emotional support.

Miscarriage/ abortion: *Secondary Amenorrhea or positive pregnancy test with bleeding or cramping up to 24 weeks gestation*

Main Provider(s) of Care:

Lady Health Visitor (LHV), Female Medical Officer.

SOP for the protocols

Diagnosis:

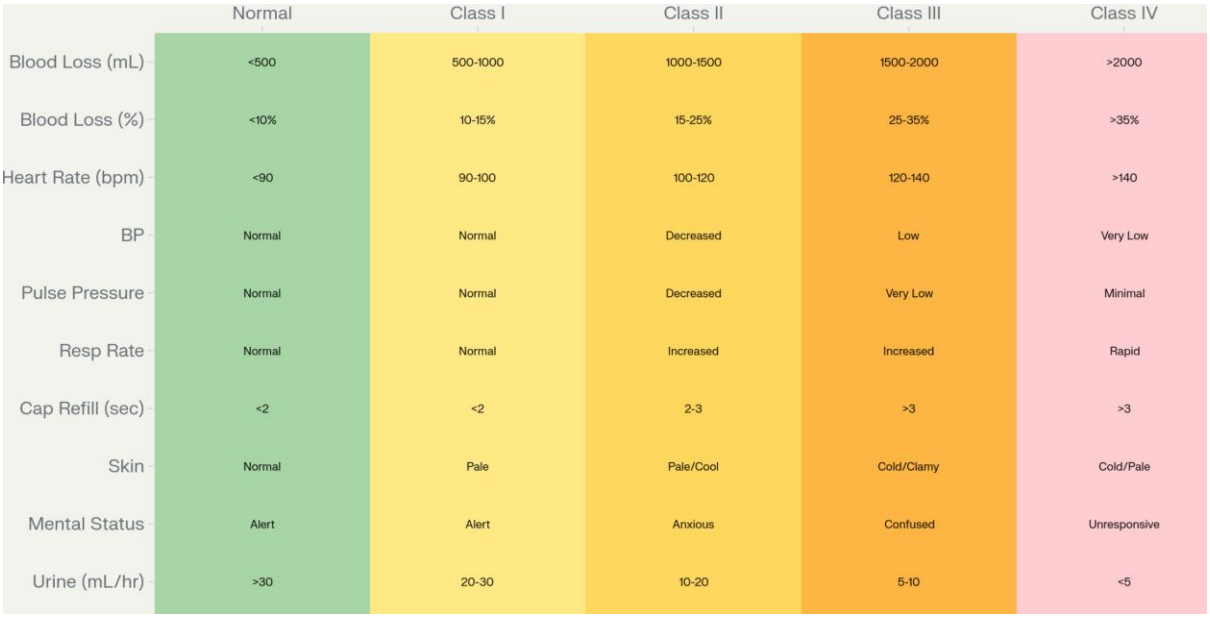
Relevant History:

Ask about:

- Gravida, parity (including history of miscarriage or ectopic pregnancy)
- Gestational age based on LMP or available dating scan
- Symptoms of PV bleeding (duration, amount, clots); passage of fetal tissue or fluid; abdominal pain or cramping (duration, severity, location); fever or foul-smelling vaginal discharge
- Past IUD use, STIs, or uterine surgeries (C-section, myomectomy).
- Assess contraindications to medical therapy including signs of shock (heavy bleeding, dizziness), suspected ectopic pregnancy (unilateral pain, syncope), infection/sepsis (fever, foul discharge, pain), allergy to misoprostol in which case use with caution, bleeding disorder or anticoagulant use.

Physical Examination:

- After obtaining informed consent and ensuring privacy, perform general and focused exams.
- General exam includes checking for signs of shock: tachycardia, hypotension, anaemia, altered mentation, cold clammy skin, fever or hypothermia.



	Normal	Class I	Class II	Class III	Class IV
Blood Loss (mL)	<500	500-1000	1000-1500	1500-2000	>2000
Blood Loss (%)	<10%	10-15%	15-25%	25-35%	>35%
Heart Rate (bpm)	<90	90-100	100-120	120-140	>140
BP	Normal	Normal	Decreased	Low	Very Low
Pulse Pressure	Normal	Normal	Decreased	Very Low	Minimal
Resp Rate	Normal	Normal	Increased	Increased	Rapid
Cap Refill (sec)	<2	<2	2-3	>3	>3
Skin	Normal	Pale	Pale/Cool	Cold/Clamy	Cold/Pale
Mental Status	Alert	Alert	Anxious	Confused	Unresponsive
Urine (mL/hr)	>30	20-30	10-20	5-10	<5

- Abdominal exam includes checking for tenderness, guarding, rebound tenderness (suggesting infection or ectopic), and uterine size assessment.
- Pelvic exam includes speculum examination to observe cervical as (open/closed), presence of tissue, bleeding, and foul discharge.
- Bimanual examination is performed to assess uterine size, tenderness, adnexal mass Maintain infection control throughout by handwashing and using gloves.

DIAGNOSIS

Threatened Abortion	Inevitable & Incomplete Abortion	Complete Abortion	Missed Abortion
Perform pregnancy test & ultrasound if available	Perform pregnancy test & ultrasound if available	Perform pregnancy test & ultrasound if available	Perform pregnancy test & ultrasound if available
Light bleeding / mild cramping	Heavy bleeding / pain (lower abdomen and back)	Light bleeding	Light bleeding
Closed cervix	Dilated cervix	Closed cervix	Closed cervix
—	Inevitable: no expulsion of POC Incomplete: partial expulsion of POC	History of expulsion of POC	No history of expulsion of POC

Investigations:

Pregnancy test (spot or lab), ultrasound if available to confirm intrauterine pregnancy, completeness of abortion, or retained products.

Management Guidelines:

Treatment and/or Preventive Interventions:

Medical Management: Indicated if patient is hemodynamically stable, and no contraindications exist. Obtain informed consent, counsel patient about medication uses and expected outcomes.

- **Misoprostol 800 mcg** sublingually or vaginally every 3 hours for a maximum of 3 doses is used for missed abortion (<14 weeks).
- **Misoprostol 600 mcg** orally once is used for incomplete abortion (<14 weeks).
- **Ibuprofen 400 mg** orally every 8 hours for pain relief.
  Common side effects of misoprostol include fever, shivering (manage with paracetamol and warm covering); vomiting (give antiemetic); diarrhea (encourage oral fluids; usually resolves in 24 hours).
- Counsel the woman that the abortion process may take up to 10 days.

Misoprostol ONLY Dosing Chart

(For use ONLY when mifepristone is not available)

Recommended Regimens 2023

FIGO International Federation of Gynecology and Obstetrics
the Global Voice for Women's Health

≤12 weeks	13-17 weeks	18-24 weeks	25-27 weeks	≥28 weeks	Postpartum Use
Induced Abortion Misoprostol 800µg BU/SL/PV every 3 hours until expulsion[1]	**Induced Abortion** Misoprostol 400µg every 3 hours until expulsion BU/SL/PV[4]	**Induced Abortion** Misoprostol 400µg every 3 hours BU/SL/PV until expulsion[4]	**Induced Abortion** Misoprostol 200µg every 4 hours BU/SL/PV until expulsion[4,8]	**Induced Abortion** Misoprostol 25-50µg every 4 hours PV[8] OR Misoprostol 50-100µg every 2 hours PO[5,8]	**Prophylaxis of Postpartum hemorrhage (PPH)** Misoprostol 600µg SL x 1
Missed Abortion/ Anembryonic Pregnancy Misoprostol 800µg BU/SL/PV every 3 hours until expulsion[1]	**Missed Abortion** Misoprostol 400µg every 3 hours BU/SL/PV until expulsion[4]	**Fetal Demise** Misoprostol 400µg every 3 hours BU/SL/PV until expulsion[4]	**Fetal Demise** Misoprostol 200µg every 4 hours BU/SL/PV until expulsion[4]	**Fetal Demise** Misoprostol 25-50µg every 4 hours PV[9] OR Misoprostol 50-100µg every 2 hours PO[5]	**Treatment of Postpartum hemorrhage (PPH)** Misoprostol 800µg SL x 1
Incomplete Abortion 400µg misoprostol SL x 1 600µg misoprostol PO x 1 800µg misoprostol BU x 1 dose[4]	**Incomplete Abortion** Misoprostol 400µg every 3 hours BU/SL	**Incomplete Abortion** Misoprostol 400µg every 3 hours BU/SL	**Induction of Labor** Misoprostol 25-50µg every 4 hours PV [6,7] OR Misoprostol 25-50µg every 2 hours PO [5,6,7]	**Induction of Labor** Misoprostol 25-50µg every 4 hours PV[6,7] OR Misoprostol 25-50µg every 2 hours PO[5,6,7]	
Cervical Preparation Before Aspiration Not required[2]	**Cervical Preparation Before Aspiration** Misoprostol 400µg 1-2 hours BU/SL/PVbefore the procedure[3]	**Cervical Preparation Before D&E (*Use of multiple modalities is recommended)*** Osmotic Dilators 1-2 days before and Misoprostol 400µg BU/SL/PV 1-2 hours before the procedure	**LEGEND: Buccal(BU) Sublingual (SL) Per Vagina (PV) Per Oral (PO)**		

1. <12 weeks induced & missed abortion can be self-managed at home.
2. Consider using 400mcg misoprostol 1-2 hours before procedure in patients ≤ 17 years of age.
3. Consider using Osmotic Dilators in patients ≤17 years old or in patients with a stenotic cervix.
4. Dosing based on Society of Family Planning Guidelines (20111, 20133) A comprehensive systematic review and Meta -Analysis published 2020
5. Dosing based on Cochrane Database Syst Rev. (CD014484) published 2021
6. Buccal and Sublingual Misoprostol is not recommended for induction of labor with viable pregnancies, it is associated with more tachysystole and fetal distress.
7. There is a lack of strong evidence for misoprostol dosing for this indication at this gestational age.
8. Induced fetal cardioplegia should be considered for induced abortion after fetal viability

NOTES:

- SL/PO route is associated with more side effects.
- Avoid vaginal route if there is vaginal bleeding.
- Misoprostol is SAFE below 28 weeks EVEN with history of Cesarean Delivery.
- Misoprostol is not recommended in women ≥28 weeks gestational age with a prior Cesarean Delivery.
- There is NO Maximum dose of misoprostol. If an abortion is not complete after 5 doses, you may continue additional doses or rest for 12 hours and start again
- Misoprostol is not contraindicated in grand multipara.
- Routine aspiration after medication abortion is not required or recommended.

Surgical Management (Referral required): Refer the patient to a higher facility for manual vacuum aspiration (MVA) or dilation and evacuation (D&E) if:

haemorrhage or signs of shock; suspected or confirmed septic abortion; failure of medical treatment; misoprostol contraindication; patient preference; or inability to return for follow-up.

Follow-up: Schedule a follow-up visit within 7–10 days.
Evaluate for signs of complete abortion, including cessation of heavy bleeding, resolution of pain, expulsion of tissue, negative or declining pregnancy test, and absence of infection.

Post-Abortion Counselling: Educate patients about danger signs requiring urgent care:

- **Heavy bleeding:** soaking more than 2 large pads per hour for 2 consecutive hours, passing clots larger than a golf ball, or feeling dizzy/fainting.
- **Infection signs:** fever >38°C lasting >24 hours or occurring 6+ hours after misoprostol, chills/shivering without recent misoprostol, foul-smelling vaginal discharge, severe lower abdominal pain.
- **Incomplete abortion:** persistent bleeding/cramping after 1–2 weeks, positive pregnancy test after 3 weeks.

Emotional and Psychological Support: Provide non-judgmental counselling, reassurance, and mental health resources. Inform the patient that they can try to conceive again whenever they feel ready.

Family Planning: Offer and initiate contraception immediately post-abortion. Options include oral contraceptive pills (immediately), injectable/implants (immediately), IUD (after confirming completion), and condoms (STI protection). Provide appropriate counselling and IEC materials.

References and Source Documents:

Clinical Protocols and Guidelines for Emergency Obstetric and Newborn Care; National Service Delivery Standards and Guidelines for High Quality Safe Uterine Evacuation/Post-Abortion Care; WHO Abortion Care Guideline (2022).

V. Provision of condoms and hormonal contraceptives, including emergency contraceptives and IUDs.

Brief Description of Intervention:

This intervention ensures availability and counselling on a range of modern contraceptive options including condoms, oral pills, injectable, implants, emergency contraceptive pills (ECPs), and intrauterine contraceptive devices (IUDs). It helps individuals make informed reproductive choices, prevents unintended pregnancies, and promotes maternal health.

Main Provider(s) of Care:

Lady Health Visitor (LHV), Physician/Medical Officer.

SOP for the protocols

Diagnosis:

Relevant History:

- Ask about age, parity, detailed menstrual history including LMP, cycles regular or irregular, past obstetric history, reproductive intentions
- Assess medical history (liver disease, hypertension, diabetes, Deep Venous Thrombosis, migraine with aura, cardiac conditions)
- Confirm any current medication or contraindication to hormonal methods

Physical Examination:

- Check BP, pulse, temperature
- Perform pelvic exam if initiating IUD
- Rule out pregnancy using urine pregnancy test where appropriate

Investigations:

- Urine pregnancy test before initiating hormonal methods or IUD
- Additional tests only if clinically indicated

Management Guidelines:

- **Treatment and/or Preventive Interventions:**
  Check vital signs
- Ensure privacy for discussion

Reproductive Health Counselling (GATHER approach)

- **Greet**: Create a respectful, supportive environment
- **Ask**: Explore reproductive goals and method preferences
- **Tell**: Provide information on available methods, effectiveness, use, side effects
- **Help**: Assist in informed decision-making
- **Explain**: Demonstrate usage, discuss warning signs
- **Return**: Explain when to return or seek help

Informed Consent

- Explain risks and benefits
- Obtain consent for selected method

Contraceptive Provision (Doctor/Nurse/LHV)
Methods Available:

- **Non-Hormonal**:
  - Condoms
  - Diaphragm
- **Hormonal**:
  - Oral pills (Progestin-only, Combined)
  - Injectable (Depot-Provera, Sayana Press)
  - Implants (Levonorgestrel LNG-releasing)
  - Emergency contraceptives (LNG tablets, Cu-IUDs)
- **Intrauterine Devices**:
  - Copper-T, Multiload
  - Postpartum IUD (within 48 hours of delivery)

Dispensing (Pharmacy)

- Dispense contraceptives
- Instructions on use and storage
- Schedule follow-up

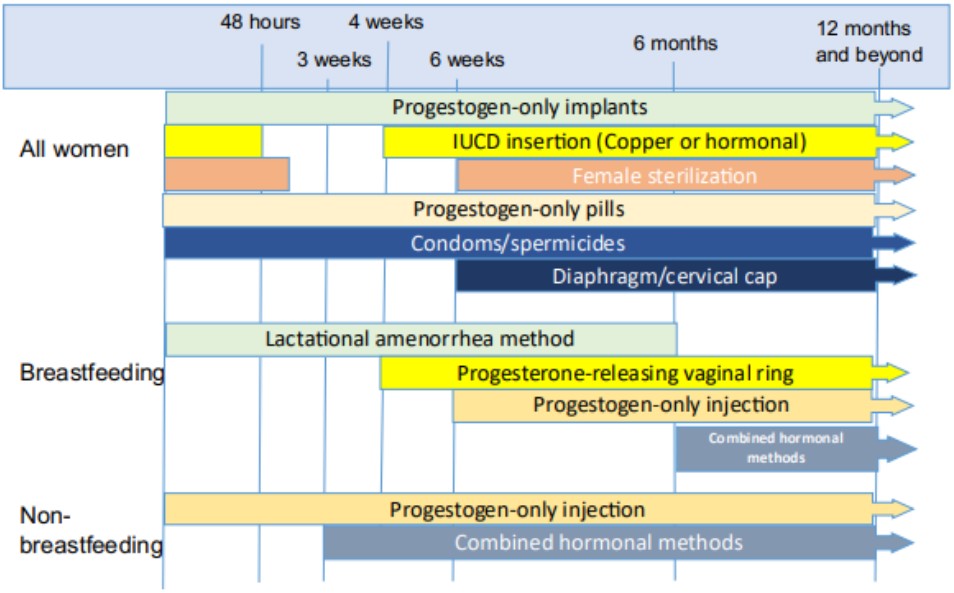
Follow-up

- Ask client to return after one month
- Encourage earlier return if adverse effects occur
- Review side effects, compliance, and need for method switching

Patient Education:

- Provide IEC material on selected method
- Explain side effects and when to return
- Promote dual protection for STI prevention

Postpartum Contraceptive Options



References and Source Documents:

- Family Planning: A Global Handbook for Providers (2022)
- Manual of Standards for Family Planning – Sindh (2017)
- National Family Planning Training Curriculum – Pakistan
- EmONC clinical protocols.

VI. Counselling of mothers on providing kangaroo care for newborns (PHC)

Brief Description of Intervention:

Kangaroo Mother Care (KMC) is a standard, protocol-based care system for stable preterm and/or low birth weight (LBW) newborns that includes prolonged skin-to-skin contact between the newborn and the mother or caregiver, and the provision of exclusive breastfeeding. This intervention enhances newborn survival, growth, bonding, and breastfeeding success.

A **low birth weight (LBW) baby** *is a live-born infant with a birth weight of less than 2,500 grams (2.5 kg)*. (WHO)

A **preterm baby** *is defined as a live birth occurring before 37 complete weeks of gestation.* (WHO)

Main Provider(s) of Care:

Lady Health Visitor (LHV), Female Medical Officer.

SOP for the protocols

Diagnosis:

Relevant History:

- Ask the mother if she is aware of Kangaroo Mother Care (KMC)
- Check willingness to provide KMC
- Assess for any maternal conditions (e.g., active TB, psychosis, chickenpox) that may contraindicate KMC

Physical Examination & Baby's Assessment for eligibility:

- Gestational age less than 37 weeks
- Birth weight less than 2500 grams
- Vital signs:
    - Heart rate: 100–160 bpm
    - Respiratory rate: 30–59 breaths per minute
    - Temperature: 36.5–37.5°C
    - No respiratory distress or prolonged apnea
    - Pink in room air
    - No major congenital anomaly or surgical condition

Investigations:

- Nonessential investigation, but neonatal weight monitoring and temperature checks are recommended daily
- Use thermometer and neonatal scale

Management Guidelines:

Treatment and/or Preventive Interventions:

Assessment of Eligibility (Doctor/Nurse/LHV)

- Welcome her into a warm, private space
- Screen for maternal and newborn eligibility criteria

Counselling and Initiation of KMC (Doctor/Nurse/LHV)

- Educate the mother on KMC benefits: thermal regulation, bonding, feeding, and reduced infections
- Demonstrate kangaroo positioning:
    - Cover baby's head with a cap and feet with socks
    - Place baby upright on the mother's bare chest
    - Cover baby's back with a cloth; head slightly turned
    - Secure with a binder or wrap
- Guide on KMC duration:
    - Encourage 8–24 hours/day
    - Remove only for hygiene, assessment, or feeding
    - Promote continuation at home until term or appropriate weight
    - Involve fathers and caregivers for intermittent KMC

Breastfeeding Support:

- Counsel on exclusive breastfeeding and expressing milk
- Demonstrate hand expression techniques
- Teach feeding in KMC position
- Observe and support early breastfeeding cues

Monitoring:

- Teach mother to check:
    - Weight gain (15–20g/day)
    - Temperature twice daily
    - Danger signs: fever, cold skin, fast breathing, poor feeding
- Encourage immediate facility visit if danger signs appear

Discharge Preparation:

- Discharge only when:
    - Baby is stable for 3 consecutive days
    - Baby tolerates kangaroo position
    - Weight gain is appropriate
    - Feeding well every 2–3 hours
    - Family is involved and mother is supported

Follow-up:

- Schedule 2 follow-up visits/week until 37 weeks post-menstrual age
- One weekly visit thereafter

Patient Education:

- Use visual tools (flipcharts/videos)
- Educate family members to support KMC
- Promote shared responsibility and maternal wellbeing

References and Source Documents:

- **DCP3 Code: HC5b**
- Kangaroo Mother Care: National Guideline for Pakistan 2019
- Kangaroo Mother Care: A Clinical Practical Guide WHO 2025
- Kangaroo Mother Care – A Transformative Innovation in Health Care (WHO)

VII. Screening and management of hypertensive disorders in pregnancy.

Brief Description of Intervention:

This intervention includes early identification, classification, and comprehensive management (clinical, pharmacological, and referral) of gestational hypertension, preeclampsia, eclampsia, and chronic hypertension in pregnant women presenting at PHC-level facilities. It involves systematic history taking, clinical examination, diagnostic workup, treatment, follow-up, and timely referral to minimizing maternal and fetal complications.

Main Provider(s) of Care:

Lady Health Visitor (LHV), Female Medical Officer.

SOP for the protocols

Clinical Condition/Problem:

Hypertensive disorders in pregnancy, including:

- Gestational Hypertension: High blood pressure (**≥140/90 mmHg**) two readings at least 4 hours apart or a single reading of >160/110 detected **after 20 weeks of pregnancy** in a previously normotensive woman, **without proteinuria** or signs of organ damage.
- Chronic Hypertension: High blood pressure (**≥140/90 mmHg**) that **exists before pregnancy** or is **diagnosed before 20 weeks of gestation** and **persists beyond 6 weeks after delivery**.
- Preeclampsia: A pregnancy-specific condition characterized by **new-onset hypertension after 20 weeks** of gestation **with proteinuria (**≥1+ on dipstick) **or signs of end-organ involvement** (e.g., elevated liver enzymes, low platelets, visual symptoms)
- Eclampsia: The occurrence of **generalized seizures** or **coma** in a woman with **preeclampsia**, not attributable to other causes. Note that tonic clonic seizure for the first time in pregnancy, labor or postpartum period not attributable to any other cause should be treated as Eclampsia

Diagnosis:

Relevant History:

- Current Symptoms: headaches, visual disturbance (blurring of vision, epigastric pain, convulsions
- History of chronic hypertension, kidney disease, autoimmune disorders, pre-gestational diabetes
- Gravida, Parity, Gestational age, LMP, EDD
- previous BP readings
- Obstetric history: any history of preeclampsia, eclampsia, Fetal Growth Restriction, stillbirth, early neonatal death
- Family history of preeclampsia in mothers or sisters
- Risk factors: nulliparity, multiple gestation, age >40, obesity, comorbidities, last delivery ≥10 years

Physical Examination: *(using stethoscope, sphygmomanometer, thermometer, , etc.)*

- Vitals: BP (repeat in 4 hours if elevated to confirm), HR, RR, temperature
- Neurological signs: GCS, deep tendon reflexes, clonus
- Cardiovascular: heart sounds, peripheral pulses, capillary refill
- check for sacral edema
- Respiratory: crackles, distress
- Abdominal exam: fundal height, tenderness, FHR monitoring

Investigations:

- Urine dipstick for proteinuria (urine protein ≥1+ on dipstick = proteinuria)
- CBC, LFTs, RFTs (especially if preeclampsia suspected if not available - refer)
- Ultrasound (if available) for fetal growth, AFI, Doppler studies

Management Guidelines:

Treatment and/or Preventive Interventions:

Pharmacological Management:

Severe Hypertension (≥160/110 mmHg), Preeclampsia, Eclampsia: - Referral after initial management as mentioned below

- **Antihypertensive (Give first dose before referral)**
    - Methyldopa PO 1 gm single dose then refer
    - Labetalol IV: 20mg over 2 min every 10–30 min (max 300mg)
    - Hydralazine IV: 5mg every 20–40 min (max 30mg)
    - Nifedipine IR: 10mg orally every 20 min (max 30mg)

- **Magnesium sulfate** ($MgSO_4$):

  Intramuscular regimen:

  Using two 20 mL syringes, draw 5 g of MgSO4 50% (10 mL) in EACH syringe. ¨ Add 1mL of 2% lignocaine to EACH of the two syringes. ¨ Inject 1st syringe by deep IM injection into one buttock (5g MgSO4) ¨ Inject 2nd syringe by deep IM injection into the other buttock (5g MgSO4

Intravenous regimen

- Loading dose: 4g IV over 5–15 min (to be given before transfer)
- Maintenance: 1g/hr for 24 hrs (while awaiting transfer)

Monitoring for signs of Magnesium Toxicity

- Respiratory rate (should be above 12 breathes/min)
- Urine output (>0.5ml/kg/hr or 30 ml/hr)
- Loss of deep tendon reflexes

Antidote for Magnesium Toxicity

- 1 gm Calcium Gluconate 10% IV

Mild/Moderate Hypertension (<160/110 mmHg):

- **Labetalol PO:** 100–200mg twice daily (max 2400mg)
- **Nifedipine ER:** 30–60mg once daily (max 120mg)
- **Methyldopa:** 250mg TID (max 3000mg)

Non-Pharmacological:

- Healthy diet, reduced salt, exercise, weight control

When to Refer:

- Any severe hypertension (BP ≥160/110 mmHg)
- Red flags: altered mental status, seizures, RUQ pain, low platelets, fetal distress
- Initiate $MgSO_4$ and antihypertensive before referral

Patient Education:

- Inform about danger signs (blurred vision, convulsions, severe headache)
- Explain importance of BP monitoring and compliance with treatment
- Teach fetal movement monitoring
- Encourage left lateral position to improve uteroplacental flow

Follow-up:

