Referral Guidelines for the common conditions for Institutions under DME & DHS in Kerala (Guidelines for referring cases from Secondary to Tertiary Care Institutions.(District Hospitals, General Hospitals, Medical College Hospitals and other specialty institutions)

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Referral Guidelines for the Institutions under DME & DHS in Kerala

Guidelines for referring cases from secondary to tertiary care institutions. (District Hospitals, General Hospitals and Medical College Hospitals, other Specialty Institutions)

Background

Read: 1. G O (MS) No.2674/2011 H&FWD dated 25-7-2011

2. G O(MS) No.391/2011 H&FWD dated 14-11-2011

3. G O(MS) No.05/2010 H&FWD dated 07-01-2010

4. Minutes of the principal's meeting held on 12-08-2011 at the Directorate of Medical Education

5. G O(Rt) No. 817/2004/H&FWD dated 18-03-2004

The High power committee on health services (1979) under the chairmanship of Dr.K. N. Pai has recognized the real need for a well organized referral system in Kerala. The Government Medical collegiate hospitals have been declared as referral- hospitals, years' back. But in course of time the referral system got diluted and the collegiate hospitals have become overcrowded and unwieldy due to the inordinate rush of patients . Most of the patients were those whose ailments could be treated at primary level by utilizing the facilities available in nearby primary or

secondary level hospitals. Genuine cases therefore go unnoticed. Hence the real benefits of referral system could not reach the public.

As per the G O cited, as (1) Govt. ordered that implementation of referral system should be strengthened through preparation of suitable referral guidelines/protocols. In order to materialize this, expert committees were constituted with senior faculty from medical colleges and senior Consultants from health services with delegation of responsibilities to specific departments and institutions. As per reference cited as (4), the Clinical Epidemiology Resource & Training Centre (CERTC), medical college Thiruvananthapuram was entrusted to arrange a workshop for development of referral protocols. The CERTC, conducted an initial workshop for formulation of draft guidelines and subsequent several workshops at the state institute of health and family welfare as well as the medical colleges mentioned in reference(1) for discussion and finalization of the protocols. The suggestions and consensus in these workshops and meetings were consolidated and circulated among experts for vetting and the guidelines were thus finalized.

General guidelines for referral of patients from referring institutions to referred institutions

Formalities at the referring institution

- The medical officer who is treating the patient is to take initiative for referral and sign in the referral card.
- A Patient should be referred only if there is a definite and convincing indication felt by the referring doctor for referral.
- Referral form should be always used for referral.(Sample appended)
- The reasons for referral should be clearly indicated in the referring letter.
- Referral should be accompanied with sufficient documents like referral letter and supporting materials like X-ray, ECG or other similar investigation reports.
- Basic patient work up at the level of referring center should as far as possible be completed depending on the availability of facilities for investigation as well as time. Efforts should be taken from the referring end to provide investigation results pending if any to be later collected and sent to the referred institution through the relatives of the patient.

- Writing in any communication and correspondence should be legible and easily readable.
- The indications for referral should be guided by the discipline-wise guidelines provided with this document
- The diagnosis to be recorded is the most likely working diagnosis felt by the referring doctor at the time of referral.
- For the case of elective referrals if a specialist is available in the referring institution he/she may be consulted in advance as far as possible in person or over phone.
- Necessary information should be passed on to the patient and relatives. This should be in the form of counseling about the need of referral and necessary supportive information and guidance. In most of the situations of conflict proper lack of communication or misgivings of matters to patients end up in hostile situations. Proper care must be taken to avoid such situations.
- The details about the patient being referred should be written in the 'referral out register' kept in the institution. This register can be one for each ward for inpatients and one for Outpatient section and one for Casualty. Similarly details

about the patient being received should be written in the ‘referral in register’ kept in the institution. This register can be one for each ward for inpatients and one for OP and one for Casualty.