Condition	Frequency	Investigations	Fetal Monitoring
Chronic HTN	Weekly (if poorly controlled), otherwise every 2–4 weeks	CBC, LFT, RFT at diagnosis then every trimester if well controlled. If uncontrolled refer.	FHR at every visit; US at 28, 32, 36 weeks
Gestational HTN	1–2x/week	Urine dipstick for proteinuria, at every visit	CTG at diagnosis if needed (if available)
Preeclampsia	Refer to higher level of care		

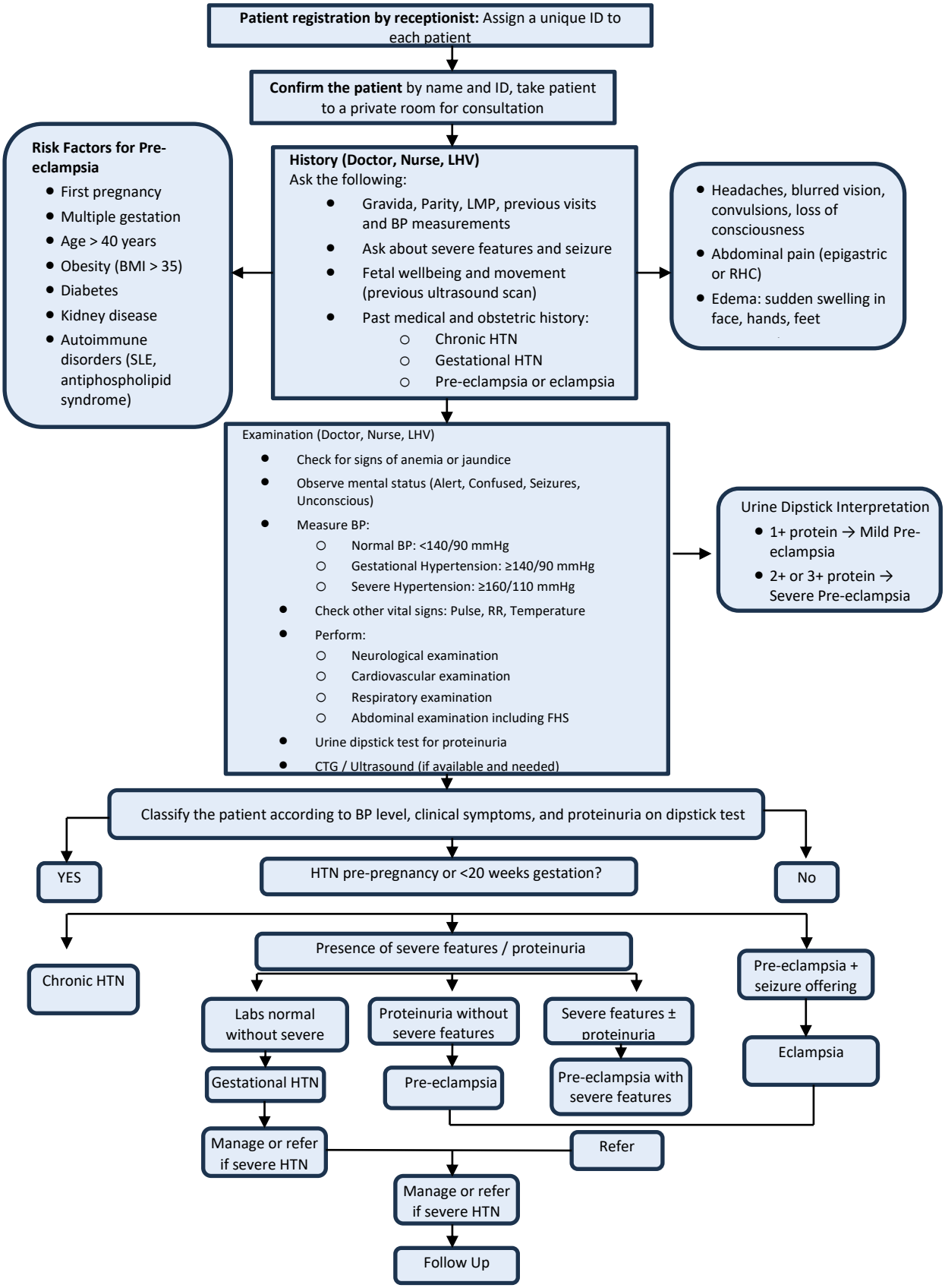
Timing of Birth:

- Plan delivery after 37 weeks if BP <160/110 mmHg and clinically stable
- Severe cases: Refer

References and Source Documents:

- NICE Guideline on Hypertensive Disorders in Pregnancy
- WHO IMPAC Guidelines 2017
- Society of Obstetricians and Gynecologists Pakistan (SOGP) Guidelines 2022
- DCP3 Interventions for Maternal and Newborn Health

Process Flow: Hypertensive Disorders in Pregnancy



VIII. Management of labor and delivery in low-risk women (BEmONC), including initial treatment of obstetric or delivery complications prior to transfer.

Brief Description of Intervention:

This intervention outlines the assessment and management of labor and delivery among low-risk women, including initial treatment of obstetric complications (such as fetal distress, Postpartum Hemorrhage, and eclampsia) before referral to higher-level facilities when needed. It follows a stepwise approach through labor stages, emphasizing safe delivery, early detection of danger signs, emergency management, and postpartum care.

Main Provider(s) of Care:

Lady Health Visitor (LHV), Female Medical Officer.

SOP for the protocols

Diagnosis:

Relevant History: Ask about the following:

- Last menstrual period (LMP), estimated gestational age
- Onset, duration, and frequency of labor pains
- Presence of vaginal bleeding or fluid discharge
- Past obstetric history (Gravida, Parity)
- Any history of complications in current or previous pregnancies (e.g., Gestational Diabetes Mellitus, hypertension, preeclampsia, eclampsia)
- Fetal movements

Physical Examination: Perform general and obstetric examination

- Equipment: BP apparatus, thermometer, fetoscope, stethoscope, gloves, sterile vaginal exam kit
- General examination: Check for vital signs (BP, pulse, temperature). Check reflexes, clonus.
- Obstetric assessment: Look for:
    - Fetal heart rate (110–160 bpm) using fetoscope
    - Uterine contractions (duration/frequency, bandl's ring),
    - Abdominal Exam: presenting part, height of fundus
    - Vaginal examination: cervical dilation, effacement, presenting part, position and station

Calculate Bishop's Score

CERVICAL EXAM	POINTS 0	1	2	3	SUBSCORE
Dilation (cm)	Closed ◉	1-2 cm ○	3-4cm ○	5 - 6cm ○	
Effacement (%)	0-30% ◉	40-50% ○	60-70% ○	80% ○	
Station	-3 ◉	-2 ○	-1, 0 ○	+1, +2 ○	
Consistency	Firm ◉	Medium ○	Soft ○		
Position	Posterior ◉	Mid ○	Anterior ○		
Reset				BISHOP'S SCORE	

Interpretation of Score:

If the Bishop score is 8 or greater the chances of having a vaginal delivery are good and the cervix is said to be favorable or "ripe" for induction. If the Bishop score is 6 or less the chances of having a vaginal delivery are low and the cervix is said to be unfavorable or "unripe" for induction.

- Signs of labor complications (e.g., obstructed labor, bleeding, convulsions, shock)

Investigations:

- CBC (Hemoglobin, WBC, Platelets)
- Urine dipstick (proteinuria)
- Ultrasound (if available and indicated)
- Document progress of labour on LCG guide
- Blood grouping and Rh typing (if available)

Management Guidelines:
Treatment and/or Preventive Interventions:

First Stage – Latent Phase (<5 cm cervical dilatation):

- Monitor vitals 4-hourly
- Encourage hydration, mobility
- Relief pain (massage, compresses)
- Monitor for FHR and uterine contractions every 30 minutes
- Give promethazine for nausea/vomiting if needed

First Stage – Active Phase (≥5 cm cervical dilatation):

- Maintain LCG for progress of labour
- Intermittent fetal monitoring: **1st Stage** check FHS every 15 minutes for one minute after the uterine contraction ends. **2nd stage** check FHS every 5 minutes after the contraction ends and listen for one minute
- Assess cervical dilation every 4 hours
- Monitor uterine contractions every 30 minutes. In case of >5 contractions in 10 min give Salbutamol inhaler 2-3 puffs every 1-2 min to relax uterus
- If no progress, consider artificial rupture of membranes
- Note color of amniotic fluid, monitor for meconium staining

Second Stage – Delivery of Infant:

- check FHS every 5 minutes after the contraction ends and listen for one minute
- Do not give fundal pressure
- Encourage pushing during contractions
- Provide perineal support
- Deliver head, check for nuchal cord
- Place neonate on mother's chest (skin-to-skin)

Third Stage – Delivery of Placenta:

At delivery of anterior shoulder/head of the baby, wait for signs of placental separation: gush of blood, lengthening of cord and globular uterus,
Controlled cord traction after the signs of placental separation with one hand on pubic area to push the uterus away

- Give Oxytocin 10 IU IM/IV

- Assess excessive bleeding by using calibrated drapes. If bleeding > 300ml with one abnormal vital sign start MOTIVE bundle

Management of Complications: Call for Help

- Fetal distress/ Hyperstimulation (sustained uterine contraction): reposition mother, give oxygen and IV fluids Salbutamol inhaler 2-3 puffs every 1-2 minutes to relax uterus and refer if remote from delivery
- PPH: Use EMOTIVE bundle
- Early identification
    - Heart Rate (Pulse): Tachycardia (fast, weak pulse, often >110 beats per minute) is an early sign of blood loss and shock.
    - Blood Pressure: Hypotension (low systolic blood pressure, typically <90 mmHg) is a later sign of shock.
    - Respiratory Rate: Rapid breathing (>30 breaths per minute) can indicate shock.
    - Oxygen Saturation: Monitoring SpO2 levels (peripheral oxygen saturation), with a reading of less than 95% triggering concern.
    - Level of Consciousness/Mental Status: Anxiousness, confusion, or altered consciousness ("ghabrahat") are important clinical signs of compromise.
    - Skin Condition: Pallor (especially of the inner eyelid, palms, or around the mouth), sweating, or cold, clammy skin are indicators of shock.
    - Uterine Tone: Uterine massage (the 'M' in E-MOTIVE) is performed, and the tone is continuously assessed.
- Oxytocin 10 IU in 500ml over 10 min then 20 IU in 1000ml for 4 hours.
- Tab Misoprostol 600 ug SL/PO/Rectal.
- Inj Transexamic acid 1 gram over 10 min-diluted in 200ml NS over 10 min.
- IV fluids, referral if no response.
- Eclampsia: $MgSO_4$, BP control (labetalol, hydralazine), oxygen, emergency delivery.
- Obstructed labor: If identified (Bandl's ring, impacted fetal head), Check FHS every 5 min and REFER.
- Prolonged expulsive phase: cervix fully dilated but no descent. Apply instrument at +2 station only in PHC otherwise refer for emergency cesarean.
- Resuscitative measures to be mentioned for all the maternal obstetric emergency situations including ABC, call for help, two large bore IV 14 or 16 G cannulas, retain foley's, IV crystalloids etc.

Referral Criteria:

- Signs of shock or hemorrhage
- Eclampsia/seizures
- Prolonged or obstructed labor
- Suspected uterine rupture or placenta Previa

Patient Education:

- Explain labor progress and what to expect
- Importance of early reporting for danger signs
- Hygiene during delivery and postpartum
- Neonatal care including breastfeeding and immunization
- Contraceptive counseling

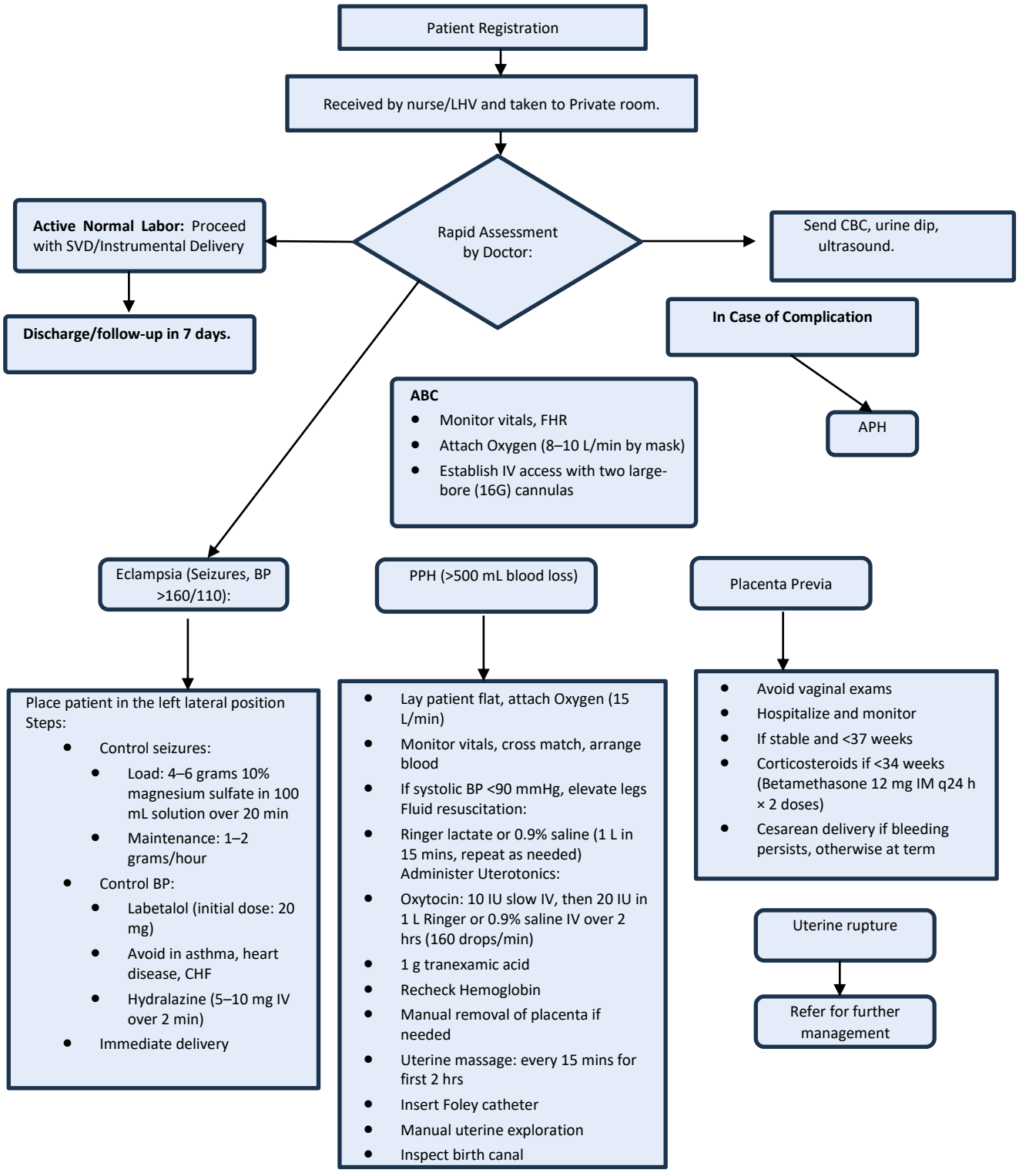
Follow-up:

- First follow-up visit after 7 days postpartum
- Monitor maternal recovery and neonatal well-being
- Ensure immunization and birth registration
- Provide postpartum family planning options

References and Source Documents:

- DCP3 Volume on Reproductive, Maternal, Newborn, and Child Health
- WHO Recommendations: Intrapartum Care for a Positive Childbirth Experience (2018)
- Government of Pakistan, National MNCH Guidelines
- UNFPA Emergency Obstetric and Newborn Care (EmONC) Handbook
- Standard Treatment Guidelines for PHC, MoNHSR&C
- World Health Organization. (2025). Consolidated guidelines for the prevention, diagnosis and treatment of postpartum haemorrhage.

Process Flow: Management of Labor and Delivery in Low-Risk Women (BEmONC)



IX. Syndromic management of common sexual and reproductive tract infections (for example urethral discharge, genital ulcer, and others) according to WHO

Gonorrhea	Ceftriaxone 250 mg IM once only PLUS azithromycin 1gm orally once only OR Cefixime 400mg orally once only PLUS azithromycin 1gm orally once only

Brief Description of Intervention:

Syndromic approach to diagnosis and management of common STIs and RTIs including urethral/vaginal discharge, genital ulcers, and pelvic inflammatory disease (PID), based on WHO and national guidelines. Involves standardized history, physical examination, empirical treatment, patient education, partner notification, and follow-up.

Main Provider(s) of Care:

Lady Health Visitor (LHV), Physician/ Female Medical Officer.

SOP for the protocols

Diagnosis:

Relevant History: Ask about:

- Symptom onset, duration, severity, and progression
    - Symptoms:
        - Males: urethral discharge, dysuria
        - Females: vaginal discharge, intermenstrual bleeding, dysuria, lower abdominal pain
        - Both: genital ulcers, inguinal swelling, rectal discharge or pain
- Assess risk of STIs: Ask about the following
    - Sexual history and practices
    - Number and type of partners (regular, casual, transactional)
    - Condom use, past STI/HIV history

Physical Examination:

- Take Informed consent and ensure privacy
- Look for general signs (rashes, lymphadenopathy)
- **In females look for:**
    - External genitalia (discharge, vesicles, erythema)
    - Speculum examination (if available): discharge, strawberry cervix
    - Perform bimanual exam: cervical motion/adnexal tenderness
- **In males look for:**
    - Discharge or rash on penis, urethra and scrotal swelling
    - Urethral discharge, anal lesions
    - Digital rectal exam if MSM/HIV or rectal symptoms (should be done in females if symptomatic)

Investigations (if available):

- Urine test
- Rapid/point-of-care STI tests
- Microscopy or culture (where possible)
- Obtain HIV test for all patients with STIs

Chlamydia	Doxycycline 100 mg orally twice daily for 7 days (Not to be used for pregnant women, children or adolescents) OR Azithromycin 1gm orally once only	
Trichomoniasis	Metronidazole 400 mg orally twice daily for 7 days **OR** Metronidazole 2gm orally single dose	**Treatment during Pregnancy** Metronidazole 200 mg, orally, 3 times a day for 7 days
Genital Herpes	**Treatment of First Episode**: Acyclovir 400 mg 3 times a day for 10 days **Treatment of Recurrent Episodes:** Acyclovir 400 mg 3 times a day for 5 days **Suppressive therapy:** Acyclovir 400 mg twice a day continuously	
Syphilis	Benzathine Penicillin 2.4 million IU intramuscularly once (Can also be given in pregnancy) OR Doxycycline 100 mg orally twice a day for 14 days	
Bacterial Vaginosis	Metronidazole 400mg orally twice daily for 7 days OR Metronidazole 2 gm orally once (also treats Trichomonas)	**Pregnancy** Metronidazole 200 mg orally, 3 times a day for 7 days OR Clindamycin 300 mg, orally, twice daily for 7 days
PID	**Gonorrhea:** Ceftriaxone 250mg IM one dose only plus azithromycin 1gm orally single dose **PLUS** **Chlamydia:** Doxycycline 100mg orally twice a day for 14 days **PLUS** **Anaerobes:** Metronidazole 400mg orally twice a day for 14 days	

Management Guidelines:
Treatment Options:
Patient Education:

- Explanation of diagnosis, transmission, and treatment
- Safer sex practices (condom use, partner treatment)

- Consequences of untreated STIs
- Emphasize adherence to treatment and follow-up

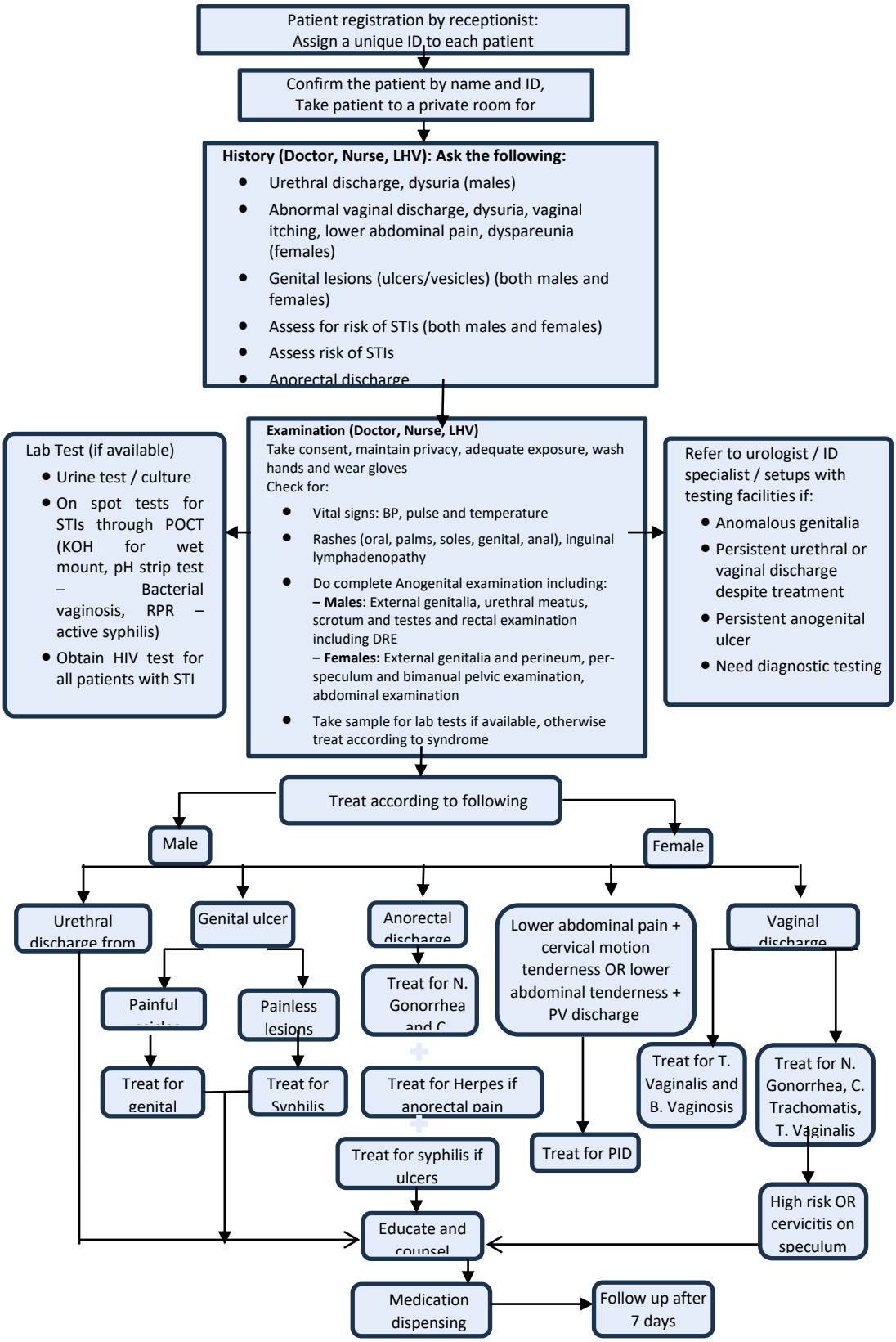
Follow-up:

- 7 days post-treatment to ensure symptom resolution
- Reassess and retest if symptoms persist
- Refer for specialized care if no improvement or complications

References and Source Documents:

- National Guidelines for the Management of Sexually Transmitted Infections
- WHO STI Guidelines
- AKU Manual of Clinical Practice Guidelines
- WHO STI Syndromic Management Guidelines

Process Flow: Syndromic Management of STIs/RTIs (WHO Guidelines)



X. Basic neonatal resuscitation following delivery.

Brief Description of Intervention:

This guideline provides step-by-step clinical management of newborns requiring basic resuscitation immediately following delivery at PHC level. It includes identification of non-crying babies, steps for stimulation, suctioning, bag-mask ventilation, and ongoing monitoring or referral.

Main Provider(s) of Care:

Physician, Lady Health Visitor (LHV)

SOP for the protocols

Diagnosis:

Relevant History: Newborns born to low-risk mothers, delivered in PHC setting, not crying or breathing immediately after birth.

Physical Examination: Initial assessment includes observing newborn colour, breathing, movement, and muscle tone. Vitals of the mother also recorded.

Investigations: Not required for basic resuscitation. Clinical evaluation guides care.

Management Guidelines:

Preparation:

- During pre-delivery assessment, the healthcare provider records the maternal vital signs, including blood pressure, pulse, and temperature, and then moves the woman to a private consultation or delivery room. In preparation for birth, the provider identifies a helper and reviews the emergency plan, prepares the delivery area for both childbirth and potential newborn ventilation, performs proper hand hygiene, and checks and organizes all resuscitation equipment to ensure it is functional and readily accessible.
- Immediately after delivery, the newborn is dried thoroughly by removing the wet cloth, and skin-to-skin contact with the mother is initiated. The exact time of birth is noted, and the newborn is assessed to determine whether they are crying, pink, and active. If the baby is crying, routine newborn care is provided, including maintaining warmth, ensuring proper positioning, and initiating kangaroo mother care, while clinical monitoring continues. The umbilical cord is clamped and cut after 1–3 minutes.
- **Golden minute interventions:** If the baby is not crying, Golden Minute interventions are initiated. The newborn is kept warm, the airway is cleared by wiping secretions or using a suction tube (5 cm oral, 2 cm nasal), and breathing is stimulated by gently rubbing the back. Breathing is then evaluated; if the baby is breathing well (either crying or with quiet breathing) routine care continues. If the newborn is not breathing well, such as presenting with gasping or shallow or absent breaths, bag-mask ventilation is started within the first minute.
- **Bag-mask ventilation** is initiated using the correct mask size with a tight seal, ensuring the head is positioned in slight extension, and delivering 40 breaths per minute in a consistent “1–2–3” rhythm. Chest movement is evaluated; if there is no visible movement, the head is repositioned, the mask seal is checked, and suction is used if necessary. Ventilation continues if the newborn still does not breathe. Heart rate is then assessed; if it is 100 beats per minute or higher, ventilation is continued until the newborn begins to breathe on their own. If the heart rate is below 100, ventilation technique is optimized and continued.