- In the case of emergency referrals transport should be arranged from the referring institution based on the clinical condition of the patient as decided by the referring doctor. The hospital administration or the Local self-Government institution may arrange the transport on request of the doctor.
- In the case of emergency referral if the patient’s condition is critically dangerous warranting continuing medical support, or there is a chance to worsen demanding emergency resuscitation, an appropriately functional medical ambulance should be made available.
- In the case of emergency referrals the details of patient’s condition including brief summary of vital signs at the time of sending the patient and medications given should be clearly written in the referral card.

- ❖ Timely referral is important in saving lives and avoiding complications. Hence once decided the patient should be sent at the earliest.
- ❖ Even if a patient is referred, all possible treatment and care at that referring institute level should be given to that patient and then only referred.

Formalities at the receiving end

- ❖ All referred cases should be promptly received and taken care of at the casualty or the OP section.
- ❖ The details should be written in the referral in register kept in the referred institution. This can be a common register kept in the admission counter. This arrangement can be planned according to the policy of the respective institution.
- ❖ When the referring doctor enquires about the condition of the patient (through phone or in person) a responsible staff should attend and necessary information to be furnished courteously. Usually this communication between referring doctors and receiving end is seen as happening through

telephone and both ends should behave courteously and in the most understanding way.

- Even if the doctors in the receiving institution feels that the patient would have been managed in a different or better way, at the referring end no open comments which can undo the morale of either party should be passed in presence of the patients or relatives or over phone to any persons in this regard.
- All enquiries regarding patients or similar information to be communicated to press or media to be made only through the respective hospital administration.
- All emergency referrals to be accepted without fail and also unnecessarily "shunting" the patients should be avoided.

Guidelines for back referral

The process of referral should be integrated with the health system and should be a continuous activity for the patient

Back referral helps the referring facility to know what exactly happened to the patient at the higher centre and helps in providing follow up care from referring centre. If the patient prefers follow up care in another institution, this must be mentioned in the 'referral out' letter and the matter informed to

the referred doctor through phone or email. Back referral also helps in continuous quality improvement in the whole system of referral process. Expectations about performance at the receiving institution after referral also should be clearly mentioned in the back referral letter especially procedures for wound care, expected day of stitch removal etc.

1 Back referral should be after reasonable period of care from higher centre.
2 Back referral should be with sufficient directions for provision of care.
3 The back referral letter can be the same as the discharge card presently provided. There should be details about back referral especially follow up care, when to come for review, whom to be referred back etc.
4 If the patient is discharged at request by them, voluntarily this matter can be written in the back referral card and all follow up instructions to be given forthwith.
5 If a patient is being discharged against medical advice this matter should be specifically documented and the signature of patient/guardian taken in the case-sheet. However the patient

should be told of all the consequences and counseled against this attempt.

6 The contact number in case of emergency and also the possible and anticipated complications as well as the first aid in such instances should be clearly written in the back referral letter.

7 Back referrals are to be entered in back referral register kept in the institution.

Monitoring the referral process: There are state level and district level committees for monitoring referral process and to make this effective, prompt feedback should be given by concerned doctors to these committees.

Discipline wise guidelines

B.1.General Medicine

Guidelines for referral from secondary level institutions to tertiary level centers

For selected general medical conditions

1. **Leptospirosis:** The diagnosis is considered in any patient presenting with abrupt onset of fever, chills, conjunctival suffusion, headache and myalgia.

Typically four clinical categories are defined

Mild (influenza like) illness, Weils syndrome (Jaundice, renal failure, hemorrhage, mayocarditis), Meningoencephalitis and pulmonary hemorrhage with respiratory failure.

Patients with any of the following complications should be referred to a tertiary care centre.

1. Hypotension
2. Decreased urine output
3. Deep Jaundice
4. Hemoptysis
5. Breathlessness
6. Bleeding tendency
7. Irregular pulse
8. Altered level of consciousness
9. Pre-existing chronic disease (Chronic Liver Disease, Diabetes Mellitus, Hyper Tension, Coronary Artery disease, Chronic Kidney Disease etc.) or existence of any other co-morbidities

10 Severe alterations in Liver function tests

* *For detailed account of guidelines: Read Guidelines for prevention and Control of leptospirosis, DGHS, Pp33-36, 2011*

- Patients suspected of leptospirosis should not be treated with NSAIDs.

2. Dengue fever

A detailed assessment should be made at the periphery and all steps for stabilization of the condition of patient to be undertaken *

Red flags or Warning signs are more important than platelet count alone.

Referral criteria (Red flag signs) for referring patients to tertiary care centre are

- Inability to maintain hydration status, persistent vomiting or abdominal pain
- Any bleeding tendency: Hematemesis, hematochezia/melena, bleeding from nose etc
- Hypotensionor Altered sensorium or toxic look.
- Significant Thrombocytopenia or rising haematocrit value.
- Abnormal behavior or drowsiness
- Any evidence of Dengue hemorrhagic fever/ Dengue shock syndrome
- Unusual presentations- Acalculus cholecystitis, hepatitis, Hemorrhagic serositis involving pleura, peritoneum, ARDS.
- Features of fulminant hepatic failure, Acute renal failure, myelitis, seizures, intracerebral bleeding or hepatorenal syndrome

* *Please read Dengue guidelines and treatment DGHS Pp: 20-23, 2011*

3. Enteric fever

All patients with prolonged fever of more than 7 days should be evaluated for diagnosis of typhoid fever. Evaluation of blood counts and renal function tests should be done if possible.

Cases should be referred to tertiary care centre when any of the following is found to be present

Evidence of complications like Perforation, peritonitis, pneumonitis, Shock, severe dehydration, Gastro-intestinal bleed, Myocarditis, Glomerulonephritis, Encephalopathy

Rare complications like

- Meningitis, neuritis, Guillenbarie syndrome
- Myocarditis, endocarditis, pericarditis, pancreatitis
- pyelonephritis, osteomyelitis
- Patients having apathy, psychosis, coma
- Presence of unexplained tachypneoa or basal crepitations
- If there is any diagnostic confusion or if no response to primary or secondary line of antibiotics

4. Malaria

According to ministry of health national guidelines all patients suffering from uncomplicated malaria should be treated in peripheral hospitals. However the following conditions can be considered for referral to higher level institutions.

- Suspected Cerebral malaria—altered sensorium, convulsions
- Persisting Hypoglycaemia,
- Features of metabolic acidosis, /renal failure(S creatinene>3mg/dl)
- Features of Renal / Hepatic failure, D I C, pulmonary edema/ARDS/shock
- Hemoglobinuria
- Hyperthermia

- Hyperparasitemia(>5% parasitized RBC in low endemic and >10% in hyperendemic area)
- Jaundice
- Pregnancy with severe malaria
- Severe anemia (Hb<5gm %)
- Any other significant co morbidities
- If the physician feels that unable to manage due to resistant falciparum or mixed infection.

5. Influenza including H1N1 illness

According to ministry of health national guidelines patients with H1N1 of category A &B should be treated at district hospitals. Referral is needed in all severe cases (Category C) or with respiratory failure to medical colleges

Especially look for cyanosis/chest pain/breathlessness/hypotension/hemoptysis Or any other complications like

- Primary influenza viral pneumonia
- Secondary bacterial pneumonia
- Mixed pneumonia
- Reye's syndrome, Myositis, Rhabdomyolysis, Myoglobinuria
- Myocarditis, Encephalitis
- Worsening of co-morbid condition
- ARDS

6. Community acquired pneumonia

- Patients requiring mechanical ventilation or patients with hypotension should be urgently referred.
- Severe pneumonia(May need transfer to ICU at any time)

- Non-resolving pneumonia
- High fever, Severe dyspnoea/confusion or disorientation/marked hypoxia
- Haemodynamic instability
- Significant co- morbidities
- Hypotherrmia/Leukopenia/ Thrombocytopenia/Uremia
- Neutropenia or in an immunocompromized host

7. Chronic Obstructive Pulmonary Disease

All cases of uncomplicated COPD can be managed at the periphery.
Referral is needed when any of the following is present