- If the newborn requires prolonged ventilation, it may be continued for up to 20 minutes. If no heartbeat is detected after 10 minutes of effective ventilation, stillbirth is declared and resuscitation is stopped. For newborns who respond to resuscitation, ongoing monitoring is provided, and support is offered to the mother, including breastfeeding assistance and emotional support if the baby is well enough for discharge. If advanced care is needed, arrangements are made for timely and safe transport to a higher-level facility.

References and Source Documents:

- Helping Babies Breathe, 2nd Edition
- National Guidelines for Small and Sick Newborn Care
- IMPAC Guidelines, WHO 2017

ACTION PLAN

Second Edition

Helping Babies Breathe

Prepare for birth*

See HMS Action Plans for mother

Birth

Dry thoroughly

Crying?

Crying

Not crying

Keep warm
Clear airway if needed
Stimulate

Breathing?

Keep warm
Check breathing

Breathing well

Not breathing

Breathing

Ventilate
Cut cord

60 sec

Cut cord

Not breathing
No chest movement

Call for help

Monitor with mother

Breathing

Improve ventilation

Essential Care for Every Baby
(See ECEB Action Plan)

Not breathing
Heart rate?

Normal

Slow

Not breathing

Continue ventilation
Decide on advanced care

The Golden Minute®

* Equipment to help a baby breathe

Gloves

Suction device

Cloths

Ventilation bag-mask

Head covering

Stethoscope

Scissors

Timer (clock, watch)

Ties /Clamps

Disinfect equipment immediately after use

XI. Early detection and treatment of neonatal pneumonia (0-2 months) with oral antibiotics.

Brief Description of Intervention:

Identification of neonatal pneumonia cases in infants aged 0–2 months through systematic assessment of danger signs and respiratory symptoms, followed by treatment with oral antibiotics (Amoxicillin) at the PHC level or referral for severe illness.

Main Provider(s) of Care:

Lady Health Visitor (LHV), Physician/Medical Officer.

SOP for the protocols

Diagnosis:

- **Relevant History:**
  - Ask general danger signs caregiver:
    - Is the baby having difficulty in feeding?
    - Has the baby had convulsions (fits)?
    - Vomits everything
    - Lethargic or unconscious
    - Stridor in a calm child (sign of severe respiratory distress)
- **Physical Examination:**
  - Confirm patient identity and assess vitals pulse, temperature) – Assessment Area
  - Look for danger signs :
  - Count breaths in 1 minute. Confirm if ≥60 breaths per minute.
  - Severe chest indrawing
  - Baby's movement (does not move, moves only when stimulated)
  - Check capillary refill >2sec
  - Check for stridor or wheeze
- **Investigations:**
  - Not applicable routinely at PHC level
  - Referral to higher facility for further workup if severe illness suspected

Management Guidelines:

- **Treatment and/or Preventive Interventions:**
  - **If SEVERE ILLNESS** (any danger sign present):
    - Give **first dose of Amoxicillin 125 mg per oral**
    - Refer immediately to higher facility
  - **If PNEUMONIA only (fast breathing ≥60/min, no danger signs):**
    - Treat at home with **Amoxicillin 125 mg orally every 8 hours for 7 days**
  - **If NO signs of pneumonia** (only cough/cold):
    - No antibiotics needed

Patient Education:

- Teach caregivers how to:
  - Give oral antibiotics at home
  - Recognize worsening signs (feeding difficulty, fast breathing, chest indrawing)
  - Maintain warmth and hydration
  - Return for follow-up or worsening symptoms

Follow-up:

- Return visit after **2 days** to assess response to treatment
- Immediate return if danger signs develop

References and Source Documents:

- **IMNCI National Guidelines, Pakistan (2019)**
- WHO. Integrated Management of Childhood Illness (IMCI)
- Essential Package of Health Services for Pakistan, PHC level
- DHIS-2 reporting manual

XII. Detection and treatment of childhood infections with danger signs (IMCI).

Brief Description of Intervention:

Integrated Management of Childhood Illness (IMCI) approach to assess, classify, and treat children aged 2 months to 5 years with danger signs, respiratory infections, diarrhea, fever, malnutrition, anemia, and incomplete immunization. This includes early detection, stabilization, referral, and follow-up.

Main Provider(s) of Care:

Lady Health Visitor (LHV), Physician/Medical Officer.

SOP for the protocols

Diagnosis:

Relevant History: Ask about:

- Feeding ability
- Vomiting
- Convulsions
- Cough, difficulty breathing
- Diarrhea and duration
- Fever and its duration
- Immunization status

Physical Examination: Look for:

- Anthropometric measurements (MUAC, weight-for-height)
- temperature, pulse, respiratory rate
- General danger signs: lethargy, convulsions
- Pallor, dehydration, signs of measles
- Signs of acute malnutrition (edema, visible wasting)

Investigations: Where needed:

- Rapid diagnostic test for malaria
- Hemoglobin (if available)
- Vaccination card check

Management Guidelines:

Treatment and/or Preventive Interventions:

- Immediate stabilization and referral if general danger signs
- Bronchodilators for wheeze
- Antibiotics (Amoxicillin, Ciprofloxacin) for pneumonia and dysentery
- ORS and Zinc for diarrhea
- ACT/Chloroquine/Artesunate for malaria
- Vitamin A for measles
- RUTF and antibiotics for acute malnutrition
- Deworming, paracetamol for fever

Patient Education:

- Explain diagnosis and treatment plan

- Advise on danger signs requiring immediate return
- Demonstrate medication dosing (e.g., salbutamol inhaler with spacer)
- Counsel on nutrition and feeding

Follow-up:

- Follow-up in 3, 5, 14, or 30 days based on illness
- Immediate return if new or worsening symptoms
- Reinforce follow-up dates and danger signs to watch

References and Source Documents:

- National IMCI Guidelines 2019
- WHO Chart Book for IMCI, 2017
- DCP3 Reference: HC12
- WHO IMCI Materials

If the child is current convulsing:

Turn the child on his/her side to avoid aspiration
Do not insert anything in the child's mouth
If lips/tongue is blue, make sure airway is clear. If secretions in mouth and airway remove them using a suction tube

Prepare per rectal diazepam by mixing it with 3 ml of sterile water. Attach a part of ng tube to the end of the syringe and insert it per rectally.
Push diazepam as below:
If 1-3 years (weight 10-14 kg): 1.25 ml
If 3-5 years (weight: 14-19 kg): 1.5 ml

For children with danger signs and requiring antibiotics give first dose of antibiotic as below (Give injectable by the intramuscular route) and then refer

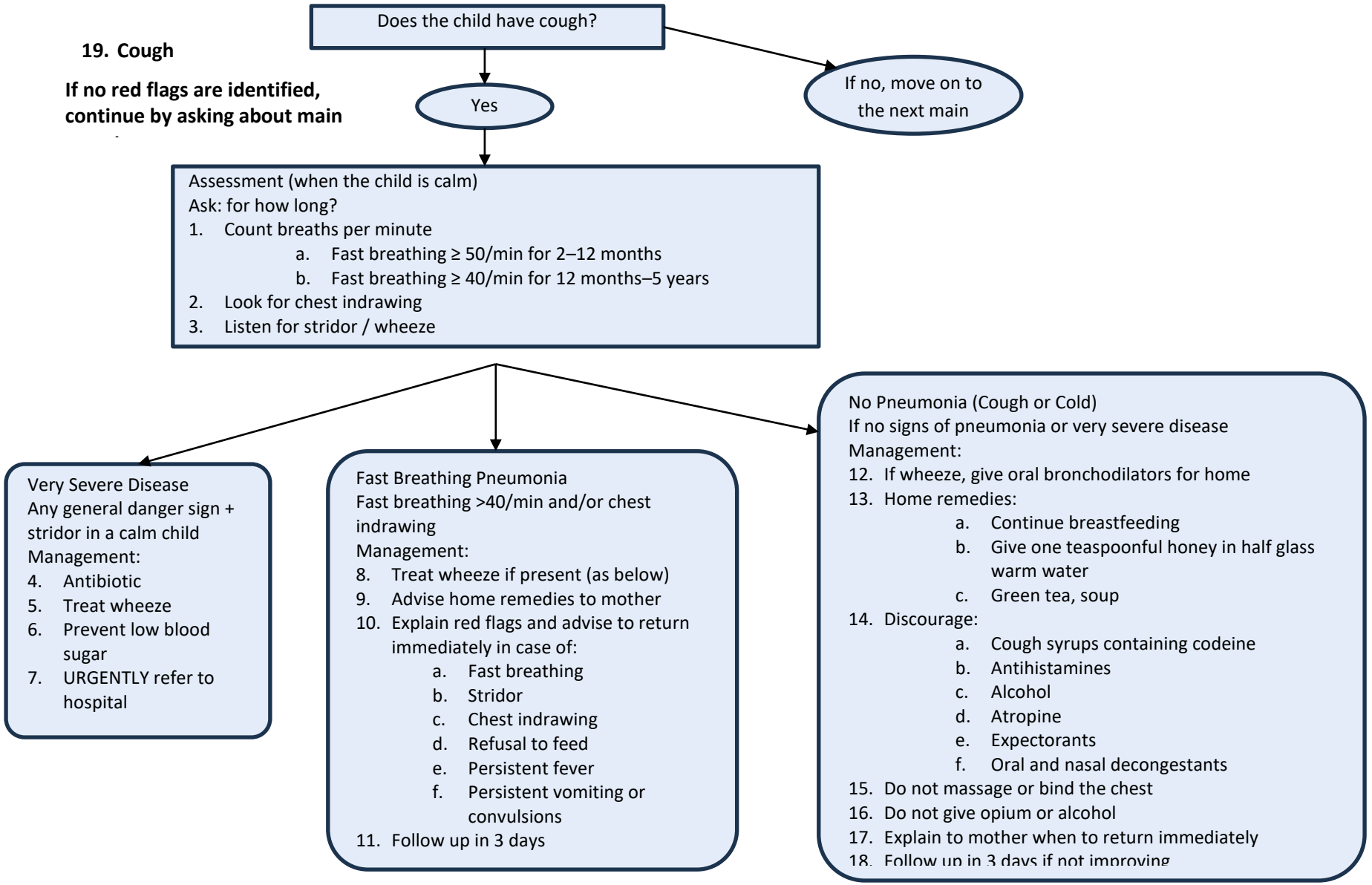
AGE or WEIGHT	**AMPICILLIN** Dose: 50 mg/kg Add 3 ml sterile water to vial containing 500 mg = 3.5 ml at 143 mg/ml	**GENTAMICIN** Dose: 7.5 mg/kg 1 vial = 40 mg/2 ml	**CHLORAMPHENICOL** Dose: 40 mg/kg Add 5.0 ml sterile water to vial containing 1000 mg = 5.6 ml at 180 mg/ml
2 months up to 4 months (4 - < 6 kg)	1.5 ml = 214 mg	1.5 ml = 30 mg	1.0 ml = 180 mg
4 months up to 9 months (6 - < 8 kg)	2 ml = 286 mg	2.5 ml = 50 mg	1.5 ml = 270 mg
9 months up to 12 months (8 - < 10 kg)	3 ml = 429 mg	3 ml = 60 mg	2.0 ml = 360 mg
12 months up to 3 years (10 - < 14 kg)	3.5 ml = 500 mg	4 ml = 80 mg	2.5 ml = 450 mg
3 years up to 5 years (14 - 19 kg)	5 ml = 715 mg	5 ml = 100 mg	3.5 ml = 630 mg

For children with danger signs to Prevent Low blood Sugar:

- If the child is able to breastfeed: Ask the mother to breastfeed the child.
- If the child is not able to breastfeed but is able to swallow: Give expressed breast milk or a breast-milk substitute.
- If neither of these is available, give sugar water* and give 30 - 50 ml of milk or sugar water before departure.
- If the child is not able to swallow: Give 50 ml of milk or sugar water by nasogastric tube.
- If no nasogastric tube available, give 1 teaspoon of sugar moistened with 1-2 drops of water sublingually and repeat doses every 20 minutes to prevent relapse.

*To make sugar water: Dissolve 4 level teaspoons of sugar (20 grams) in a 200-ml cup of clean water

Process Flow: Management of Cough or Difficulty Breathing (Pneumonia)



For Children with Wheezing and General Danger Sign or Stridor

- Give one dose of rapid acting bronchodilator and refer immediately.

For Children with Wheezing and Chest Indrawing and/or Fast Breathing

- Give a dose of rapid acting bronchodilator and reassess the child after 30 minutes.

IF:
Chest Indrawing or Fast Breathing Persists
THEN:
➤ Treat for Pneumonia and
➤ Give oral salbutamol for 5 days
IF:
No Fast Breathing
THEN
➤ Treat for No Pneumonia: Cough or Cold and
➤ Give oral salbutamol for 5 days

For Children with Wheezing and No Danger Signs, No Stridor, No Chest Indrawing, No Fast Breathing

- Treat for No Pneumonia: Cough or Cold
- Give oral salbutamol for 5 days

Rapid acting bronchodilator		
Age / Weight	**Nebulized Salbutamol (5 mg/ml)**	**Metered Dose Inhaler with Spacer (100 mcg/dose)**
2 months – <6 months (4 – <7 kg)	0.25 ml + 2.0 ml sterile water	1 puff
6 months – <12 months (7 – <10 kg)	0.5 ml + 2.0 ml sterile water	1–2 puffs
12 months – 5 years (10 – 19 kg)	0.5 ml + 2.0 ml sterile water	2–3 puffs

Oral Salbutamol **To be given three times daily for 5 days**		
Age / Weight	**Tablets (2 mg)**	**Syrup (2 mg / 5 ml)**
2 months – <6 months (4 – <7 kg)	¼ tablet	1.25 ml
6 months – <12 months (7 – <10 kg)	½ tablet	2.5 ml
12 months – 5 years (10 – 19 kg)	1 tablet	5 ml

Process Flow: Home Management of Diarrhea in Children

2. Diarrhea

Treat diarrhea at home

Not enough signs to classify as some or severe dehydration

4 rules of home treatment:
- Give extra fluid
- Continue feeding
- When to return
- Oral zinc for 10–14 days

1. Give extra fluid:
Breast feed frequently and longer at each feed
Exclusive BF: ORS, clean water
Non-exclusive BF: Food-based fluid (rice water, soup, yogurt)

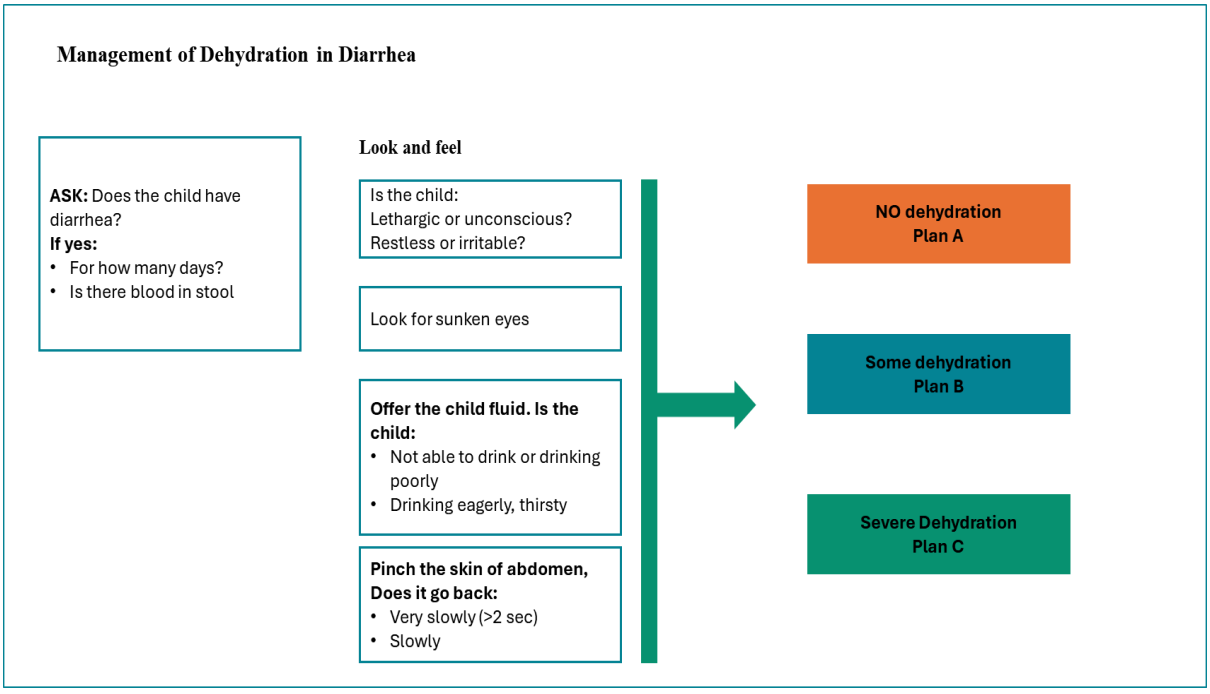
Follow up in 5 days

3. When to return immediately:
Not able to drink or BF
Becomes sicker
Develops fever
Blood in stool

2. Continue feeding:
- Continue to BF (breastfeed) frequently.
- If not BF, give cow or formula milk (half diluted).
- >6 months and weaning: Freshly prepared food like cereals, pulses, meat, fish (4–6 times/day).
- Fresh juice or mashed banana.

Up to 2 years: 50–100 ml after each loose stool.
>2 years: 100–200 ml after each loose stool.
Frequent small sips from a cup.
After vomiting, wait 10 minutes and give slowly.
Continue giving extra fluid until diarrhea stops.

PLAN A



Plan B

Two of the following signs:
Restless, irritable
Sunken eyes
Drinks eagerly, thirsty
Skin pinch goes back slowly

Some dehydration: Treat with ORS

In the clinic: Give ORS over 4-hour period

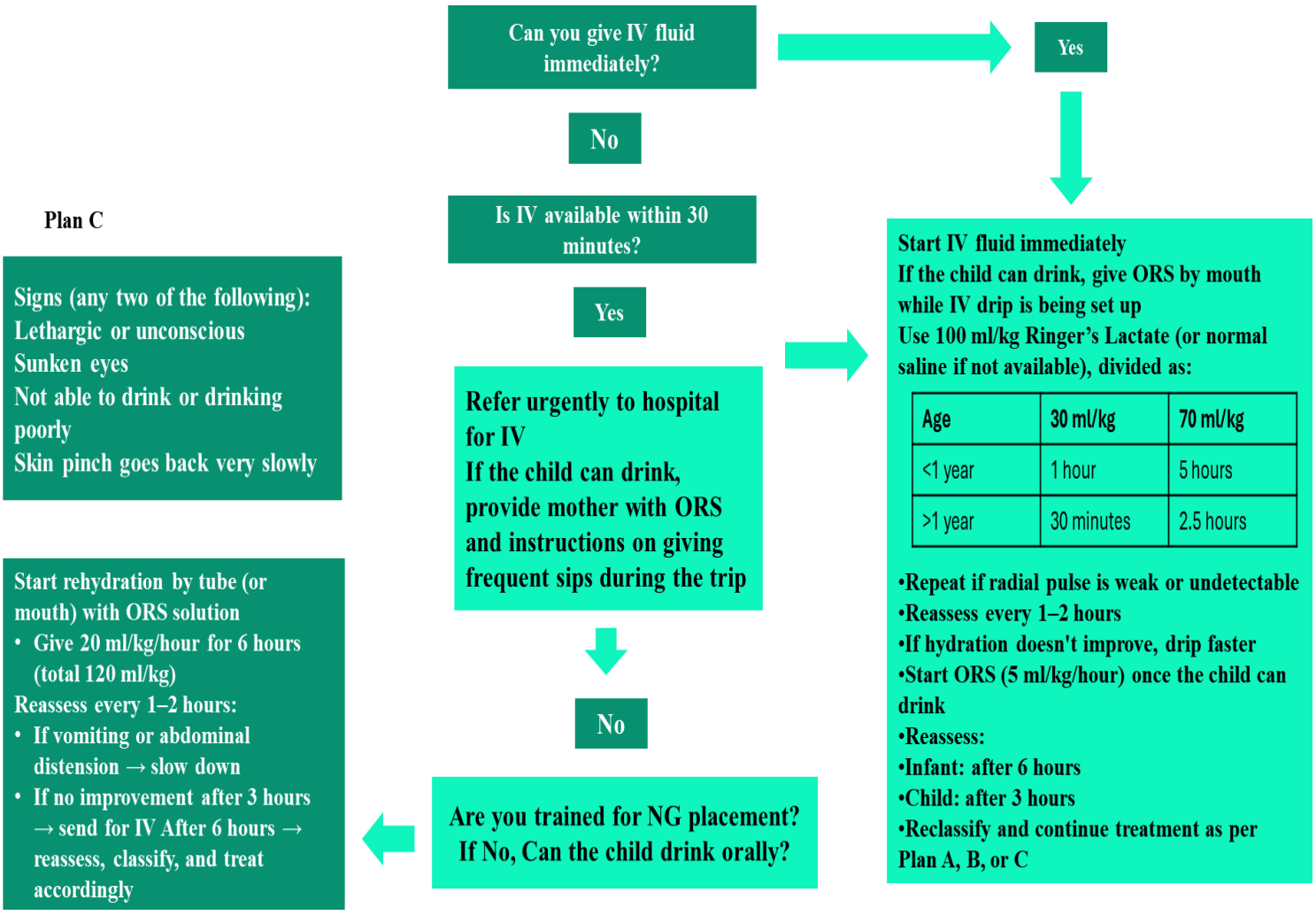
Age	Up to 4 month	4–12 months	12m to 2 year	2–5 year
Weight	<6 kg	6–<10 kg	10–<12 kg	12–19 kg
Amount of fluid (ml over 4 hours)	200–400 (75 ml/kg)	400–700	700–900	900–1400

If the child wants more ORS than shown, give more
For infants below 6 months who are not breastfed, also give 100–200 ml clean water during this period
Continue breastfeeding whenever the child wants

Reassess after 4 hours:
Treat according to Plan A, B, or C
Explain 4 rules of treatment at home