- Uncertain diagnosis or for initial evaluation
- Onset of Cor- pulmonale
- Suspected bullous lung disease
- Severe dyspnoea with increased work of breathing
- Failure to improve with treatment
- Acute respiratory failure—SPO2 less than 90%
- Resp. rate >35/mt with Silent chest
- Associated co-morbid conditions—CAD, metabolic abnormalities, sepsis/Pneumonia/Arrhythmias, altered mental status

8. Bronchial Asthma

As far as possible all asthma cases need to be managed in the periphery. Referral is needed in following situations

- Presence of hemoptysis

- All cases of uncontrolled asthma not responding with three nebulisations or refractory asthma/status asthmaticus
- Severe persistent asthma refractory to treatment
- Near fatal/Life threatening episode
- Cyanosis not improving with administration of Oxygen
- Significant Comorbidities(Pulmonary hypertension, diabetes mellitus)
- All cases of acute breathlessness found to be not improving in one day time of management.

9. Diabetes Mellitus

- If the physician feels that it is to be evaluated in detail (as initial work up) and then only managed, such cases can be referred.
- Such evaluation can be done at tertiary centers, but follow up may be done at the peripheral institutions through effective back-referral.
- However all diabetes patients should be as far as possible to be managed at the level of peripheral institutions.
- In the management of diabetes, patient education and convincing the patient is the most crucial step for success.

The following cases needs referral

- Cases of diabetes with any signs of unstable angina
- Any case of uncontrolled diabetes.
- Diabetic ketoacidosis if not showing signs of improvement.
- Hypoglycemia if not improving with medication.
- Acute complications like diabetic ketoacidosis, Hyper-glycemic/ hyperosmolar state.

- Chronic complications as Diabetic retinopathy/ Nephropathy, Peripheral neuropathy/vascular or any other complications.

10. Hypertension

Diagnosis and follow up activities are possible and expected at periphery. The following Conditions need referral

- Hypertensive emergencies which need intravenous drug & monitoring
- Difficult to control hypertension: Accelerated hypertension (BP>180/110 with signs of papilloedema or retinal hemorrhage
- All cases of other hypertensive emergencies
- Hypertension with any Complications
- If secondary hypertension /or rare cause suspected: suspected pheochromocytoma(Labile or postural hypotension with headache/palpitation/pallor/diaphoresis)/Cushings syndrome or other adrenal causes/Intracranial space occupying lesions/Coartation of aorta.)

11. Coronary Artery Disease

- Mild ischemia and Chronic stable angina may be managed after explaining the facts to the patient.
- Any cases of persistent ischemia needs referral
- Acute coronary syndrome both 'STEMI & Non STEMI' to be referred.
- If there is no ICU facility available then also cases can be referred.
- Cases of Congestive Heart Failure need to be referred

- Cases of Hemodynamic compromise requiring angioplasty need to be referred.
- NYHA Class 3 & 4 may be managed at higher level institutions.
- Cases with features of Acute pulmonary oedema need to be referred
- Refer all cases after thrombolysis if PCI is indicated
- If difficult arrhythmias to be referred immediately.

  Established & investigated cases may be managed at all levels for follow up. Stabilize the patient with following measures before referring. Give initial treatment with Prompt analgesia with Inj.Morphine& Inj. Phenergan300 mg. Aspirin ,300 mg. Clopidogrel 4omg,O2administrationwill be helpful in thrombolysis.I/V Furosemide/I/Aminophylline/I/V hydrocortisone and other supportive measures In the event of Acute coronary syndrome if cardiac ICU is available with trained staff, the cases can be managed at the periphery.Availability of trained staff is an important consideration in management.

12. Cerebrovascular Accidents

- Cases of acute ischemic Stroke which are fit for thrombolysis to be referred.
- Other cases which are haemodynamically stable may be treated in the peripheral level.
- Patients with depressed level of consciousness need to be referred.
- Unexplained progressive or fluctuating symptoms need to be referred.
- Cases with papilloedema need to be referred.

13.Seizures

Diagnosed cases other than Status epileptics may be treated in the periphery. New cases to be referred after symptomatic treatment for detailed evaluation Cases of suspected CNS infections may be referred All cases of refractory seizures may be referred.

14. Acute Kidney injury

Start measures like correction of pre renal factors, fluid challenge, frusemide etc and if not improving then refer.

Cases of Chronic Kidney Disease/ ESRD may be managed in the periphery. If fit for renal replacement therapy then may be referred.

15. Urinary tract infections

All patients with pyelorephrits with decreased urine output or encephalopathy or CAD with LV dystruction or Myocarditis or septic shock, may be referred to Medical College Hospital

- Uncomplicated UTI should be managed at the level of peripheral institutions.
- Bedridden patients on long term catheter should be managed by physician in a peripheral centre and may be referred if required as per clinical discretion of the physician

16.CKD/Chronic renal failure:

- If failure of conservative treatment can be referred for transplant.
- If physician feels that there is a need for detailed work up to find out the etiology can be also referred.

- In case of suspected Obstructive uropathy: to be referred for detailed work up
- All cases of stage IV or V CKD (Uremic symptoms and symptoms of fluid overload)
- All cases with higher levels of proteinuria (ACR 70mg/mmol or more)
- Rapidly declining GFR
- CKD with poor control of hypertension
- Suspected renal artery stenosis

17.Snake bite

According to ministry of health national guidelines, all patients with snake bites should be managed at peripheral level hospitals and be referred if needed. All patients reported with snake bite should be kept under observation not less than 24 hours. Time of bite, circumstance of bite etc should be recorded.

During observation monitoring of the patient is important. Look for evidence of systemic envenomation: neurological as well as hematological evidence. Tests of bleeding and clotting time done every thirty minutes for the first three hours and then hourly after that. If systemic envenomation is suspected 8-10 vials of ASV is administrated after test dose.

Systemic envenomation must be managed in a place where competent physician's service is available. Hence to be referred

The patients with any of the following complications may be referred to higher centre

- Prolonged clotting time/bleeding time(haematological),
- Respiratory difficulty or evidence of respiratory failure/ARDS,

- Extraocular muscle involvement, Ptosis, Opthalmoplegia (Neurological)/encephalopathy
- Evidence of early capillary leak,
- Features of impending renal failure.
- Any bleeding manifestations
- Adverse reaction to ASV administration

In the case of neurotoxic bites the primary concern is respiratory failure and this may need mechanical ventilation. While it is possible to maintain a neurotoxic victim by simply using a resuscitation bag and this should always be used as a last resort. The best means of support is mechanical ventilation operated by qualified staff.

Renal failure is a common complication of Russel's viper and pit viper bites and the common other complications being intravascular hemolysis, DIC, direct nephro-toxicity or hypotension. Renal damage can occur very early in Russell's viper bite and even when the patient is arrived the damage might have been already happened. Studies have shown that even when ASV is administered within 1-2 hours of bite it was incapable of preventing acute renal failure. The early indicators of renal failure are 1) declining or no urine output although not all cases of renal failure exhibits oliguria. 2) Serum Creatinine>5mg/dl or rise of >1 mg/day, Blood urea more than 200mg/dl/serum potassium >5.6mg/dl or hyperkalemia with ECG changes/ clinical evidence of uremia or metabolic acidosis

Declining renal parameters require referral to a specialist with access to dialysis facilities. Peritoneal dialysis can be undertaken in secondary level institutions. Hemodialysis is preferred in cases of hypotension or hyperkalemia.

18.Dog Bite: The current IDRV and SDCMC protocols* may be used for guidelines for referral

*Operational guidelines for rabies prophylaxis: Department of Health& Family welfare, Govt. of Kerala, 2010

19.Poisoning

Timely administration of antidotes like Atropine or Pralidoxime is important to save life.

All attempt to remove poison to be undertaken in the periphery before referral.

Stomach wash to be done within four hours of consumption of poison

Drugs which neutralize poison can be tried. Efforts to stabilize vital signs should be made. Any samples like vomitus or empty bottle or left over tablets should be sent with the patient.