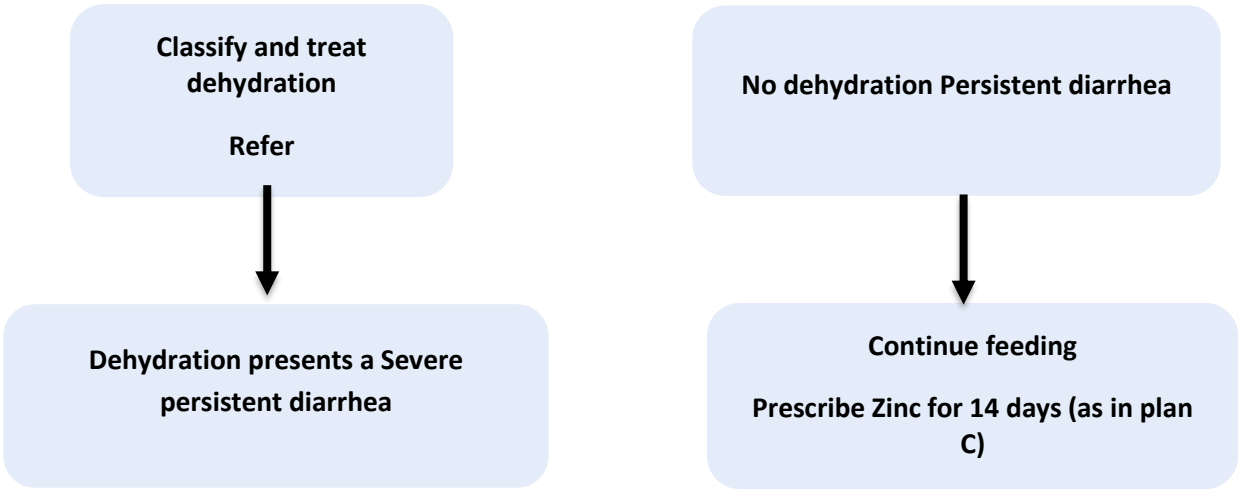
If Blood in stool: Manage dysentery

- Given ciprofloxacin for 5 days



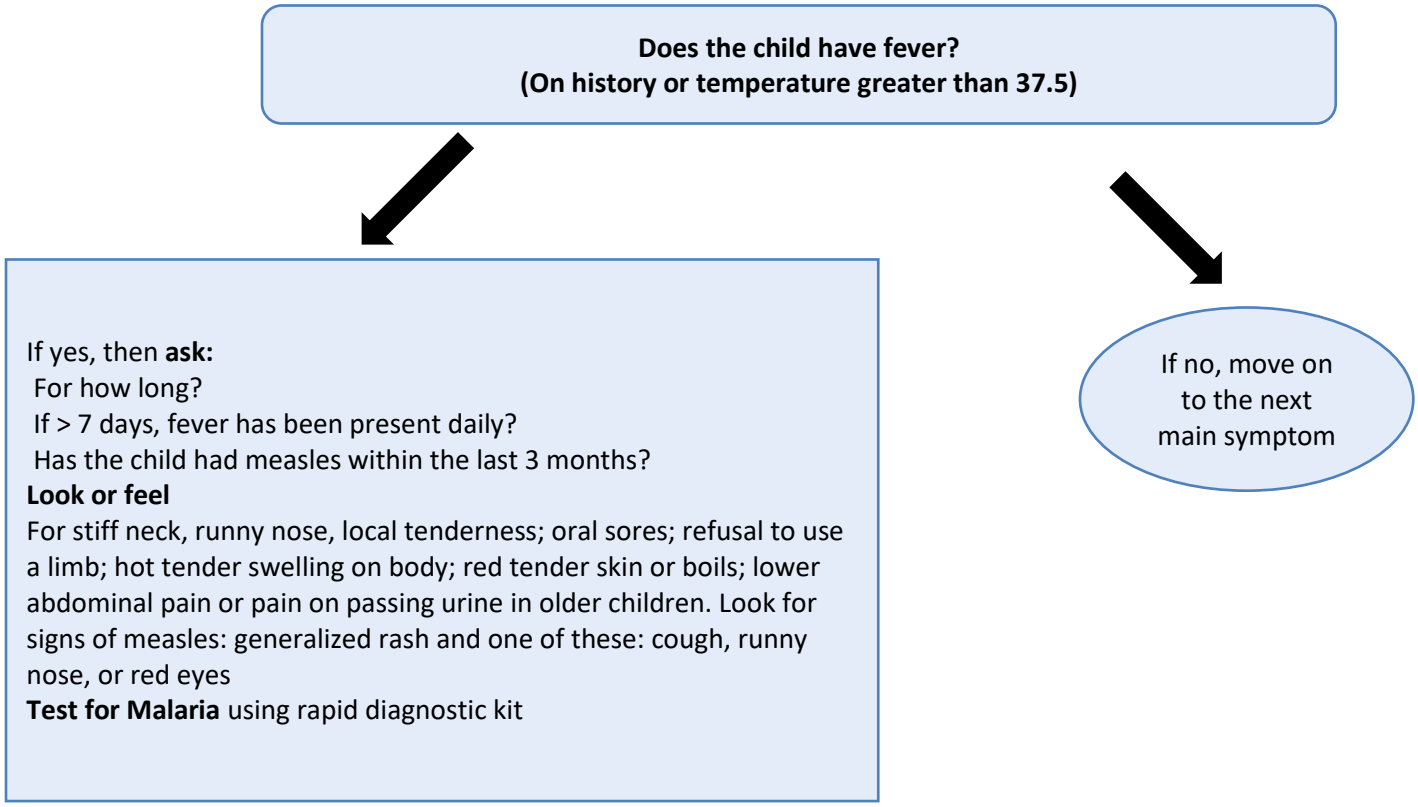
Ciprofloxacin Dosage Guide Give two times daily for 3 days		
Age / Weight	**Tablet (500 mg)**	**Syrup (250 mg / 5 ml)**
2 months – <4 months	Not indicated	Not indicated
4 months – <12 months	1/5 tablet	1.5 ml
12 months – <3 years	1/3 tablet	3.5 ml
3 years – <5 years	1/2 tablet	5 ml

- If duration of diarrhea more than 14 days:
- Dehydration + severe persistent diarrhea----> Classify and manage dehydration and refer
- No dehydration + severe persistent diarrhea---> Give zinc and follow up in 5 days



Process Flow: Assessment of Fever and Malaria in Children

3. Fever



<table>
<tr><th colspan="3">High or Low Risk Malaria Transmission</th></tr>
<tr><th>Very Severe Disease (Any general danger sign or Stiff neck)</th><th>Malaria (Malaria test positive)</th><th>Fever: (Malaria test negative, other cause of fever present)</th></tr>
<tr>
<td>Refer
Pre-referral management:
Insert first dose of the suppository
OR
Intramuscular artesunate or quinine:
If referral is not possible:
For artesunate injection: Give first dose of artesunate intramuscular injection, repeat after 12 hrs and daily until the child can take orally. Give full dose of oral antimalarial as soon as the child is able to take orally.
For artesunate suppository: Give first dose of suppository Repeat the same dose of suppository every 24 hours until the child can take oral antimalarial.
Give full dose of oral antimalarial as soon as the child is able to take orally
For quinine: Give first dose of intramuscular quinine. The child should remain lying down for one hour. Repeat the quinine injection at 4 and 8 hours later, and then every 12 hours until the child can take an oral antimalarial. Do not continue quinine injections for more than 1 week. If low risk of malaria, do not give quinine to a child less than 4 months of age</td>
<td>For Falciparum: ACT first dose in clinic. If child vomits repeat after 30 minutes.

For Vivax: give first dose of Chloroquine in clinic. If child vomits repeat dose after 30 mins.

Advise mother to return immediately if persistent vomiting, convulsions
Follow-up in 3 days if fever persists
If fever is present every day for more than 7 days, refer.

*ACT= Artemisinin based Combination Therapy</td>
<td>Give PO Paracetamol (120mg/5ml) first dose in clinic
4-<7 kg à2.5 ml
7-<14 kgà5 ml
14-19 kg à10 ml

Ask mother to continue six hourlies at home.

Give appropriate antibiotic as needed for home:
Sore throat:

OR
Otitis media: give appropriate antibiotic as per below chart
▸ Give a single dose of Intramuscular Benzathine Penicillin
<table><tr><th>Age</th><th>Benzathine Penicillin
(600,000 units add 5 ml sterile water)</th></tr><tr><td>< 5 years</td><td>600,000 unit</td></tr></table>
Follow-up in 3 days if fever persists
If fever is present every day for more than 7 days, refer for Assessment</td>
</tr>
</table>

Dose Charts for Malaria

AGE or WEIGHT	RECTAL ARTESUNATE SUPPOSITORY		INTRAMUSCULAR ARTESUNATE	INTRAMUSCULAR QUININE	
	50 mg suppositories (Dosage: 10 mg/kg)	200 mg suppositories (Dosage: 10 mg/kg)	60 mg vial (20 mg/ml)2.4 mg/kg	150 mg/ml (in 2 ml ampoules)	300 mg/ml (in 2 ml ampoules)
2 months up to 4 months (4 - <6 kg)	1	-	½ ml	0.4 ml	0.2 ml
4 months up to 12 months (6 - <10 kg)	2	-	1 ml	0.6 ml	0.3 ml
12 months up to 2 years (10 - <12 kg)	2	-	1.5 ml	0.8 ml	0.4 ml
2 years up to 3 years (12 - <14 kg)	3	1	1.5 ml	1.0 ml	0.5 ml
3 years up to 5 years (14 - 19 kg)	3	1	2 ml	1.2 ml	0.6 ml

Dose in mg (No. of tablets)						
AGE	**Artesunate (50 mg)**			**Sulfadoxine-Pyrimethamine (500/25 mg)**		
	DAY 1	**DAY 2**	**DAY 3**	**DAY 1**	**DAY 2**	**DAY 3**
5 months up to 12 months	25 mg (½ tablet)	25 mg (½ tablet)	25 mg (½ tablet)	250/12.5 mg (½ tablet)	—	—
1 year to 5 years	50 mg (1 tablet)	50 mg (1 tablet)	50 mg (1 tablet)	500/25 mg (1 tablet)	—	—

Chloroquine Dosage (Give for 3 days)									
AGE or WEIGHT	**TABLET (150 mg base)**			**TABLET (100 mg base)**			**SYRUP (50 mg base per 5 ml)**		
	DAY 1	**DAY 2**	**DAY 3**	**DAY 1**	**DAY 2**	**DAY 3**	**DAY 1**	**DAY 2**	**DAY 3**
2 months up to 12 months (4–<10 kg)	½	½	½	1	1	½	7.5 ml	7.5 ml	5.0 ml
12 months up to 3 years (10–<14 kg)	1	1	½	1½	1½	½	15.0 ml	15.0 ml	5.0 ml
3 years up to 5 years (14–19 kg)	1½	1½	1½	2	2	1	—	—	—

Dose Chart for upper respiratory tract infection/otitis media

First line antibiotic: Amoxycillin Second line antibiotic: Cephradine				
	AMOXYCILLIN **Give two times daily for five days**		**CEPHRADINE** **Give three times daily for five days**	
AGE or WEIGHT	**Syrup 125mg/5ml**	**Syrup 250mg/5ml**	**Syrup 125mg/5ml**	**Syrup 250mg/5ml**
2 months up to 12 months(4 – <10 kg)	5 ml	2.5 ml	5 ml	2.5 ml
12 months up to 5 years(10 – 19 kg)	10 ml	5 ml	10 ml	5 ml

- If Signs of measles present:

✓ Generalized rash, fever and one of these: cough, runny nose, or red eyes

Classification	Signs	Treatment/Action
SEVERE COMPLICATED MEASLES	• Any general danger sign • Clouding of cornea • Deep or extensive mouth ulcers	► Give first dose of an appropriate antibiotic ► Give one dose of paracetamol in clinic for high fever (38.5°C or above) ► If clouding of cornea or pus from eye: apply chloramphenicol eye ointment ► Treat child to prevent low blood sugar ► Give Vitamin A ► Refer URGENTLY to hospital
MEASLES WITH EYE AND/OR MOUTH COMPLICATIONS	• Pus draining from the eye • Mouth ulcers	► Give one dose of paracetamol in clinic for high fever (38.5°C or above) ► If pus from eye, treat with chloramphenicol eye ointment ► If mouth ulcers, treat with gentian violet ► Give Vitamin A ► Advise mother when to return immediately ► Follow-up in 2 days
MEASLES	• Measles now or within last 3 months	► Give one dose of paracetamol in clinic for high fever (38.5°C or above) ► Give Vitamin A ► Advise mother when to return immediately ► Follow-up in 2 days if not improving or if measles now follow up in 2 days

Vitamin A:

Give two doses:

- Give first dose in clinic.
- Give mother one dose to give at home the next day.

Age	Vitamin A Capsule 200,000 IU	Vitamin A Capsule 100,000 IU
Up to 6 months	—	50,000 IU
6 months – <12 months	½ capsule	1 capsule
12 months – 5 years	1 capsule	2 capsules

4. Assess for Acute malnutrition:

- Look and feel for signs of acute malnutrition
- Edema of both feet.
- Determine weight for height
- Measure mid-upper arm circumference in mm in a child 6 months or older
- Check for any medical complication:
    - Any general danger signs, Any severe classification, Pneumonia with chest indrawing
- If no medical complications present: Child is 6 months or older, offer Ready to Use Therapeutic Food (RUTF***) to eat.
- Is the child: Not able to finish RUTF portion? Able to finish RUTF portion?
- Child is less than 6 months, assess breastfeeding: Does the child have problem breastfeeding?
- Classify malnutrition

Clinical Signs	Classification	Management
Visible severe wasting, Oedema of both feet OR WFH/L less than -3 scores OR MUAC less than 115 mm AND any one of the following: Medical complication presents or Not able to finish RUTF or difficulty feeding	Complicated severe acute malnutrition	Give first dose appropriate antibiotic Treat the child to prevent low blood sugar Keep the child warm Refer URGENTLY to hospital
WFH/L less than -3 scores OR MUAC less than 115 mm AND Able to finish RUTF	Uncomplicated severe acute malnutrition	Give oral antibiotics for 5 days Give ready-to-use therapeutic food for a child aged 6 months or more Counsel the mother on how to feed the child. Assess for possible TB infection. Advise mother when to return immediately Follow up in 7 days
WFH/L between -3 and - 2 scores OR MUAC 115 up to 125 mm	MODERATE ACUTE MALNUTRITION	Assess the child's feeding and counsel the mother on the feeding recommendations If feeding problem, follow up in 7 days Assess for possible TB infection. Advise mother when to return immediately Follow-up in 30 days
WFH/L - 2 scores or more OR MUAC 125 mm or more	NO ACUTE MALNUTRITION	If child is less than 2 years old, assess the child's feeding and counsel the mother on feeding according to the feeding recommendations If feeding problem, follow-up in 7 days

RUTF is Ready-to-Use Therapeutic Food
For conducting the appetite test and feeding children with severe acute malnutrition

5. Assess for Anemia:

- ✓ Check the child's palm for pallor

✓ Classify Anemia

Severe Anemia:

Severe Palmar Pallor refer immediately

Anemia:
Some Pallor
Management:
Give iron (not to those on RUTF)
Give one daily dose for 14 days

	IRON/FOLATE TABLET	
AGE or WEIGHT	Ferrous sulphate 200mg + 250 µg Folate (60mg elemental iron)	Ferrous Fumarate 100mg per 5 ml (20mg elemental iron per ml)
2 months up to 4 months (4 - <6 kg)	–	1.00 ml (< ¼ tsp.)
4 months up to 12 months (6 - <10 kg)	–	1.25 ml (¼ tsp.)
12 months up to 3 years (10 - <14 kg)	½ tablet	2.00 ml (< ½ tsp.)
3 years up to 5 years (14 - 19 kg)	½ tablet	2.5 ml (½ tsp.)

Children with severe acute malnutrition who are receiving ready-to-use therapeutic food (RUTF) should **not** be given Iron.

- Give mebendazole 500 mg single dose if child is 1 year or older and has not had a dose in the previous 6 months

Advice mother when to return immediately Follow-up in 14 days

No Anemia:

No Pallor

If child is less than 2 years old

- Assess the child's feeding
- Counsel the mother according to the feeding recommendations
- If feeding problem, follow-up in 5 days

Assess vaccination status using the below Expanded program for immunization recommendation

When (Visit)	Age	Vaccines
At Birth	At Birth	BCG, OPV-0, Hep-B
2nd Visit	6 weeks	OPV-I, Rotavirus-I, Pneumococcal-I, Pentavalent-I
3rd Visit	10 weeks	OPV-II, Rotavirus-II, Pneumococcal-II, Pentavalent-II
4th Visit	14 weeks	OPV-III, Pneumococcal-III, IPV-I, Pentavalent-III
5th Visit	9 months	MR-I, Typhoid, IPV-II
6th Visit	15 months	MR-II

- ✓ If incomplete vaccination, update vaccinations.
- ✓ If unavailable refer for catch-up vaccination to nearest vaccination center.

Step 3: Follow up Visits

Follow up visit: Advice mother to come for follow up at the earliest time listed for the problems.	
Child's Condition	**Return for Follow-Up In**
Pneumonia	3 Days
Dysentery	
Malaria (if fever persists)	
Fever (no malaria, if fever persists)	
Measles with eye or mouth complications	
Mouth or gum ulcers or thrush	
Persistent diarrhea	5 Days
Acute ear infection	
Chronic ear infection	
Cough or cold (if not improving)	
Uncomplicated severe acute malnutrition	14 Days
Feeding problem	
Anemia	
Moderate acute malnutrition	30 days

Counsel Mother When to return immediately:

Ask the mother to return immediately if the child has any of the following signs:	
Condition	**Danger Signs – Return Immediately If Child Has:**
Any sick child	• Not able to drink or breastfeed • Becomes sicker • Develops a fever
Cough or cold	• Fast breathing • Difficult breathing
Diarrhea	• Blood in stool • Drinking poorly

Medicines

Category / Indication	Medicine	Formulation / Strength / Notes
Injectable Antibiotics /	Ampicillin	500 mg reconstituted with 2.1 ml sterile

Emergency Drugs		water
	Gentamicin	2 ml vial (40 mg/ml)
	Diazepam	Injection solution 10 mg / 2 ml
Oral / Inhaled Antibiotics & Bronchodilators	Amoxicillin	Tablet 250 mg; Syrup 250 mg / 5 ml
	Salbutamol	Inhaled Salbutamol
Antimalarial Therapy	Artemether–Lumefantrine	Tablets containing 20 mg artemether + 120 mg lumefantrine; give twice daily for 3 days
	Artesunate–Sulfadoxine–Pyrimethamine	Tablets: 50 mg artesunate + 500 mg sulfadoxine + 25 mg pyrimethamine
	Artesunate	Intramuscular 20 mg/ml; Suppository 50 mg / 200 mg (dose: 10 mg/kg)
	Quinine	Intramuscular quinine 150 mg / 300 mg in 2 ml ampoules
Antibiotics (Oral)	Ciprofloxacin	Tablet 250 mg; Tablet 500 mg
	Erythromycin	Tablet 250 mg
	Tetracycline	Tablet 250 mg
Supportive / Other Medicines	Oral Rehydration Solution (ORS)	Standard formulation
	Mebendazole	Tablet 500 mg

CLUSTER 2: INFECTIOUS DISEASES

Contents

I. For PLHIV and children under five who are close contacts or household members of individuals with active TB, perform symptom screening and chest radiograph; if there is no active TB, provide isoniazid preventive therapy according to current WHO guidelines

Brief Description of Intervention:

This intervention targets people living with HIV (PLHIV) and children under five who are close/household contacts of individuals with active tuberculosis (TB). It involves systematic symptom screening and chest radiography to rule out active TB. If no active TB is detected, the individuals are provided with isoniazid preventive therapy (IPT) in accordance with current WHO guidelines, to reduce their risk of developing TB disease.

Main Provider(s) of Care:

Physician/Medical Officer.

SOP for the protocols

Clinical Condition/Problem/category:

Assess for IPT eligibility:

Category 1 — PLHIV (Negative TB Screening)

- **Criteria:**
  - Close/household contact with **active TB** case
  - Negative TB symptom screen
  - Normal chest X-ray
- **Action:**
  - Eligible for **IPT** (Isoniazid Preventive Therapy)

Category 2 — Children <5 Years (Negative TB Screening)

- **Criteria:**
  - Close/household contact with **active TB** case
  - Negative TB symptom screen
  - Normal chest X-ray (if performed)
- **Action:**
  - Eligible for **IPT**

Category 3 — Positive TB Screening or Abnormal Chest X-ray

- **Criteria:**
  - Any person (PLHIV or child <5)
  - Positive TB symptom screen **OR** abnormal chest X-ray
- **Action:**
  - **Investigate for active TB/ Refer**

Diagnosis/Identification of problem:

Relevant History

Identify individuals eligible for Isoniazid preventive therapy (IPT):

- Close contact/ household members: People who share the same living space (either day or night), with the index case in the three months before starting treatment of index case.
- People living with HIV (PLHIV)
    - Children less than 5 years old

- Ask about the following symptoms to screen for active TB:
    - Presence of cough
    - Fever
    - Night sweats
    - Weight loss
    - Failure to thrive (in children)

- Baseline assessment for IPT initiation:

  Ask about the following:
    - Allergy or known hypersensitivity to TB drugs (Isoniazid, rifampicin, rifabutin, rifapentine)
    - HIV status and if positive, if on ART regimen
    - Pregnancy status or birth control method used
    - Co-morbidity: malnutrition, viral hepatitis, diabetes and record medications being taken
    - If index case has drug-resistant TB (if with Isoniazid, rifampicin only or MDR-TB-resistant to both)

Note: Potential contraindications to IPT:

The following conditions should prompt detailed investigations and application of clinical judgement to weigh harm vs the benefit of IPT:

- Viral hepatitis (acute or chronic) or transaminases (>3 times upper limit of normal),
- Regular and heavy alcohol consumption,
- Symptoms of peripheral neuropathy (tingling, numbness, burning in feet or hands)

Physical examination:

- Vitals:
    - Blood Pressure (BP)
    - Pulse
    - Temperature
- General Physical Examination:
    - Nutritional status/ BMI
    - Signs of active TB (e.g., lymphadenopathy, chest findings)

Medical Equipment Required:

- BP apparatus
- Thermometer
- Weighing scale
- Stethoscope
- Measuring tape

Investigations: (Laboratory, Radiology and Imaging, Other)

Used to rule out active TB and assess IPT eligibility.

- Chest Radiograph (CXR):
    - If abnormal (suggestive of TB): Refer for TB treatment.
    - If normal: Eligible for IPT.
- HIV testing (if unknown status)
- TB diagnostic tests (if symptoms or CXR suggest active TB)

Management Guidelines:

Treatment and/or preventive interventions: .

- If Active TB is Suspected or Confirmed:
    - Refer for full diagnostic workup and initiate TB treatment as per national guidelines.
    - Do not initiate IPT if active TB is present.

- If No Active TB is Found (Eligible for IPT):
    - Start Isoniazid Preventive Therapy for 6 continuous months as follows: (see table below)
        - Isoniazid (INH): 10 mg/kg daily (maximum 300 mg/day)
    - Supplementation:
        - Pyridoxine (Vitamin B6): 25–50 mg/day (especially for PLHIV or malnourished individuals) to prevent peripheral neuropathy

Isoniazid Preventive Therapy (IPT) *							
Weight band		<5 kg	5.1-9.9 kg	10-13.9 kg	14-19.9 kg	20-24.9 kg	>25 kg
INH	**Tab 100 mg**	½ tab OD	1 tab OD	1 ½ tab OD	2tab OD	2 ½ tab OD	3tab OD
Weight band		5-7 kg		8-14 kg		≥15 kg	
Vita 6	Tab 50 mg	¼ tab OD		½ tab OD		1 tab OD	

Follow-up:

Monitoring During IPT:

Monthly follow-up visits to:

- Assess adherence
- Monitor for side effects
- Screen for new TB symptoms

References and Source Documents:

- National guideline for the control of tuberculosis of Pakistan Revised 2019
- Consolidated guideline for prevention and treatment of HIV and AIDS in Pakistan
- WHO policy on collaborative TB/HIV activities guideline for national programs and other stakeholders
- National guideline for the Programmatic management of tuberculosis preventive treatment (PM-TPT)
- Management of childhood TB, National TB control program

II. Evaluation and management of fever in clinically stable individuals using WHO IMAI guidelines, with referral of unstable to first-level hospital care

Brief Description of Intervention:

This intervention involves the evaluation and management of fever in clinically stable individuals using the WHO Integrated Management of Adolescent and Adult Illness (IMAI) guidelines. Healthcare providers assess patients through symptom screening, focused history, and physical examination to identify the cause of fever and guide appropriate outpatient treatment.

Clinically unstable individuals (those with danger signs or signs of severe illness) are promptly referred to first-level hospital care for further evaluation and management. This approach ensures timely and standardized care while prioritizing referral for high-risk patients**.**

Main Provider(s) of Care:

Physician/Medical Officer.

SOP for the protocols

Diagnosis: Detail the relevant history, physical examination, and relevant investigations

Relevant History:

- Ask the patient the following:
  - Do you have a fever (>37.5C) now or in the last 48 hours, or feel hot
  - If yes: For how long have you had the fever?
- Ask about associated symptoms including:
    - Headache, body aches, chills or rigors
    - Cough, sore throat
    - Earache or ear discharge
    - Facial or dental pain
    - Abdominal pain
    - Nausea or vomiting
    - Diarrhea or loose stools
    - Urinary symptoms: frequency, urgency, pain while urinating, flank pain
    - Vaginal or urethral discharge

- Ask what medications have been taken and for how many days

Physical examination:

Perform a focused examination based on symptoms:

1. General Appearance and Neurological Status:
   - Is the patient alert, confused, agitated, or lethargic?
   - Can the patient walk unaided?
   - Is the patient able to drink?
   - Count respiratory rate for one full minute.
     - Note: Fast breathing = >20 breaths per minute.

- Check for stiff neck (suggestive of meningitis).

2. System-Specific Examination (Based on presenting symptoms):
    - Skin: Check for rash or visible lesions.
    - ENT: Inspect ears, throat, and sinuses.
    - Chest: Listen for abnormal breath sounds.
    - Abdomen: Palpate for tenderness or masses.
    - Pelvis (if relevant): Examine for discharge or tenderness.
    - Urinary Tract: Percuss flank for tenderness.

Equipment Required:

- Thermometer
- Stethoscope
- BP apparatus
- Microscope
- IV cannula
- Nasal cannula
- Oxygen cylinder
- Syringes
- Glucometer with strip

Investigations:

A. Laboratory Tests:
- Malaria Rapid Diagnostic Test (RDT) or blood smear (if no other cause of fever is identified)
- HIV tests if status unknown

B. Radiology & Imaging:
- Chest X-ray (if respiratory symptoms or pneumonia/TB suspected)-if available
- Abdominal / pelvic Ultrasound (if abdominal tenderness or pelvic infection suspected)- If available

C. Other: Sputum samples for TB, UDR, LFTs, and RFTs (if available)
- Blood Culture, Complete Blood Count (CBC)

Does the patient have fever – by history of recent fever (within 48 hours) or feels hot or temperature 37.5 °C or above?	
IF YES, ASK:	**LOOK AND FEEL**
• How long have you had a fever? • Any other problem • What medications have you taken? • Determine if antimalarial and for how long.	• Look at the patient's neurological condition. • Is the patient: Lethargic? Confused? Agitated? • Count the breaths in one minute. Use table on p.16 to determine if fast breathing. If fast breathing, is it deep? • Check if able to drink.

Decide malaria risk: • High Low No* • Where do you usually live? • Recent travel to a malaria area? • If woman of childbearing age – are you pregnant? • Is an epidemic of malaria occurring? • HIV positive? • If HIV status unknown, do HIV test if risk factors positive for HIV	• Feel for stiff neck. • Check if able to walk unaided. • Skin rash? • Headache? For how long? • Look for apparent cause of fever – assess all symptoms in this Acute Care algorithm. **Apparent causes of fever** □ Dysentery □ Gastroenteritis □ Pneumonia □ Soft tissue or muscle infection □ Influenza/Bronchitis □ Severe or surgical abdominal problem □ PID □ Sinusitis □ Tonsillitis □ Sore throat □ Kidney infection □ Dental abscess

***b. Classify/ categorize the problem:**

HIGH MALARIA RISK	**If low immunity (with malaria transmission):** • Pregnant. • Child less than 10 years if there is intense or moderate malaria. Stage 3 or 4 HIV infection. **Or increased exposure:** • Epidemic of malaria is occurring. • Moved to or visited area with intense or moderate malaria.
LOW MALARIA RISK	**If high immunity:** • Adolescent or adult who has lived since childhood in area with intense or moderate malaria. **Or low exposure:** • Low malaria transmission and no travel to higher transmission area.
NO MALARIA RISK	• If no malaria transmission and • No travel to area with malaria transmission.

USE THIS TABLE IF FEVER WITH HIGH MALARIA RISK:		
SIGNS	**CLASSIFY**	TREATMENTS
One or more of the following signs: • Confusion, agitation, lethargy or • Fast and deep breathing or • Not able to walk unaided or • Not able to drink or • Stiff neck	**VERY SEVERE FEBRILE DISEASE**	• Give IM quinine or artemether • Give first dose IM antibiotics • Give glucose • Refer urgently to hospital
Fever or History of fever	**MALARIA**	• Give appropriate oral antimalarial • Determine whether adequate treatment already given with the first-line antimalarial within 1 week • Look for other apparent cause • Follow up in 3 days if still febrile

USE THIS TABLE IF FEVER WITH LOW MALARIA RISK:		
SIGNS	**CLASSIFY**	TREATMENTS
• Confusion, agitation, lethargy or • Not able to drink or • Not able to walk unaided or • Stiff neck or • Severe respiratory distress	**VERY SEVERE FEBRILE DISEASE**	• Give IM quinine or artemether • Give first dose IM antibiotics • Give glucose • Refer urgently to hospital
• Fever or history of fever and • No new rash and • No other apparent cause of fever or • RDT or smear positive for malaria	**MALARIA**	• Give appropriate oral antimalarial • Determine whether adequate treatment already given with the first-line antimalarial within 1 weekFollow up in 3 days if still febrile
• Other apparent cause of fever or • New rash or • RDT or smear negative for malaria	**FEVER MALARIA UNLIKELY**	• Treat according to the apparent cause

USE THIS TABLE IF FEVER WITH NO MALARIA RISK:		
SIGNS	**CLASSIFY**	TREATMENTS
• Confusion, agitation, lethargy or • Not able to drink or • Not able to walk unaided or • Stiff neck	**VERY SEVERE FEBRILE DISEASE**	• Give first dose IM antibiotics • Give glucose • Refer urgently to hospital
• Fever for 7 days or more	**PERSISTENT FEVER**	• Treat according to apparent cause • If no apparent cause, refer to hospital for assessment
• None of the above	**SIMPLE FEVER**	• Follow up in 2–3 days if fever persists • Treat according to apparent cause

- Refer to higher-level facility if signs of severe illness are present (see criteria below) and treat before urgent referral according to the table.

Give glucose

- Give by IV. Make sure IV is running well. Give by slow IV push.

	50% GLUCOSE SOLUTION	25% GLUCOSE SOLUTION	10% GLUCOSE SOLUTION (5 ml/kg)
Adolescent or Adult	**25 - 50 ml**	**50 - 100 ml**	**125 - 250 ml**

50% glucose solution is the same as 50% dextrose solution or D50. This solution is irritating to veins. Dilute it with sterile water or saline to produce 25% glucose solution.

- If no IV glucose is available, give sugar water by mouth or nasogastric tube.
- To make sugar water, dissolve 4 level teaspoons of sugar (20 grams) in a 200 ml cup of clean water.

Treatment and/or preventive interventions:

Case management: (As per chart below)

- Confirmed vivax malaria
- Confirmed falciparum malaria

Medicine:	
P vivax	Chloroquine (25mg base/kg) over 3 days Day 1: 10 mg base/kg Day 2: 10mg base/kg Day 3: 5mg base/kg Primaquine Check G6PD level if available • G6PD non-deficient individuals can receive 0.5 mg/kg/day • primaquine for 14 days or 0.5 mg/kg/day primaquine for 7 days • If G6PD levels are normal, it can be used in those above 6 months of age • In lactating women, if G6PD levels normal in both the woman and the baby, the Primaquine can be used • Contraindications for primaquine: Pregnancy, Children < 5 years old, Severe G6PD deficiency, Lactating women
Plasmodium Falciparum	Artemether (1.7mg/kg body weight) + Lumefantrine (12 mg/kg body weight) twice daily for 3 days (total six doses) + Primaquine 0.25 mg/kg (maximum 15mg), single dose on the first day
Pre referral Treatment Complicated Malaria	• **ABC & Clinical assessment** • **Blood samples: microscopy or RDTs and other test like CBC, LTFs, RFTs, UDR- if available** • Give Artesunate is IM at doses of 2.4mg/kg body weight (maximum of 240 mg)

Referral:

- Refer any fever with stiff neck, very weak/not able to stand, lethargy/ unconscious/ convulsions, severe abdominal pain, respiratory distress
- Refer severe malaria

Case Definition: Severe/Complicated Malaria

- Patient with a fever of >37.5°C **or** history of fever in the last 72 hours
- Presence of at least one of the following signs symptoms of vital organ involvement
    - Impaired consciousness, Prostration
    - Multiple convulsions, Acidosis
    - Hypoglycemia, Severe malarial anemia
    - Renal impairment, Jaundice
    - Pulmonary edema, Significant bleeding
    - Shock, Hyperparasitemia
- Absence of an identified alternative cause
- Presence of Plasmodium falciparum asexual parasitemia

Before referral:

- Insert IV cannula
- Give fluids rapidly if shock or suspected sepsis. If not, give fluids slowly (30 drops/minute).
- Give appropriate IV/IM antibiotics.
- Give artemether IM. (If not available, give quinine IM).
- Give glucose (if hypoglycemia: less than 70)
    - If no obvious cause of fever and no signs of vital organ dysfunction, BUT presence of headache, body aches, nausea/vomiting, chills/rigors test for malaria through RDT.
    - Manage fever with any focus as per local guidelines.

Follow-up:

- Long Term Follow-up For Relapse Of P.Vivax
- Schedule follow-up in 48–72 hours or sooner if symptoms worsen.

References and Source Documents:

- National malaria case management
  Integrated Management of Adolescent and Adult Illness- Acute care

III. Provider-initiated testing and counseling for HIV, STIs, and hepatitis, for all in contact with health system in high-prevalence settings, including prenatal care with appropriate referral or linkage to care including immediate ART initiation for those testing positive for HIV

Brief Description of Intervention:

This intervention involves provider-initiated testing and counseling (PITC) for HIV, sexually transmitted infections (STIs), and hepatitis for all individuals who come in contact with the health system in high-prevalence settings.

It includes a routine offer of testing during visits for general care, with a strong focus on antenatal care (ANC) settings. Individuals who test positive, especially for HIV are immediately linked to appropriate care services, including same-day initiation of antiretroviral therapy (ART). The goal is to ensure early diagnosis, reduce transmission, and improve health outcomes through timely treatment and support.

Main Provider(s) of Care:

Physician/Medical Officer.

SOP for the protocols

How to identify problem
(History, examination, investigation):

Relevant History:

- Identify the population for provider-initiated testing and counselling of HIV with or with STIs or hepatitis:
    - Ask if patient has signs or symptoms suggestive of HIV: (e.g. Oral candidiasis, failure to thrive, chronic cough, flu-like symptoms, weight loss, recurring fever or profuse night sweats, prolonged swelling of lymph nodes, sores of mouth, anus or genitals, skin conditions (red, brown, pink or purplish blotches on the skin, inside mouth, nose or eyelids)
    - Ask if the patient's partner has HIV
    - Ask if the patient belongs to the key population (KP): People Who Inject Drugs (PWD); Men who have sex with men (MSM); transgender people; sex workers; and those with recurrent exposure to blood products (thalassemia or hemodialysis patients)
    - Ask pregnant women if husband is a PWID or a known HIV
    - Assess infants and children whose mothers are living with HIV or if there is an exposure and maternal status is unknown.
- Ask if the patient has any STI symptoms or signs (penile discharge or anogenital/ oral ulcers in males and urethral discharge, anogenital ulcers, lower abdominal pain with fever and dyspareunia in females)
- Ask if the patient or a family member was ever diagnosed with hepatitis B or C or has jaundice, change in urine and stool color, fatigue or edema/ ascites.

Physical examination:

(Include needed medical equipment)

Speculum, KY gel, light source, swab for specimens, gloves

- Explain the procedure, obtain consent and ensure adequate exposure
- Wash hands with soap and water
- Wear gloves
- Look for anemia, jaundice, lymphadenopathy, rashes (oral, truncal, anogenital)
  - If history suggests STIs, perform a pertinent male or female abdominal, anogenital or pelvic examination.
  - If history suggests hepatitis, perform a complete abdominal examination and look for hepatitis stigmata
  - Dispose the gloves

Investigations:

Testing for STIs and Hepatitis; Referral if needed

STIs:

- RTDs if available, otherwise manage syndromically (WHO) or refer if indicated.

Hepatitis:

- Hepatitis B: HBsAg (if negative vaccinate if available, if positive refer)
- Hepatitis C: AntiHCV (RTD) (If positive: refer for viral load and treatment)

Testing for HIV:

Pretest information and consent

- Provide Clear Information: Explain why HIV testing is recommended.
- Discuss Benefits: Early detection helps in treatment and prevention.
- Emphasize Confidentiality: Ensure privacy and non-discrimination.
- Obtain Informed Consent: Ensure the patient voluntarily agrees to testing
- If tests positive for HIV, then baseline tests before starting ART (CBC, Creatinine/eGFR, ALT, urine dip, CXR)- if available

Screening of suspected HIV case

In children >18months and adults (HIV rapid test kits)

Process Flow: Provider-Initiated Testing and Counseling (HIV, STIs, and Hepatitis)

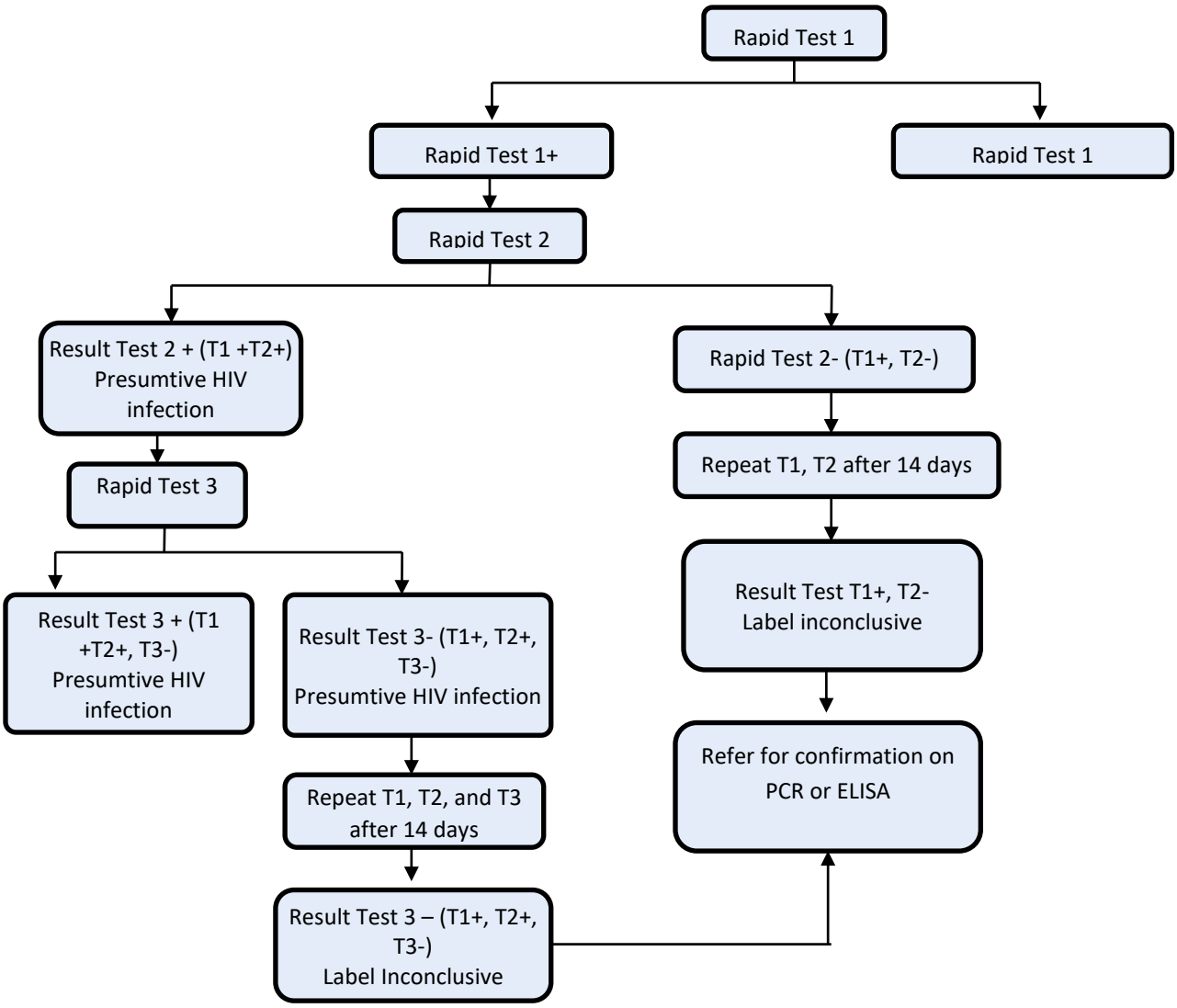


Figure: HIV testing algorithm

Steps:

Rapid test 1

- if negative: Report HIV negative
- if positive: perform rapid test 2

Rapid test 2:

- If negative: Repeat test 1 and 2 after 14 days
- If repeat test still negative for test 2 then label inconclusive and refer for confirmation on PCR or ELISA test
- If positive, then presumptive HIV infection- perform rapid test 3

Rapid test 3:

- If positive: Report HIV positive
- If negative: Repeat test 1, 2 and 3 after 14 days- if test 3 still negative then label inconclusive and refer for confirmation on PCR or ELISA

Classify/ categorize the problem:

Negative Test Results:

- Counsel on prevention, offer retesting as needed (e.g. during pregnancy or ongoing risk)

Positive HIV Diagnosis:

- Check for opportunistic infections (TB, oral thrush, weight loss, etc.)

Positive for STIs or Hepatitis:

- Refer for further investigation and treatment of hepatitis
- Syndromic classification (e.g. urethral discharge, genital ulcer, vaginal discharge) and management
- Co-infection risk (especially HIV + hepatitis or HIV + STI)- Refer
- Consolidated Guidelines for the Prevention and Treatment of HIV and AIDS in Pakistan 2017
- Targeted HIV prevention interventions service delivery guidelines for key population specific community-based organization
- HIV prevention, infant diagnosis, antiretroviral initiation and monitoring-WHO

CLUSTER 3: NON-COMMUNICABLE DISEASES

Contents

I. Management of depression and anxiety disorders with psychological and generic antidepressant therapy (PHC)

Brief Description of Intervention:

This intervention supports the early identification, diagnosis, and management of depression at the primary healthcare level. All adult patients are screened for depression using structured tools like PHQ-2 and PHQ-9 during clinical consultation. Management includes psychoeducation, stress reduction counselling, lifestyle modification, structured psychological therapy (e.g., CBT), and pharmacotherapy using first-line antidepressants (e.g., fluoxetine).

SOPs for the Protocols:

Diagnosis:

Relevant History:

First screen using PHQ2

PHQ-2 Checklist

Item	Question	Response
1	Over the last two weeks, have you felt little interest or pleasure in doing things?	☐ Yes ☐ No
2	Over the last two weeks, have you felt down, depressed, or hopeless?	☐ Yes ☐ No

A "Yes" answer to either question necessitates a detailed evaluation using the PHQ-9.

PHQ-9 Checklist

Question	Not at all (0)	Several days (1)	More than half the days (2)	Nearly every day (3)
1. Little interest or pleasure in doing things?	☑	☐	☐	☐
2. Feeling down, depressed, or hopeless?	☐	☑	☐	☐
3. Trouble falling or staying asleep, or sleeping too much?	☐	☐	☐	☐
4. Feeling tired or having little energy?	☐	☐	☑	☐
5. Poor appetite or overeating?	☐	☐	☐	☑
6. Feeling bad about yourself — or that you are a failure or have let yourself or your family down?	☑	☐	☐	☐
7. Trouble concentrating on things, such as reading the newspaper or watching TV?	☐	☑	☐	☐
8. Moving or speaking so slowly that others could notice? Or the opposite—being so fidgety or restless?	☐	☑	☐	☐
9. Thoughts that you would be better off dead or hurting yourself in some way?	☑	☐	☐	☐

Total Score: _____

Scoring Instructions:

The total score is calculated by adding the points for each question.

- Exclude causes like bereavement (deep sadness and trouble moving on after losing a loved one, lasting for a year or more and affecting daily life); hypothyroidism; anaemia, substance abuse; or steroid use
- Rule out bipolar disorder (elevated mood, decreased need for sleep, inflated self-esteem or grandiosity, pressured speech, racing thoughts, risky or impulsive behavior)
- Assess for suicidality or thoughts of self-harm and assess severity. Ask the following:
    - Have you had thoughts about killing yourself?
    - Have you made any plans to do so?
    - Do you have the means to carry out your plan?
    - Have you ever tried to hurt or kill yourself before?
    - How likely do you think it is that you will try to kill yourself?
    - What helps you keep safe or get through these feelings?

Physical Examination:

- Vitals (BP, pulse, temperature, BMI)
- Pallor
- Thyroid gland exam
- Self-harm marks & self-awareness

Investigations:

No routine labs required for diagnosis, but consider if history suggestive:

- TSH (if hypothyroidism suspected)
- CBC (for anemia/ pallor)
- B12 and folate levels (nutritional deficiency)

Diagnosis of Depression:

PHQ 9 score Interpretation:

- 0–4: Minimal Depression
- 5–9: Mild Depression
- 10–14: Moderate Depression
- 15–19: Moderately Severe Depression
- 20–27: Severe Depression

Management Guidelines:

Non- pharmacological Treatment:

- educate patient and family about depression
- Teach Stress reduction techniques like deep breathing and advise strengthening of social supports
- Encourage activity, sleep hygiene (good peaceful sleep habits), regular meals (chamomile, milk, banana), and social interaction
- Refer for brief psychological therapies (Cognitive Behavioral Therapy CBT, IPT, behavioural activation if therapist available)

Psychological Interventions

Depression Level	Intervention
Mild	Supportive counseling, active monitoring, and basic Cognitive Behavioral Therapy (CBT) if available.
Moderate	Problem-solving therapy as below and referral to mental health specialists if symptoms persist beyond 2-4 weeks.
Severe	Immediate psychiatric referral, particularly if suicidal ideation or self-harm risk is present; consider combination therapy (psychotherapy + medication).

Steps for problem-solving therapy

- Identify the problem
- Set a realistic goal
- Brainstorm possible solutions
- Evaluate options (pros and cons)
- Choose and plan action
- Review and follow-up

Pharmacological Management

Step	Action	Details
1. Evaluate Suicide Risk	Assess suicidal thoughts and behavior.	If the risk is high, SSRIs (e.g., Fluoxetine, Sertaline) medication of choice. At least 1 year after stabilizing condition.
2. Choose an Antidepressant	Select the appropriate medication.	**First-line:** Fluoxetine, Sertraline (SSRI) is recommended, especially for adolescents or patients with comorbidities. **Alternative:** Amitriptyline (TCA), with caution in the elderly or those with cardiovascular issues.
3. Start Medication	Begin with a low initial dose.	**Fluoxetine:** 20 mg once daily (10 mg for elderly/adolescents). **OR Sertraline 50mg once daily** (25mg for first week) **OR Amitriptyline:** 50 mg at bedtime (25 mg for elderly).

Managing Suicidal Thoughts

The following table provides a ready-to-use checklist for assessing and managing suicidal thoughts:

Step	Assessment/Action	Notes
1. Risk Assessment	Ask directly about suicidal ideation, previous attempts, current plans, and access to lethal means.	Use structured questions to determine risk as per questions given above
2. Immediate Safety Measures	Remove harmful objects and secure the patient's environment.	Ensure that immediate safety is maintained.
3. Urgent Referral	For high-risk patients, arrange immediate psychiatric referral.	Prioritize urgent intervention to ensure patient safety.
4. Crisis Management	For moderate-risk patients, schedule close follow-up, limit medication quantities, and provide continuous emotional support.	Regular monitoring and supportive interventions are essential to manage crisis situations.

Referral, Follow-Up & Community Support

Referral Criteria:	**Follow-Up Plan:**	**Community & Family Engagement:**
• Severe or treatment-resistant depression. • Suicidal ideation or history of self-harm. • Suspected bipolar disorder or psychotic features. • Lack of improvement after 6 weeks of treatment.	• Weekly follow-ups during the first four weeks, then monthly. • Monitor treatment adherence, side effects, and overall patient progress.	• Involve family members in the care process. • Encourage participation in support groups if available and culturally sensitive counseling services.

References and Source Documents:

- WHO mhGAP Intervention Guide – Version 2.0 (2019)
- National Institute for Health and Care Excellence (NICE) Guidelines for Depression
- National Health Service (NHS) Depression Pathways
- PHQ-2 and PHQ-9 Screening Tools
- WHO Mental Health Atlas
- DCP3 Volume on Mental, Neurological, and Substance Use Disorders

II. Treatment of acute pharyngitis in children to prevent rheumatic fever (PHC)

Brief Description of Intervention:

This intervention aims to enable early recognition and effective treatment of group A streptococcal (GAS) throat infections in children and adults at the primary healthcare level to prevent rheumatic fever (RF) and subsequent rheumatic heart disease (RHD).

Main Provider(s) of Care:

Medical Officer/Physician, LHV

SOPs for the Protocols

Relevant History:

- Do you have a sore throat and fever?
- Are you experiencing any runny nose or cough? Shortness of breath
- Have you had a rash recently? (acute rheumatic fever)
- Have you been exposed to anyone with sore throat that required an antibiotic? Which antibiotic?
- Have you visited a health facility in the last 3 days?
- Do you have a history of rheumatic fever or any medication allergies? history related to rhematic heart disease

Physical Examination:

- Measure vitals: BP, pulse, temperature
- Check for:
    - Tonsillar exudates/swelling
    - Tender/enlarged cervical lymph nodes

Investigations:

No laboratory tests required
Use Centor's score to decide about treatment

Management Guidelines:

Calculate modified Centor's Score

Each criterion: **+1 point**

- Fever ≥ 38°C – 1 point
- Absence of cough
- Tender anterior cervical lymphadenopathy
- Tonsillar exudate or swelling
- **Age**
    - Age 3–14 Years (**+1**)
    - Age 15–44 Years (**0**)
    - Age ≥ 45 Years (**–1**)

Interpretation

- **0–1:** Low risk → No testing or antibiotics. Manage symptomatically.
- **2:** test for rapid antigen test or throat culture if available. No treatment.
- **3:** Moderate risk → test for rapid antigen or throat culture if available, Can Consider antibiotic use

- **4–5:** High risk → start empiric antibiotics.

Antibiotic	Administration	Dose
Benzathine Penicillin Preferable to oral penicillin because of patient adherence problems	Single intramuscular injection	Children <27 kg: 600,000units for children Children weighing more than 27 kg and adults: 1,200,000units intramuscularly *Reconstitution:* • *For 1.2 million units: Add 4 mL sterile water to the vial* • *For 2.4 million units: Add 8 mL sterile water to the vial.* • *Shake gently until dissolved.* • *immediately after reconstitution, inject slowly over 1-2 minutes, intragluteal*
Phenoxymethyl penicillin (Penicillin V) Penicillin resistance by group A streptococci has never been reported	Orally q6H or q8H for 10 FULL days	Children: <12y 50mg/kg/day Adolescents or adults: >12y 250mg qid, or 500mg bid
Amoxicillin Acceptable alternative to oral penicillin because of the taste	Orally divided Q6H or q8H/day for 10 full days	Children: 15-30 mg/kg/day. Maximum dose: 1000 mg. Adults: 50mg/kg/day. Maximum 1500mg/day
First-generation cephalosporin Acceptable alternative for oral penicillin	Orally2–3 times/day for 10 full days	Varies with agent
Erythromycin Alternative drug for patients allergic to penicillin.	Orally q6h for 10 full days	Children less than 40 kg: 15 mg/kg/day. Maximum: 500 mg/day Children 40 kg and over and adults 50mg/kg/day to maximum of 4g per day

Follow-up:

Scheduled follow-up visit in 3 days to monitor for symptom resolution

References and Source Documents:

WHO Guideline on the Prevention and Diagnosis of Rheumatic Fever and Rheumatic Heart Disease (2024)
Rheumatic Fever and Rheumatic Heart Disease WHO Technical Report Series (2001)
Diagnosis and Treatment of Streptococcal Pharyngitis, AAFP

III. Screening of albuminuric kidney disease including targeted screening among people with diabetes (PHC).

Brief Description of Intervention:

The purpose of this guideline is to reduce morbidity and mortality associated with CKD through early detection, lifestyle modification, and timely pharmacological intervention in high-risk individuals

This intervention focuses on the early detection and management of chronic kidney disease (CKD) in primary healthcare settings by targeting individuals at high risk, including those with diabetes, hypertension, cardiovascular disease, or a family history of kidney disease.
Patients with confirmed albuminuria are referred to nephrologists for co-management, and those with negative results are re-screened annually.