- Teritiarry care is important if there is a need for ventilator support and hence such cases where mechanical ventilation is expected need to be referred.
- If patient has arrhythmia needs referral
- Haemodynamic instability is another reason for referral.

19. Alcohol withdrawal

Early alcohol withdrawal should be treated at district hospital in consultation with a psychiatrist. However severe withdrawal should be referred to further referral centre

Withdrawal cases with delirium tremens (Agitation/hallucination/delusion) or with seizures need urgent referral.

20. Acute Hepatitis/chroni hepatitis/CLD

All uncomplicated should be managed in the periphery .

The following features are looked for and referred if any is present

- Increasing Bilirubin & Liver enzymes (Unexpected sudden increase in SGOT/SGPT)
- Development of Hepatic decompensation as evidenced by sudden decrease of liver size/Pedal oedema/Ascitis.
- Persistent vomiting
- Altered sensorium
- Altered sleep rhythm
- Intractable vomiting posing risk of dehydration
- Hepatitis along with dengue(Hemorrhagic cases)
- Cirrhosis liver, Portal Hypertension if Haemodynamically unstable or hematemesis .
- Pregnancy particularly third trimester

21.Chronic liver disease:

- Usually diagnosed in the periphery and referred to higher level institutions for work up. Needs detailed investigations to understand the etiology and interaction with specialist may be needed in between.
- If the treating physician feels that there is a diagnostic dilemma regarding etiology this should be referred.
- Evaluation of undiagnosed ascitis is another reason to refer to tertiary care institutions
- Patients with suspected hepatic encephalopathy/spontaneous bacterial peritonitis/upper Gastrointestinal bleed also should be referred

B.2.General Surgery

General considerations of surgical referral:

Surgical management of cases is always a team activity than an individual activity. Theatre facilities and state of art equipment is vital in management of surgical cases. Apart from the operating surgeons and anesthetists, the competence of theatre assistants, nurse and other paramedics as well as team involved in postoperative care are important considerations.

Second opinion can be sought at any time for any elective cases as well as emergency cases from the referred institutions also

If the surgeon is confident and facilities are available the case can be managed at peripheral centers also and in that case referral can be avoided

Elective cases to be referred to Tertiary care centers if any of the following is present

- Anesthesia risk due to co-morbid conditions
- Acute Limb ischemia
- Diagnostic dilemmas
- Lack of expertise and facilities
- Recurrent hernias
- *Conditions which requires vascular interventions to avoid amputation *(Because may need help for vascular surgery)*
- Gastrointestinal malignancies
- High fistulas & complicated fistulas, Recurrent fistula*(Because further recurrence rate is high)*

- Chest wall tumor, Retroperitoneal tumors *(Because may need plastic surgery, double layer rotation flap, defect replacement surgery etc.)*
- Complicated thyroid disease *(because the patient may need postoperative ventilator support)*
- Malignancy thyroid
- Retrosternal goiter*(Because the patient may need thoracotomy and specialized anesthetic care)*
- Toxic Multi nodular goiter (because it *is high risk category, Preoperative stabilization more important, post operative bleeding rate more)*
- Large thyroid swelling*(because it is a real challenge to surgeon, may need postoperative ventilator care)*
- Parotid tumours (Because the a*rea is high risk for facial nerve injury)*
- Radical Neck dissections
- Cervical rib*(Because vascular compromise is expected)*
- Obstructive jaundice*(If periampullary carcinoma whipples resection needed, if CBD stone the procedure is risky)*
- Hepatic tumours
- Pancreatic tumours
- Elective Splenectomy
- Head & Neck Cancers
- Inguinal block dissection*(may extent to external iliac or retroperitoneum)*
- Carcinoma Penis

- A.V. Malformations*(Need detailed assessment and preoperative evaluation)*
- Testicular tumours
- Soft tissue sarcoma

**Major Amputation can be done in referral centers. Amputations like toe, mid tarsal, digital can be undertaken in lower level centers. In cases where the surgeon is less confident opinion can be taken from higher centers.*