Main Provider(s) of Care:

Medical Officer/Physician, Lady Health Visitor (LHV)

SOPs for the Protocols:

History:

- Ask about current symptoms: foamy urine, fatigue, shortness of breath, pedal edema, visual problems
- Ask about any known comorbidities: diabetes, hypertension, CVD, previous CKD, dyslipidemia
- Ask medication history, especially use of NSAIDs
- Review home BP and Glucose monitoring chart if available (diabetes control). Diabetic complications (macro-vascular and microvascular)
- Ask about family history of kidney disease

Physical Examination: (Equipment required):

- Sphygmomanometer
- Stethoscope
- Weighing scale
- Thermometer

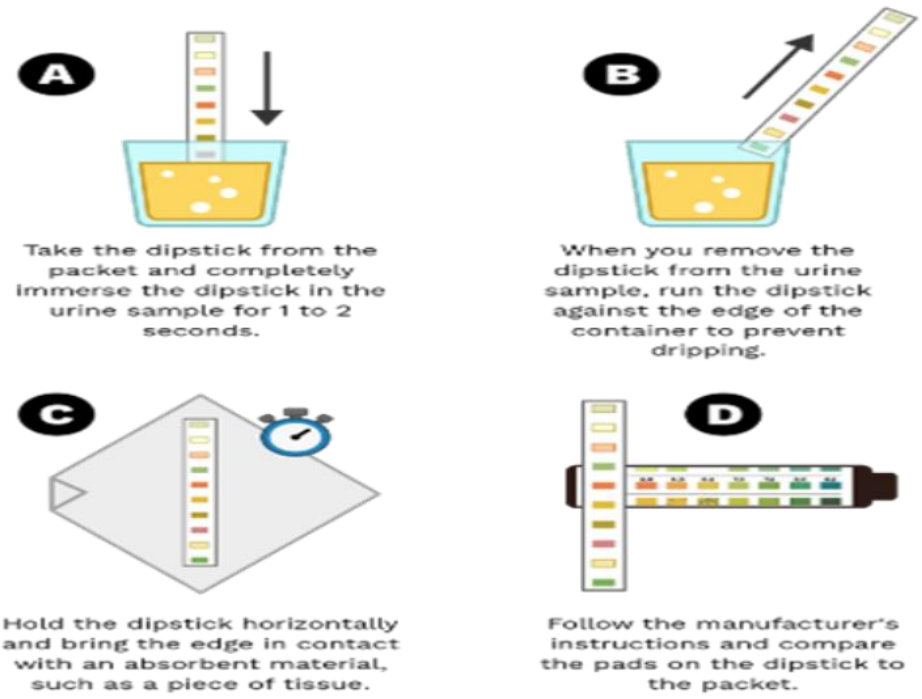
Check the patients' vitals:

- BP
- Pulse
- Temperature
- Weight
- height

- **On a general physical examination:**
    - Look for pallor (eyes)
    - pedal edema (above medial malleolus for 20 seconds)
    - auscultate the patient's lungs for crepitation

Investigations:

- **Urine dipstick for albuminuria**
- **Supplies:**
    - urine container, gloves, dipstick, paper towel
- Interpretation after 2 minutes using color chart



- **Procedure of performing the dipstick test on urine**
- **sample:**
    - Check the expiry date on the packet of dipsticks.
    - Wear gloves
    - Take the dipstick from the packet and completely immerse the dipstick in the urine sample for 1 to 2 seconds.
    - To prevent dripping, while removing the dipstick from the container, run the dipstick against the edge of the container.
    - Hold the dipstick horizontally and place it on an absorbent material, such as a piece of tissue.
    - Wait for 2 minutes before the interpretation.
    - Compare the color change of the pads on the dipstick to the color comparison chart given on the container.

Screen for diabetic end organ damage

Management Guidelines

- Non-Pharmacological Insubventions:

- Counsel regarding smoking cessation
- Advice to consume a well-balanced diet (fruit, vegetables, legumes, and whole grains) and limit dietary salt intake
- Counsel to maintain a healthy weight
- Regular exercise
- Advise to consult with their physician before taking over-the-counter drugs, herbal medications, and naturopathic supplements to avoid agents that may worsen kidney function, hypertension and/or diabetes (e.g., nonsteroidal anti-inflammatory drugs like Ibuprofen, Diclofenac, and Naproxen).
- For patients with hypertension and diabetes, ensure optimal control of sugars and blood pressure

- **Pharmacological Management**: Diabetic nephropathy
  - Consider starting ACE inhibitors like Lisinopril 5 mg once daily for patients with hypertension to slow down the progression of renal disease. (Check serum electrolytes and creatinine one week after the start of medication. Consider stopping the medication if serum potassium > 6.0 mmol/L or serum creatinine raised by 30 percent or more).
  - If ACE inhibitors are not tolerated (due to dry cough or angioedema) then consider starting Angiotensin receptor blockers like Losartan 50 mg once daily
  - For patients with poorly controlled diabetes consider starting SGLT-2 inhibitor like dapagliflozin 10 mg once daily, to protect the kidneys and heart.
  - If indicated, start statin therapy based on cardiovascular risk.

Referral and Follow-Up:

- Patients with positive dipstick: refer to nephrologist, repeat labs as required
- Patients with negative dipstick: re-screen annually

References and Source Documents

- National Kidney Foundation: K/DOQI Clinical Practice Guidelines
- KDIGO 2024 Guidelines
- American Diabetes Association Standards of Care 2024
- WHO HEARTS Technical Package
- National and Provincial Health Department Protocols (if available)

IV. Low-dose inhaled corticosteroids and bronchodilators for asthma and for selected patients with COPD (PHC).

Brief Description of Intervention:

This intervention aims to support the early detection, assessment, and long-term management of asthma and chronic obstructive pulmonary disease (COPD) at the primary healthcare level. Asthma control is assessed using standard criteria including symptom frequency, activity limitations, and PEFR (peak expiratory flow rates) values, while COPD severity is stratified based on breathlessness and functional limitations. Key components include counselling on trigger avoidance, smoking cessation, use of inhaler therapies such as salbutamol, inhaled corticosteroids, and theophylline, and referral for severe cases.

Main Provider(s) of Care:

Physician/Medical Officer/Lady Health Visitor (LHV).

Target Population:

All individuals presenting with symptoms indicative of asthma or COPD, particularly those with a history of smoking, indoor pollution exposure, or respiratory allergies.

Clinical Condition/Problem:

Chronic Respiratory Conditions: Asthma and Chronic Obstructive Pulmonary Disease (COPD)

Diagnosis:

History:

For asthma, confirm the following:

- Symptoms of wheeze, cough, and chest tightness are intermittent. And shortness of breath. Diurnal variation
- Symptoms are triggered by infections, exercise, weather, smoking, allergens
- Onset was in childhood
- May have history of environmental allergies
- Symptom response to salbutamol.
- Frequency of symptoms, medicines
- Add chart!
- For COPD:
    - Persistent breathlessness, chronic cough, sputum production,
    - Fever, malaise, increased cough/ sputum production
    - Smoking history (>20 cigarettes/day for >15 years), or exposure to indoor pollution or occupational dust
    - Gradual onset after age 40.

Physical Examination:

- Vital signs including BP, pulse (tachycardia), temperature, BMI, and pulse oximetry.
- Look for pallor, distress, audible wheeze.
- Chest exam for wheezing, crepitation, accessory muscle use.

- Use of Peak Expiratory Flow Rate (PEFR) for asthma.

Investigations:
PEFR measurement.
Pulse oximetry for COPD.
No lab or imaging diagnostics are essential at PHC level unless referred. CRP

Management (Treatment and/or Preventive) Guidelines:

Step	Treatment Approach (stepwise)
1	Inhaled salbutamol prn. Up to 8 puffs of 100 mcg dependent on symptom relief (800 micrograms) (max. daily dose in 24 hours) for both adults and children
2	Inhaled salbutamol prn plus low-dose inhaled beclomethasone (1 puff) 100/50µg (1 puff twice daily for adults, 1 puff once daily for children)
3	Same as step 2, but with medium doses of inhaled beclomethasone 100/50µ (2puffs to 4 puffs twice daily for adults and 1 puff to two puffs twice daily for children)
4	Add Long-acting beta agonist or Leukotriene receptor agonist or Theophylline PLUS 6 puffs 100/50mcg twice daily for adults and seek specialist referral for both children and adult
5	Add oral prednisolone in the lowest possible dose to control symptoms (preferably less than 10 mg daily for 5-7 days) if acute exacerbation.

Figure: Management of Asthma

Step	Action	Consideration	Dose	Strength
1	Inhaled salbutamol	First-line treatment for symptoms.	2 puffs, up to 4 times per day	100–200 mcg per puff
2	If symptoms are still troublesome	Consider low-dose oral theophylline.	100–200 mg daily	100 mg or 200 mg tablets
3	If ipratropium inhalers are available	Can be used instead of or added to salbutamol but are more expensive.	20 mcg per puff, 2-4 puffs every 4-6 hours	20 mcg per puff

Figure: Management of COPD

Patient Education:
- Asthma control principles, trigger identification, correct inhaler use, importance of adherence.
- For COPD: Smoking cessation, reducing indoor air pollution, improving ventilation, avoiding dust exposure, use of masks.
- Reinforce that inhalers are safe, effective, and not addictive.

Follow-up:
- Every 3–6 months if well controlled.
- Earlier review if medication is changed or condition is poorly controlled.

References and Source Documents:

- WHO Package of Essential Non-communicable (PEN) Disease Interventions for Primary Health Care
- Management of Asthma and COPD – Standard Protocol
- Global Initiative for Asthma (GINA) Guidelines
- Global Initiative for Chronic Obstructive Lung Disease (GOLD) Guidelines

V. Long-term combination therapy for persons with multiple CVD risk factors, including screening for CVD in community settings using non-lab-based tools to assess overall CVD risk (PHC)

Brief Description of Intervention:

This intervention supports long-term management of adults aged 40–74 years without prior CVD, focusing on early detection and combination therapy. Individuals with a calculated risk >10% undergo additional tests (e.g., HbA1c, lipid profile). Tailored lifestyle counselling addresses diet, physical activity, smoking cessation, and weight control. Pharmacological therapy is initiated for high-risk patients (e.g., with hypertension, diabetes, dyslipidemia, or established CVD) using essential medicines such as statins, ACE inhibitors, metformin, and antihypertensive. The goal is to reduce CVD risk through timely identification, lifestyle modification, and pharmacological management, thereby preventing events such as stroke and myocardial infarction.

Main Provider(s) of Care:

Physician/Medical Officer, Lady Health Visitor (LHV)

SOPs for the protocol

History:

- Ask age of patient
- Inquire about past history of hypertension, diabetes mellitus, dyslipidemia, renal disease
- Ask about any past cardiovascular events (heart attack, stroke, heart failure)
- Ask about history of Smoking
- Screen for CVD using WHO's regional non-lab-based tool (shown below)

Physical Examination

(Equipment: Sphygmomanometer, Stethoscope, weighing scale, Height measuring tool):

- Measure: Blood pressure, Pulse, Height and Weight
- Calculate BMI
- Check for peripheral edema
- Auscultate lung bases for crackles
- Listen to heart sounds for murmurs

Investigations:

- If CVD risk >10%, order the following:
    - Fasting Blood Sugar / HbA1c
    - Lipid profile

Management Non-Pharmacologic Interventions:

Lifestyle modification

- Counsel the patient to consume a healthy diet that emphasizes on the intake of vegetables, fruits, nuts, whole grains, lean vegetable or animal protein, and fish and minimizes the intake of Trans fats, red meat and processed red meats, refined carbohydrates, and sweetened beverages.
- For overweight and obese adults, counselling and caloric restriction are recommended for achieving and maintaining weight loss.
- Encourage the patient to engage in at least 150 minutes physical activity equivalent to brisk walk per week
- For adults with type 2 diabetes mellitus, lifestyle changes, such as improving dietary habits and achieving exercise recommendations are crucial. The recommended Fasting Blood glucose levels should be less than <130 mg/dl and random blood glucose levels should be <180 mg/dl.
- Strongly advise smokers to quit.
- Recommend salt restriction <1 tsp/day and physical activity are recommended for all adults with elevated blood pressure or hypertension.

Pharmacologic interventions:

Drug therapy should be considered for:

- All patients with established diabetes mellitus and/or CVD are considered as very high risk (> 20%) (Coronary heart disease, myocardial infarction, transient ischemic attacks, cerebrovascular disease or peripheral vascular disease), renal disease. I
- People with albuminuria, retinopathy, left ventricular hypertrophy.
- All individuals with persistent raised BP ≥140/90mmHg.
- For individuals with HBA1c>6.5 or FBS>126 mg/dL consider starting metformin 500 mg once daily
- Statin therapy: Table format
    - For patients 40-75 years of age with LDL >= 190 mg/dl, start Atorvastatin 40-80 mg HS-
    - For patients 40-75 years of age with diabetes, start Atorvastatin 10-20mg HS (regardless of LDL level).
    - For patients without diabetes + LDL levels of 70-189 mg per dl start Atorvastatin 10-20 mg HS.
- Continue existing therapy for patients with known CVD, renal disease, or complications
- Refer urgently if symptoms of acute cardiac events, stroke, or other emergencies are present

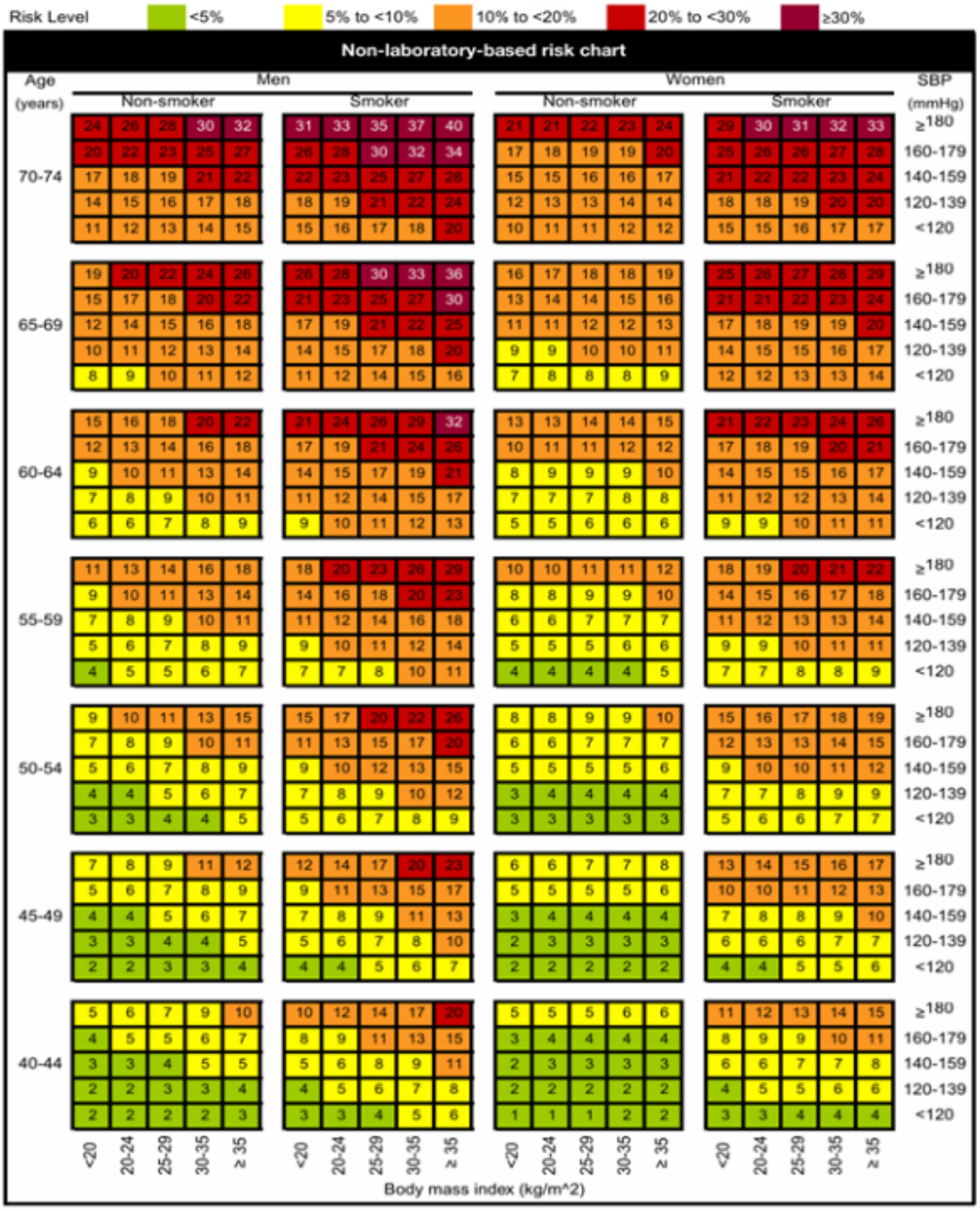
WHO CVD risk non-lab-based chart for risk stratification

Mention risk levels with colours (green, yellow, orange…)

WHO cardiovascular disease risk non-laboratory-based charts

South Asia

Bangladesh, Bhutan, India, Nepal, Pakistan



South Asia

Essential CVD Medications:

Medicine Class	Medicine	Usual Starting Dose(daily)	Usual Intensification dose (daily)	Practice points
Ace inhibitor	Lisinopril	5-10mg	20-40mg	check serum creatinine and potassium before starting **Contraindications:** • pregnancy • advanced CKD • aortic stenosis **Common adverse effects:** • cough • angioedema
Angiotensin Receptor Blockers	Losartan	50mg	100mg	Substituted for ACE inhibitors when patients complain of cough with ACE inhibitors. **Contraindications:** • pregnancy
Calcium channel blockers	Amlodipine	5mg	10 mg	**Common adverse effects:** • ankle swelling
Thiazide Diuretics	Hydrochlorothiazide	12.5mg	25-50mg	**Common adverse effects:** • frequent urination • electrolyte imbalance
Beta Blockers	Atenolol	50 mg	100-200 mg	**Contraindications:** • acute asthma • low heart rate
Biguanides	Metformin	500 mg with a meal	2000 mg in divided doses	Low risk of hypoglycaemia, but monitor especially in elderly patients

				Caution in renal impairment Contraindications: • renal failure • liver disease **Common adverse effects:** • nausea • diarrhea
Lipid-lowering therapy	Atorvastatin	10mg	40-80mg	Common adverse effects: • muscle pain or myalgia
Antiplatelet therapy	Aspirin	75 mg	-	Avoid in individuals with history of major bleeding

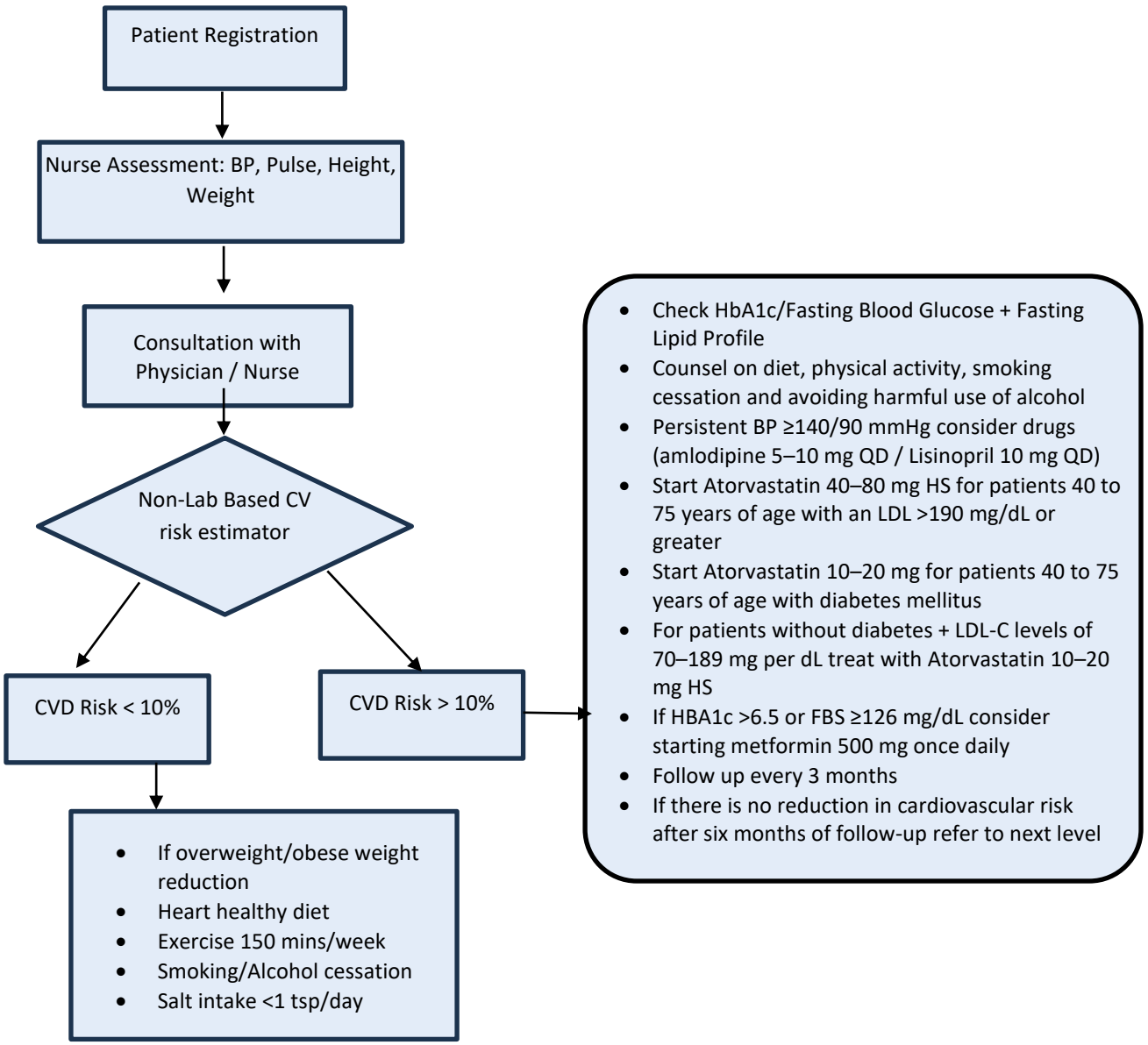
Follow-up:

- Regular follow-ups as per clinical need (e.g., monthly for uncontrolled BP or diabetes, quarterly for stable patients)
- Monitor vitals, symptoms, medication adherence, and lab results
- Adjust treatment as needed based on follow-up findings

References and Source Documents:

- HEARTS Technical package for cardiovascular disease management in primary health care 2022
- ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease 2019
- Cardiovascular disease: risk assessment and reduction NICE2023

Process Flow: Provider-Initiated Testing and Counseling



VI. Provision of aspirin for all cases of suspected acute myocardial infarction (PHC)

Brief Description of Intervention:

This intervention focuses on the immediate management of suspected acute myocardial infarction (AMI) at the primary healthcare level through early symptom recognition, rapid ECG assessment, administration of aspirin, and urgent referral. This intervention aims to reduce mortality and morbidity by minimizing delays in the initiation of life-saving treatment for AMI.

Main Provider(s) of Care:

Physician/Medical Officer/Lady Health Visitor (LHV).

SOPs for the protocol

Target Population:

All individuals presenting with chest pain or symptoms suggestive of myocardial infarction at PHC level.

Clinical Condition/Problem:

Suspected Acute Myocardial Infarction

Diagnosis:

Definition

History:

- Chest pain: onset, duration, character
- Radiation of pain (to lower jaw, neck, arm, back, shoulder)
- Associated symptoms: shortness of breath, sweating, nausea
- Previous history of cardiovascular disease

Physical Examination:

- Measure BP, pulse, temperature, BMI
- Assess for pallor, sweating, distress
- Equipment needed: sphygmomanometer, thermometer, ECG machine, weighing scale

Investigations:

- **ECG:** 12-lead ECG within 10 minutes of arrival
- **STEMI –** Cath in 120 minutes
- No lab or imaging tests required at PHC level for immediate decision-making

Management (Treatment and/or Preventive) Guidelines:

Treatment and/or Preventive Interventions:

- Administer Aspirin 300 mg (not coated) orally: swallow whole, chew, or dissolve in water (per rectal if not oral)
- Perform ECG immediately
- Refer urgently to tertiary/higher-level care for definitive management
- Contraindicated in active bleeding/ uncontrolled BP – first stabilize BP

Patient Education:

- Inform the patient/family about the urgency and seriousness of the condition
- Explain the importance of early treatment and follow-up

Follow-up:

- Not applicable at PHC for acute management; handled at referral facility
- Document referral and inform family to ensure transportation
- Earlier review if medication is changed or condition is poorly controlled.

VII. Opportunistic Screening for hypertension for all adults and initiation of treatment among individuals with severe hypertension and/or multiple risk factors (PHC)

Brief Description of Intervention

This intervention focuses on the opportunistic screening, diagnosis, and management of hypertension at primary healthcare facilities. All adult patients presenting at PHC platforms such as BHUs and RHCs are screened for elevated blood pressure using a standardized protocol.

Main Provider(s) of Care

Physician / Medical Officer, Lady Health Visitor (LHV)

SOPs for the protocol

Target Population

All adult individuals attending PHC facilities, especially those aged 18 years and above with or without known risk factors for hypertension.

Clinical Condition/Problem

Hypertension and its early detection and long-term management

Purpose

To strengthen early identification, accurate diagnosis, and effective management of hypertension, thereby preventing complications such as stroke, heart disease, and kidney damage, and promoting long-term cardiovascular health.

Definition of BP – cut offs

Diagnosis

Clinic/ office BP

Two readings 24 hours apart

Three readings – average of 2 & 3 – discard 1st reading – 1 min apart

Diagnosis

Relevant History:

- History of hypertension, diabetes mellitus, ischemic heart disease or stroke
- Smoking and smokeless tobacco use (e.g., beetle nut, naswar)
- Family history of cardiovascular disease
- Alcohol consumption, salt intake, sedentary lifestyle, and physical activity levels
- Sleep-related symptoms like snoring
- In women: hypertension in pregnancy (PIH), pre-eclampsia, early menopause (before age 45)

Physical Examination:

Pulse

BP measurement

- Seated (chair with back support), rested for ≥5 minutes (at least 2 mins), uncrossed legs, empty bladder, pain and mental status,
- No caffeine, smoking, or exercise - 30 min before
- Arm supported at heart level, feet flat, back supported
- Use appropriate cuff size (bladder covers 80–100% of arm circumference)
- Measure in both arms initially (use higher reading)
- Confirm with at least 2–3 readings, 1–2 minutes apart

Anthropometric assessments:

- Weight, Height. Calculate BMI (weight in kg/ height in m^2)
- Waist circumference

Equipment Required:

- BP apparatus
- Stethoscope
- Measuring tape
- Weight machine
- Hand sanitizer

Investigations:

- Lipid profile, HbA1c/ FBS, UCE, Urine DR.
- Follow-up lab tests may be required as per BP severity or complications (e.g., kidney function)

Management Guidelines

BP Category	BP Range (Clinic)	Known CVD, Diabetes, CKD?	Treat on 1st Visit?	Action
Optimal	<120 / <80 mmHg	No	Not Treat	• Recheck BP annually.
Normal	120–129 / 80–84 mmHg	No	Not Treat	• Lifestyle advice • Monitor annually.
High-Normal	130–139 / 85–89 mmHg	No	Not Treat	• Lifestyle advice • Reassess in 3–6 months.
		Yes	May Consider Treatment	• Consider treatment based on overall risk; • Usually after confirmation.
Grade 1 Hypertension	140–159 / 90–99 mmHg	No	Not Treat	• Confirm diagnosis on second visit • Treat if persistent.
		Yes	Treat	• Initiate treatment on

				1st visit with ACE/ARB or CCB
Grade 2 Hypertension	160–179 / 100–109 mmHg	Yes/No	Treat	• Start treatment immediately • Lifestyle + 2 medications. ACE/ARB + CCB
Grade 3 Hypertension (HTN crisis)	≥180 / ≥110 mmHg	Yes/No	Treat	• Start treatment immediately • Urgent referral if symptomatic (Severe headache, Dizziness, Visual disturbances, (blurred vision) Chest pain, Shortness of breath, Nausea or vomiting, Confusion or altered consciousness)

Lifestyle advice:

- Reduce salt intake
- Stop tobacco and betel nut products
- Limit alcohol consumption
- Weight loss (target BMI <25 kg/m²)
- Regular aerobic physical activity (≥150 min/week)
- DASH-style diet: high fruits/vegetables, low-fat dairy, low saturated fat
- Sleep hygiene

Medications (example classes): Can start treatment with ACE/ARB or CCB.

- ACE: Angiotensin converting enzyme inhibitors (e.g., Enalapril – contraindicated in pregnancy)
- ARB: Angiotensin Receptor blockers (e.g., Losartan- contraindicated in pregnancy)
- CCB: Calcium channel blockers (e.g., Amlodipine)
- Diuretics (e.g., Hydrochlorothiazide)
- Beta blockers (e.g., Atenolol)

Drug Class	Example (Generic Name)	Starting Dose	Max Dose	Key Notes
ACE Inhibitor	Enalapril	5 mg once daily	20 mg/day	For **<65 years** with diabetes, CKD, or heart failure. Monitor potassium/creatinine.
ARB	Losartan	50 mg once daily	100 mg/day	Alternative to ACEI if cough occurs. Monitor potassium/ creatinine.

Calcium Channel Blocker (CCB)	Amlodipine	5 mg once daily	10 mg/day	First choice in **elderly (>65 years).** May cause ankle swelling

Follow-up:

- Every 2–4 weeks until BP is controlled
- Quarterly for stable patients, with annual comprehensive risk assessment
- Reassess medications and lifestyle compliance at each visit

References and Source Documents

- ESC 2024 Guidelines on Arterial Hypertension
- NICE Hypertension Guideline 2019
- Pakistan Cardiac Society Guidelines on Hypertension in Women
- WHO HEARTS Technical Package for CVD Management
- Standard Operating Procedures from National and Provincial NCD Programs (where applicable)

HTN Algorithm -1

Hypertension Treatment Algorithm when BP ≥ 140/≥90 mmHg but <160/<100

Measure the blood pressure of all individuals aged 35 years and above.

BP ≥ 140/≥90 mmHg and diagnosis is confirmed

1. Start with CCB*, e.g., Amlodipine 5 mg once a day.
2. Recheck BP in 4-6 weeks, if SBP is still greater than or equal to 140 mmHg and/or DBP is still greater than or equal to 90 mmHg, continue Amlodipine 5 mg and add ARB** e.g., Losartan 50 mg (if Losartan is not available, use ACEI*** e.g., Enalapril 10 mg) once a day.
3. Recheck BP in 4-6 weeks, if SBP is greater than or equal to 140 mmHg and/or DBP is still greater than or equal to 90 mmHg Increase CCB* e.g. Amlodipine to 10 mg once a day and continue ARB** e.g. Losartan 50 mg (if Losartan is not available, use ACEI*** e.g. Enalapril 10 mg) once a day.
4. Recheck BP in 4-6 weeks, if BP is greater than or equal to 140 mmHg and/or DBP is still greater than or equal to 90 mmHg Continue CCB* e.g. Amlodipine 10 mg and increase the dose of ARB** e.g. Losartan to 100 mg (if Losartan is not available, use ACEI*** e.g. Enalapril 20 mg) once a day.
5. Recheck BP in 4-6 weeks, if SBP is still greater than or equal to 140 mmHg and/or DBP is still greater than or equal to 90 mmHg. Confirm the patient's adherence to the prescribed medication regimen. If available, consider adding thiazide****, e.g., Hydrochlorothiazide 12.5 mg once a day to the above regimen and refer to a higher level of care.

*CCB = Calcium channel blocker **ARB = Angiotensin Receptor Blocker
***ACEI= Angiotensin Converting Enzyme Inhibitor ****Thiazide = Thiazide or Thiazide Type Diuretic

HTN Algorithm -2

Management of Hypertension Algorithm for Adults 35 years and above when BP is ≥160/≥100

Measure the blood pressure of all individuals aged 35 years and above.

BP ≥160/≥100 mmHg
Start two antihypertensive drugs from two different classes

1. Start CCB* e.g., Amlodipine 5 mg and ARB** e.g., Losartan 50 mg (if Losartan is not available, use ACEI*** e.g., Enalapril 10 mg) once a day.
2. Recheck BP in 2-4 weeks, if SBP is still greater than and equal to 140 mmHg and/ or DBP is still greater than or equal to 90 mmHg Increase CCB* e.g. Amlodipine to 10 mg and continue ARB** e.g. Losartan 50 mg (if Losartan is not available, use ACEI*** Enalapril 10mg) once a day.
3. Recheck BP in 2-4 weeks, if SBP is still greater than and equal to 140 mmHg and/ or DBP is still greater than or equal to 90 mmHg Continue CCB* e.g. Amlodipine 10 mg and increase ARB** e.g. Losartan to 100 mg (if Losartan is not available, use ACEI*** e.g. Enalapril 20 mg) once a day.
4. Recheck BP in 2-4 weeks, if SBP is still greater than or equal to 140 mmHg and/ or DBP is still greater than or equal to 90 mmHg. Confirm the patient's adherence to the prescribed medication regimen. If available, consider adding thiazide****, e.g., Hydrochlorothiazide 12.5 mg once a day to the above regimen and refer to a higher level of care.

*CCB = Calcium channel blocker **ARB = Angiotensin Receptor Blocker

***ACEI= Angiotensin Converting Enzyme Inhibitor ****Thiazide = Thiazide or Thiazide Type Diuretic

Lifestyle advice

1. Quit Smoking
2. 30 minutes brisk walk daily
3. Reduce weight.
4. Reduce salt to under 1 tablespoon/day.
5. Avoid saturated fat (Ghee, butter)
6. Remove the fatty part of the meat.
7. Boil, bake, or steam instead of frying.
8. Avoid added sugar.
9. Avoid carbonated drinks.
10. Avoid processed food containing a high amount of Trans fat and

Special Considerations

1. **For patients with Diabetes Mellitus, Cardiovascular diseases, and chronic kidney disease or high cardiovascular risk, the target blood pressure is <130/80 mmHg.**
2. **Monitor potassium and kidney function when prescribing or changing the dose of ACEI/ARB and if the testing is readily available and does not delay the treatment.**
3. **ARB/ACEI are contraindicated in pregnant women and should be avoided in women who may become pregnant.**

Contents

I. Drainage of superficial abscess under local anesthesia

Brief Description of Intervention:

This intervention involves the incision and drainage (I&D) of a superficial abscess in adults and children, under local anesthesia, performed using a clean or sterile technique in an outpatient or primary care setting. It is indicated for abscesses less than 5 cm that are well-localized and not located in high-risk anatomical areas. This excludes hemodynamically unstable individuals, abscesses with overlying blisters, crepitus, or extensive induration, abscesses in high-risk anatomical areas (e.g., anterior/lateral neck, central face, hands, perirectal area, breast, over joints or near major vessels) The purpose of these guidelines is to provide safe, effective, and timely management of superficial abscesses at the primary care level and to prevent complications such as spread of infection, sepsis, or abscess recurrence.

Main Provider(s) of Care:

Physician/Medical Officer, female medical officer, trained technician (ER, OR, Surgery)

SOPs for the Protocols:

For abscesses less than 5 cm that are well-localized and not located in high-risk anatomical areas. This excludes hemodynamically unstable individuals, abscesses with overlying blisters, and crepitus, or extensive induration, abscesses in high-risk anatomical areas (e.g., anterior/lateral neck, central face, hands, perirectal area, and breast, over joints or near major vessels).

History:

The provider should inquire about:

- When did the swelling or pain start?
- What is the duration of onset of symptoms?
- Are there any associated symptoms like fever, chills, lack of appetite?
- Is there a history of previous abscesses or skin infections?
- Is there any significant past medical or surgical history (e.g., diabetes, immunosuppression)?
- Is there any known allergy history, especially to lignocaine or antibiotics?
- Is the patient using any medications currently?

Physical examination

- Check patients' vital signs: Blood pressure, temperature, pulse, respiratory rate.
- Examine the abscess: Assess its site, size, tenderness, redness, and fluctuance.
- Presence of cellulitis, induration, or lymphangitis.

Equipment Needed:

- Thermometer
- BP apparatus
- Stethoscope (for full vitals)
- Torch (optional for local exam)
- Gloves (sterile or clean)

Investigations:
Usually, no laboratory or imaging is needed for simple, superficial abscesses. Check blood sugar level if there is a suspicion or known history of diabetes.

Special Considerations:
Exclusion criteria: overlying blisters, crepitus, deep or high-risk anatomical locations (e.g., face, neck, hand, breast, perirectal, over joints, near large vessels). For a child or a larger abscess (>5 cm), consider general anesthesia or a regional block and refer to nearby facility.

Management

- Explain the diagnosis and the need for drainage. Inform the patient about steps of the procedure. Explain that antibiotics alone may not be effective.
- Take informed consent. Antibiotics are NOT routinely needed. (Add common broad-spectrum antibiotics?)
- Use only if:
    - Signs of systemic infection (fever, chills, low BP)
    - Extensive surrounding cellulitis
    - High-risk patient (diabetes, immunosuppression)

Procedure

Preparation:

- Wash hands thoroughly.
- Wear clean/sterile gloves (latex gloves).
- Clean the skin with Pyodine or alcohol swab.
- Drape with sterile or clean drapes.
- For an abscess < 5 cm and well-delineated, administer local Anesthesia (1% Lignocaine with/without adrenaline) infiltrated into the area to create a field block.

Incision and Drainage:

- Use a sterile procedure kit (scalpel, curved artery forceps).
- Use sterile scalpel to create an incision in the most prominent part of the abscess that is long enough to allow digital exploration.
- Use finger or artery forceps to break any loculi.
- Irrigate the wound generously with Normal Saline.
- Gently pack the wound with sterile gauze, cover with sterile dressing, and apply tape.

Follow-up:

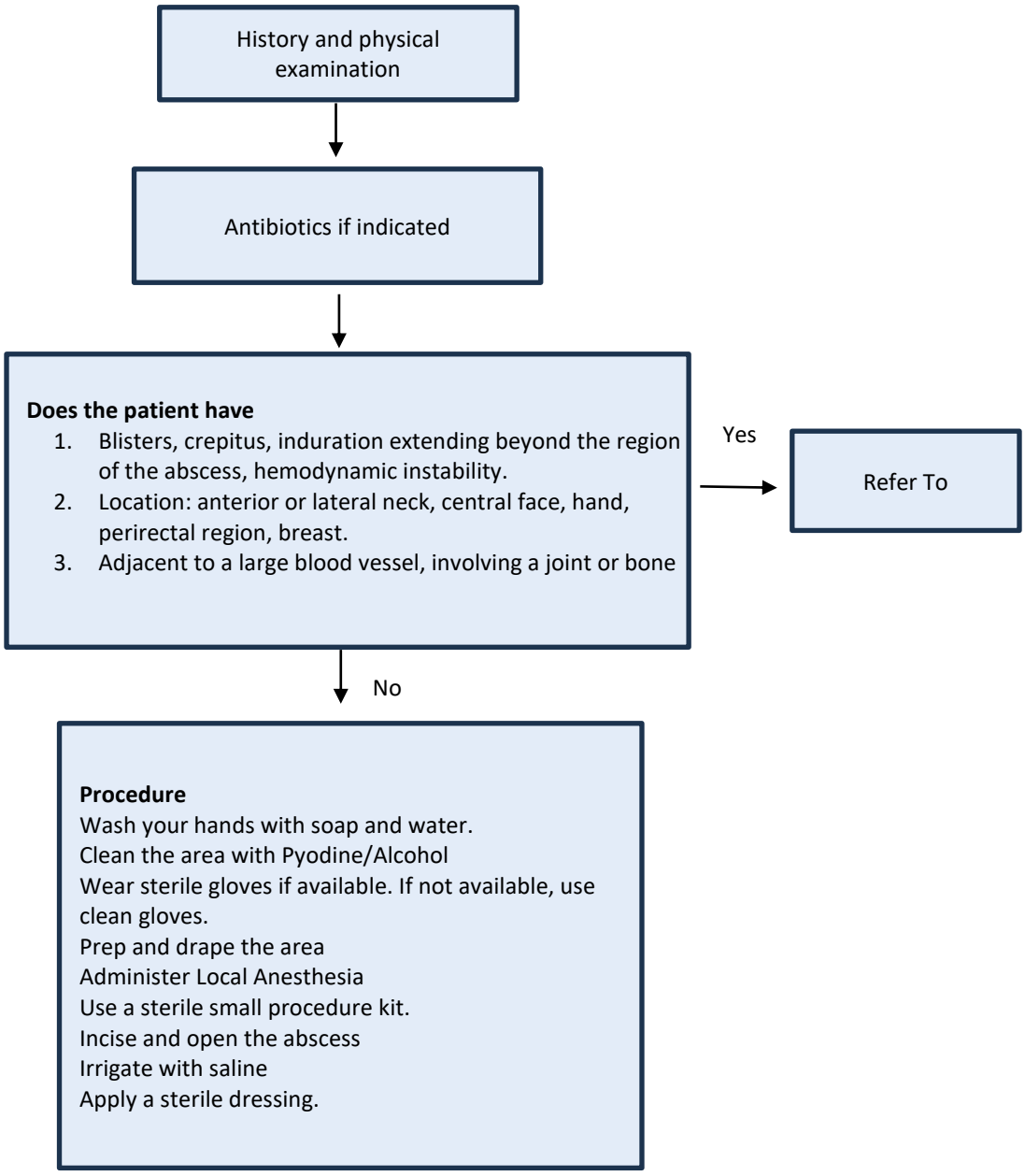
- Return to remove dressing in 24 hrs. Reassess the wound. If it is improved, continue daily dressings. Patients and their families can be instructed to do so.
- Return to the facility as soon as possible if there is increasing pain, or redness, or high fever.
- Return in 7-10 days for re-evaluation.
- If there are signs and symptoms of persistent infection, refer the patient to the appropriate facility.

References and Source Documents:

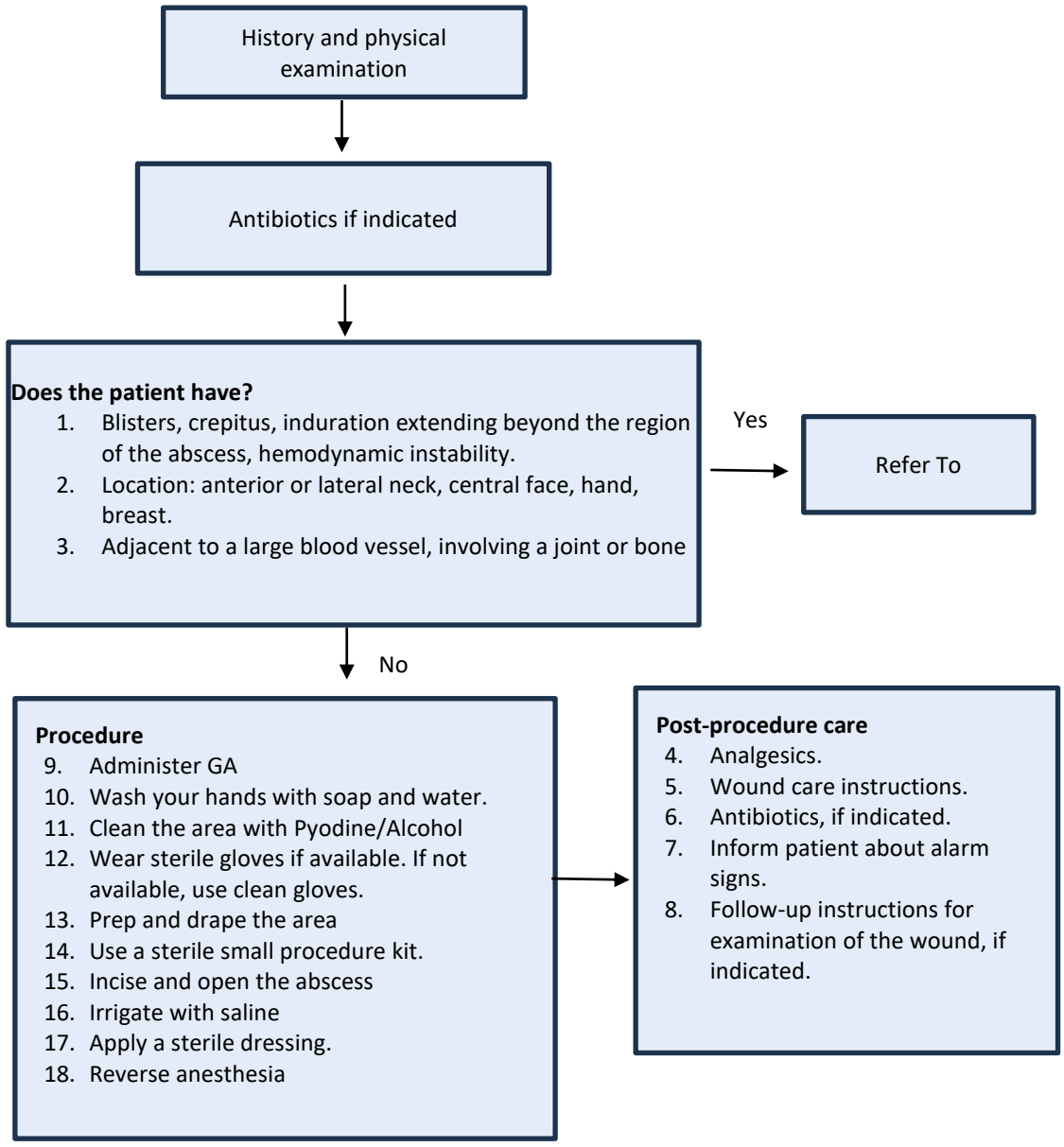
Médecins Sans Frontières. Cutaneous abscess. In: Clinical guidelines: diagnosis and treatment manual [Internet]. Geneva: Médecins Sans Frontières; 2024 [cited 2025 Dec 24]. Available from: https://medicalguidelines.msf.org/en/viewport/CG/english/cutaneous-abscess-18482406.html

Drainage of Superficial Abscess (Complex)

Process Flow: Drainage of Superficial Abscess (Local Anesthesia)



Process Flow: Drainage of Superficial Abscess (General Anesthesia)



II. Suturing laceration

Brief Description of Intervention:

This intervention involves the incision and drainage (I&D) of a superficial abscess in adults and children, performed under local anesthesia using clean or sterile technique in an outpatient or primary care setting. It is indicated for well-localized abscesses less than 5 cm that are not located in high-risk anatomical areas.

Exclusion criteria include hemodynamic instability, abscesses with overlying blisters, crepitus, or extensive induration, and abscesses in high-risk areas (e.g., anterior/lateral neck, central face, hands, perirectal region, breast, over joints, or near major vessels).
The purpose of these guidelines is to support safe, effective, and timely management of superficial abscesses at the primary care level, while preventing complications such as infection spread, sepsis, or recurrence.

Main Provider(s) of Care:

Physician/Medical Officer, Surgical technician

SOPs for the Protocols:

Diagnosis:

History:

Ask the following questions

- When did the injury occur?
- How did it happen? (e.g., fall, sharp object, animal bite, glass, machinery)
- What caused the laceration? (e.g., knife, metal, wood – helps determine contamination risk) (blunt trauma can cause deeper damage)
- Was the wound contaminated with dirt, feces, saliva, or chemicals?
- Any chance a foreign body is inside the wound?
- Any numbness or weakness? (suggests nerve or tendon injury)
- Did you clean the wound yourself?
- Have you applied anything to it? (e.g., antiseptics, ointments, home remedies)

- Have you had a full tetanus vaccination series?
- When was your last tetanus shot?
- Do you have any chronic medical conditions (Diabetes, vascular disease, immunosuppression, bleeding disorders)?
- Are you taking any medications? (especially ask about Anticoagulants, antiplatelet, steroids, immunosuppressant)
- Do you have any allergies (to local anesthetics, antibiotics, tape, or sutures)

Physical examination:

- Take patient vitals (BP/Pulse/Temperature)
- Assess the length, width and depth of the laceration
- Assess the shape and edges of the laceration: Is it clean, jagged, crushed, irregular, and avulsed?

- Is there bleeding: Active, controlled, or oozing?
- Are there any signs of contamination or foreign body: Dirt, gravel, wood, fabric?
- Are there any signs of infection: Redness, swelling, pus, foul odor
- Assess the surrounding skin: Is there bruising, abrasion, degloving?
- Ask the patient to move the affected part actively (e.g., fingers, toes, joint) to assess tendon integrity.

Investigations:

- In uncomplicated, superficial wounds, routine investigations are not necessary.

Management and Implementation of Guidelines:

- Explain the nature of the wound and need for suturing.
- Discuss risks of infection, scarring, or non-intervention.
- Obtain informed consent.
- Wash your hands with soap and water.
- Wear sterile gloves if available. If not, wear clean gloves.
- Irrigate the wound with normal saline or clean water; and debride as needed.
- Clean surrounding skin with pyodine solution or alcohol swab.
- Drape the area using sterile drapes if available.
- Administer local anesthesia: 1% Lidocaine with adrenaline or plain lidocaine as required.
- Use a sterile laceration kit: needle driver, forceps, and suture scissors.
- Choose suture type based on site and skin thickness (typically 3-0 or 4-0 nylon/silk). Nylon is preferable.
- Close wound with simple interrupted sutures or technique suited to site.
- Apply topical antibiotic (if indicated) and cover with sterile dressing.