III. Emergency cases to be referred to Medical Colleges

- Poly trauma, Head injury (with wound certificate)
- Perforations, blunt injury abdomen
- Chest injury after tube/thoracostomy (if possible and indicated)
- Major burns
- Pancreatitis: Mild pancreatitis which is likely to resolve within a week with medical management may be managed at periphery. All cases of severe pancreatitis need to be referred.
- Intestinal obstruction
- Vascular injuries

Case, which can be managed at the periphery**

- Minor cases like
- *Hernia - uncomplicated*
- *Hydrocoel/Acute scrotum*
- *Hemarrhoids*
- *Fistula – uncomplicated*
- Vericocele

- Vericose vein
- Pilonidal sinus
- Lympnode biopsy
- Ingrowing toe nail
- Ganglion, corn foot, ulcer biopsy
- Gynecomastia
- Uncomplicated goiter
- Amputation
- Mastectomy*(After discussion and decision from the Tumor board at higher centre)* , Benign breast lumps
- Diabetic foot *(Clearance operation to be done in periphery,Vascular compromise is usually present and elective amputation may need secondary opinion and can be referred for second opinion if necessary)*
- Fibroadenoma, Neurofibroma, Lipoma, abscess, sebaceous cyst

** In the absence of significant co-morbid conditions.

IV. Emergency cases/procedures which can be undertaken in Peripheral Centers

- Appendicectomy
- I& D of abscess
- Repair of obstructed hernia
- Duodenal ulcer perforation
- Acute scrotum
- Suprapubiccystostomy(Open/trocar)
- Tracheostomy

B.3. Orthopedics:

Orthopedics is a fast changing specialty and concepts regarding acceptable treatment change very frequently. Hence setting proper guidelines for all orthopedic conditions is impossible unlike many medical specialties. However general guidelines are proposed for making the system more efficient and maximizing benefit for the patients.

Conditions needing Referral

A. Trauma cases.

1. Uncomplicated fractures and dislocation like fracture Tibia, Colles fracture, Fracture Humerus, fracture patella; ankle fracture etc can be managed in the secondary level center.

2. Uncomplicated fractures of neck of femur in elderly without co-morbid medical conditions can be managed in secondary center. Adequate anesthesia and theatre facility including 'C Arm' should be available in secondary center.

3. Polytrauma should be transferred to tertiary centre only after adequate haemodynamicstabilisation and splinting. One dose of broad spectrum antibiotic (cephalosporine) along with tetanus prophylaxis should be given.

2. Complicated fractures like open fracture which require urgent surgical intervention may be referred to tertiary center.
3. Spinal injuries: Stable fractures (< 50% compression, without neurological deficits) may be managed in secondary center. Unstable spinal fractures (> 50% compression, 2 column involvement, with Neurological deficits) may be referred to higher center. One dose of methyl prednisolone in a dose of 30mg/kg body weigh may be given as a bolus dose. Along with intravenous pantoprazole 40 mgs. Can also be given. Then patient may be transported taking care not to produce further damage (spinal board).
4. **Knee problems** like internal derangement requiring diagnostic and therapeutic arthroscopy may be referred, till trained personnel and equipment is made available in secondary centre.
5. **Hand injuries**, requiring surgical procedures and reconstructive procedure/ reimplantation may be referred preferably to plastic surgery department.

B. Orthopedic diseases

1. Common orthopedic problems like Tennis elbow, plantar fascitis, de Querveins disease, low back ache, neck pain, knee pain, CTS etc can be initially assessed and treated in secondary center .If he/she faces any therapeutic or diagnostic dilemmas, it can be referred to tertiary center with proper documentation.
2. Spinal diseases like IVDP, Spondylolisthesis, Tuberculous spine, spinal canal stenosis and scoliosis which require surgical intervention may be referred.