Medications:

Pain management

- Adults: Paracetamol 1 gm PO every 6 hours as needed (adults)
- Children: 10–15 mg/kg/dose every 6 hours as needed

Antibiotics (if indicated):

- Adults: Cap Augmentin 1 gm 1+0+1 for 5 days; if allergic can give tablet cephalexin 500 mg every 12 hours,
- Pediatric: Syrup Augmentin 25–45 mg/kg/day in 2 divided doses. If allergic can give 25–50 mg/kg/day, divided every 6–8 hours

If the injury happened more than 24 hours prior, only suture if the wound is clean.

Tetanus prophylaxis:

- Tetanus toxoid if not immunized in the last 5 years
- TIG (Tetanus Immunoglobulin) if high-risk wound and unimmunized

Special Considerations:

- Avoid using epinephrine with local anesthesia in areas with end-arteries and poor collateral circulation such as fingers, toes, nose tip, penis, and ear lobes (due to risk of ischemia and necrosis).

- Give topical or systemic antibiotics if: wound is contaminated or shows early signs of infection or if High-risk patient (e.g., diabetic, immuno-compromised).

Follow-up:

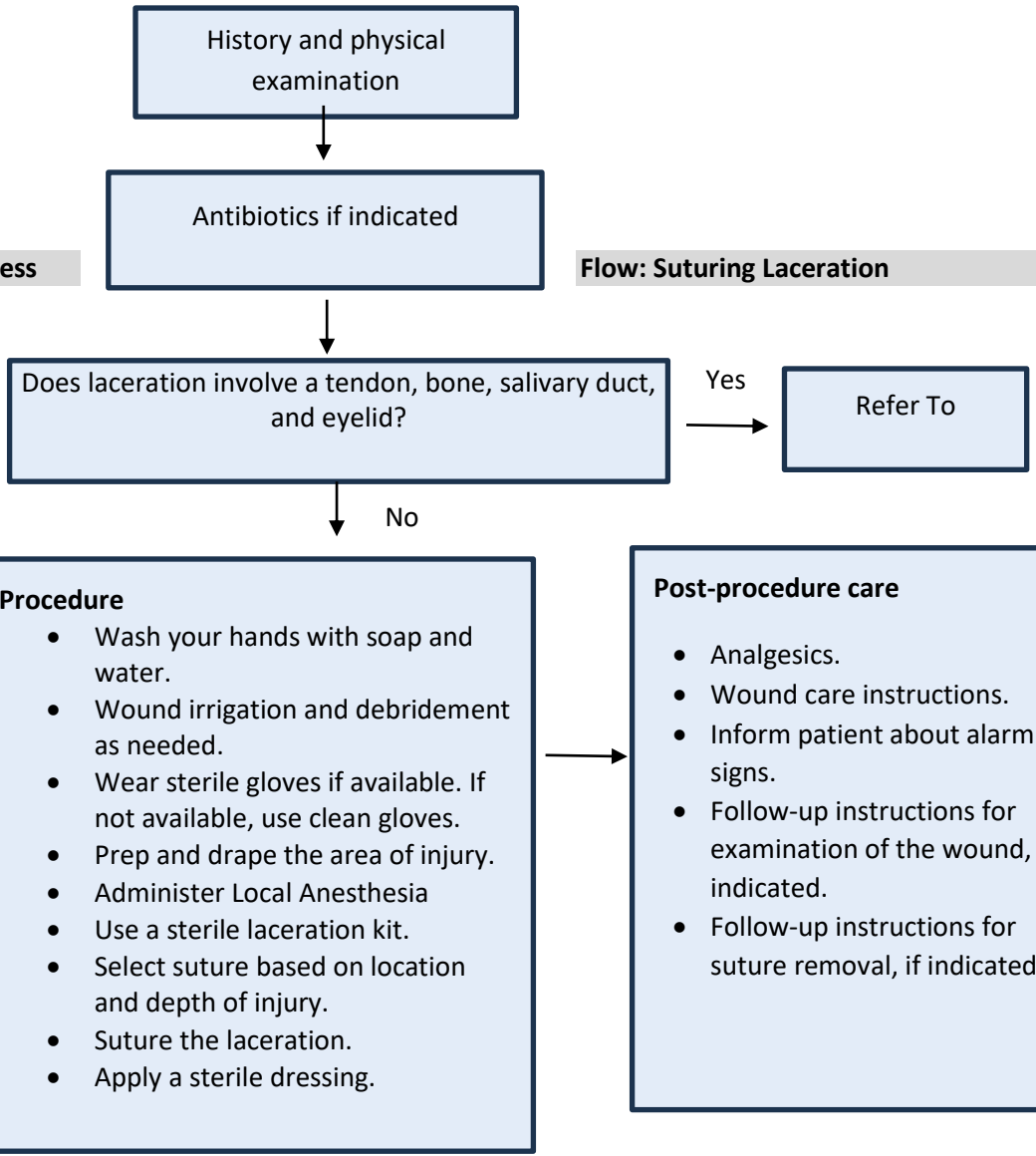
- Return to the facility as soon as possible if there is increasing pain, redness, or high fever.
- Get dressing done as advised
- Return for in 3-14 days for suture removal (as advised) in case of non-absorbable sutures depending on the anatomic site.
- For highly contaminated wounds, return to the facility after 48 hrs.

References and Source Documents:

Forsch RT, Little SH, Williams C. Laceration Repair: A Practical Approach. Am FAM Physician. 2017 May 15; 95(10):628-636. PMID: 28671402.

Process

Flow: Suturing Laceration



III. Adult Basic Life Support (BLS)

Brief Description of Intervention:

Adult Basic Life Support (BLS) is an evidence-based, life-saving intervention aimed at the early recognition and management of cardiac arrest in adults. It includes rapid assessment of responsiveness and breathing, immediate activation of emergency medical services, initiation of high-quality cardiopulmonary resuscitation (CPR), and early use of an Automated External Defibrillator (AED). The timely delivery of BLS significantly improves survival and neurological outcomes in adults experiencing sudden cardiac arrest.

Main Provider(s) of Care:

- Physician / Medical Officer
- Female Medical Officer
- Trained Technician (Emergency Room, Operating Room, Surgery)

All providers must be trained and competent in Adult Basic Life Support and AED use.

SOPs for the Protocol:

Ensure Safety

- Confirm scene safety for healthcare staff, patient, and bystanders.

Assess Responsiveness

- Check patient response by verbal and physical stimulation.
- If unresponsive, proceed immediately.

Assess Breathing

- Open airway and assess breathing for no more than 10 seconds.
- If not breathing normally or only gasping, treat as cardiac arrest.

Activate Emergency Response

- Call emergency medical services or internal emergency response system.
- Request immediate availability of an AED.

Initiate CPR

- Start chest compressions at a rate of 100–120 per minute and depth of 5–6 cm.
- Minimize interruptions and allow full chest recoil.
- Provide rescue breaths at a 30:2 ratio if trained; otherwise, continue compression-only CPR.

Use AED

- Switch on AED as soon as available.
- Attach pads to bare chest and follow device instructions.
- Ensure no contact with the patient during rhythm analysis and shock delivery.

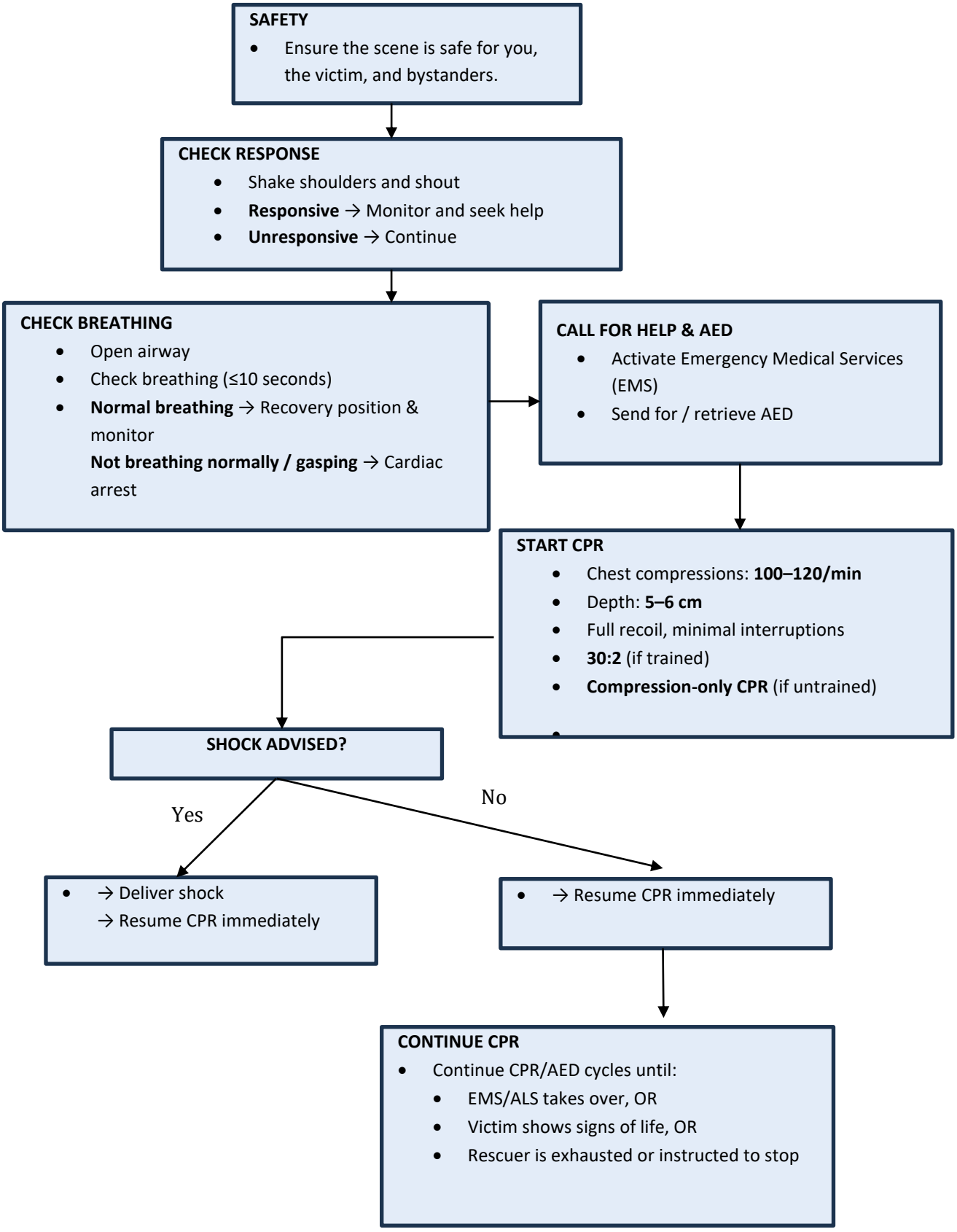
Continue Resuscitation

- Resume CPR immediately after shock or if no shock is advised.
- Continue CPR and AED cycles until advanced care arrives, the patient recovers, or the provider is instructed to stop.

References and Source Documents:

- European Resuscitation Council (ERC). *ERC Guidelines for Resuscitation – Adult Basic Life Support*. Latest edition.
- World Health Organization (WHO). *Basic Emergency Care: Approach to the Acutely Ill and Injured*.
- International Liaison Committee on Resuscitation (ILCOR). *Consensus on Science with Treatment Recommendations (CoSTR)*.
- National Ministry of Health. *Emergency Care and Resuscitation Guidelines* (where applicable).
- American Heart Association (AHA). *Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care*.

Process Flow: Adult Basic Life Support (BLS)



PART FOUR — Primary-Care (PHC Centre) Priority Clinical Protocols

The following protocols follow the same structure as the main PHC Facility-Level Clinical Guidelines and are intended to be inserted into Cluster 2: Infectious Diseases. They align with WHO guidance and Pakistan's national vertical programmes; always follow the current instructions and drug formulations supplied by the National TB Control Programme and the Directorate of Malaria Control, and their weight-band dosing charts.

Prevention, diagnosis and treatment of malaria (PHC)

Brief Description of Intervention:

Balochistan carries one of the highest malaria burdens in Pakistan, with both *Plasmodium vivax* and *P. falciparum* present. This protocol covers prompt parasitological diagnosis, correct treatment of uncomplicated malaria, recognition and pre-referral treatment of severe malaria, and the vector-control measures the facility promotes. The aim is to cure every confirmed case, prevent progression to severe disease and death, reduce transmission and protect pregnant women and young children.

Main Provider(s) of Care:

Medical Officer, Lady Health Visitor, Dispenser/Lab technician; supported by the LHW/community platform and the Directorate of Malaria Control.

SOPs for the Protocols:

Diagnosis

History: fever or history of fever in the previous 48 hours, often with chills, sweating, headache, body ache, malaise, nausea; ask about travel/residence in malarious areas, previous episodes, pregnancy, and any danger signs.

Physical examination: vital signs (temperature, pulse, BP, respiratory rate); look for pallor (anaemia), jaundice, dehydration, spleen enlargement; and screen for the danger/severity signs listed below.

Investigations: confirm parasitologically *before* treating wherever possible — a malaria rapid diagnostic test (RDT) and/or blood-film microscopy identifies the parasite species and, on microscopy, the density. Do not rely on clinical impression alone. Check haemoglobin where anaemia is suspected; check blood glucose in any severe case.

Signs of SEVERE malaria — refer immediately after pre-referral treatment

- Impaired consciousness, convulsions, extreme weakness/inability to sit or drink, repeated vomiting.
- Respiratory distress, circulatory collapse/shock, abnormal bleeding, dark or reduced urine.
- Severe anaemia, jaundice, or very high parasite density.
- PRE-REFERRAL: give parenteral artesunate (IM/IV) as the first dose where available (or IM artemether/quinine if not); treat hypoglycaemia and convulsions; keep warm and refer urgently to a first-level hospital.

Management and Implementation of Guidelines

Treat according to the confirmed species and severity, following WHO guidance and the national/DoMC formulary. Directly observe the first dose, counsel on completing the full course, and advise return if symptoms worsen or persist.

- **Uncomplicated *P. falciparum* (or mixed, or species unknown):** treat with a full course of an artemisinin-based combination therapy (ACT), e.g. artemether–lumefantrine, per weight band. In low-transmission settings a single low dose of primaquine (0.25 mg/kg) may be added to reduce transmission (not in pregnancy or infants < 6 months); G6PD testing is not required for this single low dose.
- **Uncomplicated *P. vivax* / *P. ovale*:** give a blood-stage schizonticide — chloroquine (in chloroquine-susceptible areas) or an ACT — AND, to prevent relapse, a radical-cure course of primaquine (typically 14 days), guided by G6PD status. Do NOT give primaquine in pregnancy, in breastfeeding of an infant of unknown G6PD status, or in G6PD deficiency — refer/seek advice instead.
- **Severe malaria (any species):** this is an emergency — give pre-referral parenteral artesunate and refer (see red box).

Malaria in pregnancy

- Treat promptly — malaria in pregnancy endangers mother and baby. Use artemether–lumefantrine for uncomplicated falciparum (including the first trimester, per current WHO guidance) or a safe schizonticide for vivax.
- Do NOT give primaquine or tafenoquine in pregnancy. Refer severe cases urgently.

Prevention and vector control (facility and community)

- Promote and support the use of long-lasting insecticidal nets (LLINs/ITNs), prioritising pregnant women and young children.
- Support indoor residual spraying (IRS) campaigns in targeted high-transmission areas, and larval source management (larviciding and removing/managing standing-water breeding sites) with the community and the malaria programme.
- Give health-promotion messages on nets, breeding-site reduction and early care-seeking for fever; coordinate case reporting for outbreak detection.

Medications (follow national/DoMC weight-band charts for exact doses):

- Artemisinin-based combination therapy (e.g. artemether–lumefantrine) — uncomplicated falciparum/mixed/unknown.
- Chloroquine — blood-stage treatment of chloroquine-susceptible vivax/ovale.
- Primaquine — radical cure of vivax/ovale (14 days) and single-low-dose transmission reduction for falciparum; observe G6PD and pregnancy cautions.
- Parenteral artesunate (with artemether/quinine as alternatives) — pre-referral/severe malaria.
- Paracetamol for fever; oral rehydration for dehydration; iron/folate for associated anaemia as indicated.

Case finding, diagnosis and treatment of tuberculosis (PHC)

Brief Description of Intervention:

Tuberculosis (TB) remains a major cause of illness and death in Pakistan, one of the highest-burden countries in the world. The BHU is central to finding people with TB, confirming the diagnosis with a rapid molecular test, starting the correct treatment under the National TB Control Programme (NTP), supporting adherence to cure, and preventing disease in high-risk contacts. This protocol covers drug-susceptible TB; drug-resistant TB is referred to the programmatic management (PMDT) unit.

Main Provider(s) of Care:

Medical Officer, Lady Health Visitor, TB focal person/Dispenser, Lab technician; in partnership with the National/Provincial TB Control Programme and the community platform for treatment support.

SOPs for the Protocols:

Diagnosis

History (find the presumptive TB case): any person with a cough of two weeks or more is a presumptive TB case and must be evaluated. Ask also about fever, night sweats, unexplained weight loss, loss of appetite, blood in sputum, and — in children — failure to thrive and contact with a TB patient. Ask about HIV status and previous TB treatment.

Physical examination: general condition and weight (record weight — it guides dosing and monitoring); temperature; examine the chest and lymph nodes; look for signs of extrapulmonary TB.

Investigations: send a sputum sample for a rapid molecular test (e.g. Xpert MTB/RIF / Ultra) as the initial diagnostic test — it confirms TB and detects rifampicin resistance. Use sputum-smear microscopy and chest X-ray as available and per NTP algorithm. Offer HIV testing to every person diagnosed with TB.

Key case-finding and infection-control points

- Cough ≥ 2 weeks = evaluate for TB. Actively screen household and close contacts, people living with HIV, and people with diabetes.
- Reduce transmission at the facility: ventilate waiting areas, separate/fast-track coughing patients, promote cough etiquette, and use respiratory protection during high-risk procedures.

Management and Implementation of Guidelines

Register every confirmed case with the NTP, treat with the standard fixed-dose combination regimen, and support the patient to complete treatment. Treatment is given in two phases under treatment support (DOTS):

- **Intensive phase — 2 months of HRZE** (isoniazid, rifampicin, pyrazinamide, ethambutol), given daily by weight band.
- **Continuation phase — 4 months of HR** (isoniazid, rifampicin) daily. The standard six-month regimen is written **2HRZE/4HR**.
- Use NTP weight-band fixed-dose combination tablets; dose and monitor by weight; do not interrupt therapy.
- **Children:** treat with weight-band paediatric formulations per NTP; the WHO 4-month regimen for non-severe TB is applied only under specialised paediatric guidance in Pakistan.

Monitoring and adherence: follow the NTP schedule for follow-up sputum tests, record every dose, weigh at each visit, and manage common side-effects (counsel that rifampicin colours urine/secretions orange; watch for jaundice, vision changes with ethambutol, and neuropathy — give pyridoxine where indicated). Trace and support any patient who misses doses. A missed course risks relapse and drug resistance.

Refer / escalate

- Rifampicin resistance or any drug-resistant TB detected → refer to the PMDT unit without delay.
- Severe illness, respiratory distress, massive haemoptysis, suspected TB meningitis, pregnancy with complications, or serious drug reactions (e.g. jaundice) → refer to a first-level hospital.

Prevention — TB preventive treatment (TPT)

For people living with HIV and for child contacts under five of a person with active TB, once active TB has been excluded by symptom screening and (where indicated) chest X-ray, provide TB preventive treatment (e.g. isoniazid, or a shorter rifamycin-based regimen) per current WHO/NTP guidance. Vaccinate newborns with BCG per the national schedule.

Medications (use NTP fixed-dose combinations and weight-band charts):

- Intensive phase: isoniazid (H) + rifampicin (R) + pyrazinamide (Z) + ethambutol (E) — daily, 2 months.
- Continuation phase: isoniazid (H) + rifampicin (R) — daily, 4 months.
- Pyridoxine (vitamin B6) where indicated to prevent isoniazid neuropathy.
- TB preventive treatment (isoniazid or shorter rifamycin-based regimen) for eligible contacts/PLHIV.

PART FIVE — Gap Analysis and Completion Roadmap

Coverage of the EPHS Primary-Care Interventions

The table below maps the 39 immediate-priority PHC-centre interventions of the Balochistan EPHS against the current Clinical Guidelines draft, this companion volume, and the sections still to be written. Codes are the EPHS / DCP3 codes.

Status	Interventions (EPHS code in brackets)
Covered in the current draft	Skilled labour & delivery (C3c); neonatal resuscitation (C3d); tetanus toxoid (C5); iron & folic acid (C27b); neonatal pneumonia (HC1); miscarriage/PAC (HC2); contraceptives & IUD (HC4b); kangaroo mother care (HC5b); hypertensive disorders in pregnancy (HC9b); BEmONC (HC11); IMCI (HC12); syndromic STI management (HC17); TB preventive treatment for contacts/PLHIV (HC26); fever/IMAI (HC30); depression & anxiety (HC50); acute pharyngitis (HC42); albuminuria/CKD screening (HC39a); asthma & COPD (HC37); CVD combination therapy & risk screening (HC36); aspirin for suspected AMI (HC38); opportunistic hypertension screening (HC45); drainage of superficial abscess (HC59); suturing of lacerations (HC62); adult Basic Life Support (HC61); HIV/STI/hepatitis testing (HC23).
Added in this companion volume	Malaria — prevention, diagnosis & treatment, covering vector control (C17, C34, HC32) and case management; Tuberculosis — case finding, diagnosis & drug-susceptible treatment (HC27), complementing the existing TPT section (HC26).
Still to be developed (recommended next)	Oral health: dental extraction (HC57a), drainage of dental abscess (HC58a), treatment of dental caries (HC63a); Injury care: management of non-displaced fractures (HC60), basic management of musculoskeletal & neurological injuries (HC64); Child & adolescent mental health incl. ADHD and disruptive-behaviour disorders (part of HC14); Secondary penicillin prophylaxis for rheumatic fever / RHD (HC41); Screening for congenital hearing loss (HC56); Voluntary medical male circumcision in high-HIV settings (HC25); Partner notification & expedited treatment for

	STIs (HC21); Pharmacological termination of pregnancy within the legal framework (HC7).

Recommended sequence for completing the book

- 1) Oral health cluster (three linked protocols, shared instruments/setting).
- 2) Injury & fracture care (builds on the existing abscess/suturing/BLS surgical cluster).
- 3) Rheumatic fever secondary prophylaxis (links to the existing pharyngitis protocol).
- 4) Child mental health, hearing screening, VMMC, STI partner notification, and — with legal/clinical review — HC7.

Editorial and Quality-Assurance Notes for the Existing Draft

The current draft is strong and practical. To bring the whole book to publication standard, the following are recommended before press:

- **Standardise every section to one template** — Brief description → Providers → Diagnosis (History, Examination, Investigations) → Management → Medications → **Referral criteria** → **Red-flag / danger-sign box** → Follow-up → Patient counselling. Referral criteria and a danger-sign box should appear in *every* clinical section.
- **Fix copy-paste carry-overs.** For example, the "Brief Description" under *Suturing laceration* currently repeats the abscess-drainage text; each section's brief description should match its own procedure. A section-by-section proofread against the headings is advised.
- **Correct residual right-to-left text artefacts** in some headings (stray direction marks) that appear where Urdu/English text was mixed.
- **Reconcile terminology and dosing** with the national vertical programmes (NTP, DoMC, EPI) and cite the source guideline at the end of each clinical section.
- **Add cross-references** from clinical sections to the cross-cutting chapters (triage, IPC, referral, telehealth) rather than repeating them.
- **Add a master Table of Contents, list of tables/figures, and an index** for a printed book, and number all figures and tables.
- **Pilot the printed draft** at a small number of BHUs and RHCs and incorporate frontline feedback before the full print run.

References and Further Reading

This companion volume draws on the following primary sources; practitioners and reviewers are encouraged to consult the latest editions.

- World Health Organization & UNICEF. Operational Framework for Primary Health Care: transforming vision into action. Geneva: WHO; 2020.
- WHO, UNICEF. Declaration of Astana. Global Conference on Primary Health Care; 2018.
- Health Department, Government of Balochistan. Essential Package of Health Services of Balochistan (with localized evidence). February 2022.
- World Health Organization. WHO Guidelines for Malaria (2025 update). Geneva: WHO.
- World Health Organization. WHO consolidated guidelines on tuberculosis, Module 4: Treatment — drug-susceptible tuberculosis treatment. Geneva: WHO; 2022.
- National TB Control Programme, Pakistan. National guidelines for the diagnosis and treatment of tuberculosis (current edition) and TB-01 treatment card.
- Directorate of Malaria Control, Pakistan. National treatment guidelines for malaria (current edition).
- World Health Organization. Core components for infection prevention and control programmes; and Minimum requirements for IPC programmes; and the IPC assessment framework and PHC assessment tool. Geneva: WHO.
- World Health Organization. Guidelines on hand hygiene in health care (“My Five Moments for Hand Hygiene”); Water and sanitation for health facility improvement tool (WASH FIT).
- World Health Organization. Integrated Management of Childhood Illness (IMCI); Integrated Management of Adolescent and Adult Illness (IMAI); and the WHO Package of Essential Noncommunicable disease interventions (WHO PEN) for primary care.
- World Health Organization. WHO recommendations on antenatal care for a positive pregnancy experience (2016) and postnatal care (2022).