3. All cases which require joint replacement arthroplasty may be referred till adequate infrastructural facilities made available in secondary centres.
4. Acute infective conditions like osteomyelitis and septic arthritis which require surgical treatment may be referred if facility is not available.
5. Specific infections like bone and joint tuberculosis may be managed in secondary center. However if it develops complications or requires surgical management may be referred.
6. Rare orthopedic problems like developmental disorders, neuro-developmental conditions, complex bone and joint deformities requiring reconstructive procedures like LRS/ Ilizarov may be referred. And those ideal for academic discussion may be also referred. Examples1.Perthes disease 2.Cerebral palsy 3.Bone dysplasia 4.Muscular dystrophies 5.Metabolic bone diseases

Musculoskeletal tumors

Musculoskeletal tumors and tumor like condition may be referred because biopsy and definitive treatment can be done in these centers. However benign conditions like osteochondromas which can be managed in secondary center need not be referred.

Congenital anomalies:

Common anomalies like CTEV may be treated but complications like relapse and neglected clubfoot may be referred. DDH, Pseudoarthrosis tibia, and spinal dysrrhaphism, which require complicated surgical procedure may be referred.

Removal of implants as far as possible should be done in secondary centre.

Investigations:

If the patients need higher investigations (Doppler, MRI, and CT) may be referred to Radiodiagnosis in tertiary center. It may be assessed by the surgeon in the secondary centre and referred if necessary.

Back referral Special considerations for Ortho referral

1. Patients should be kept only for a minimum period in tertiary centre
2. Patients with uneventful postoperative period may be referred back to the nearest Govt. hospital where orthopedic surgeon is available
3. The hospital should arrange ambulance facility for referral and back referral as many patients are not willing to co operate due to the high transportation cost involved.
4. Suture removal to be done in the respective secondary centers.
5. Change of plaster of Paris cast can be done at the secondary level institutions
6. Follow up of minor operation cases can be done at the secondary level institutions

B.4. Otorhinolaryngology

Special guidelines for ENT referral

- General co-morbidities causing added risk including uncontrolled diabetes, uncontrolled hypertension, cardiac, neurological, hepatic, hematologic or renal diseases complicating ENT disease, anesthetic risk for surgerySuspicion of impending airway compromise or any life threatening complication during treatment or surgery, Poly-trauma involving ENT and other areas should be first seen by appropriate specialist/general surgeon/Physician and referred.
- Diagnostic dilemma or cases non-responsive to usual lines of management for reasonable time can be referred.
- Elective cases from PHC and CHC may be referred to Taluk / District hospitals where ENT specialist is available. Cases may be referred by the concerned ENT surgeon to medical college, only if indicated.
- Patients attending primary care centers after routine OP hours may be advised to attend the OP of secondary care hospital next day after symptomatic treatment, instead of referring to Medical College.
- Adequate support from higher authorities when patient lands in complications after refusing referral need to be sought in advance.
- HIV, HCV and HBsAg positive patients should be managed at secondary care centers and not shunted for this reason alone.
- Referral should not be used as a means of shunting patients. Specific guidelines are given below.
- In all medico legal cases, wound certificates should be written by the attending doctor from the referring institution. The following

surgeries may be under taken as far as possible at the secondary care centre.

Tonsillectomy & Adenoidectomy

Septoplasty, Submucous resection & Functional Endoscopic Sinus Surgery (FESS)

Mastoidectomy, Myringotomy and grommet insertion & Tympanoplasty

Direct laryngoscopy and Hypopharyngoscopy

- Any post operative complication not controlled by usual means can be referred along with adequate information and other accompaniments like specimen in relevant situations.

Specific conditions for referral

This list is not exhaustive or all encompassing. Discretion of the referring surgeon at primary and secondary care centers is very well solicited.

A. Ear

Cases which can be managed at the primary care centers:

1. Furuncle ear
2. Simple diffuse external otitis
3. Uncomplicated acute suppurative otitis media
4. Uncomplicated chronic suppurative otitis media

Cases which can be managed at the secondary care centers:

1. Pre-auricular sinus
2. Hematoma pinna
3. Wax ear
4. Keratosis obturans
5. Pseudocyst pinna

6. Complicated diffuse external otitis
7. Otomycosis
8. Foreign body ear in external canal
9. Injury pinna including cartilage injury
10. Traumatic perforation of tympanic membrane
11. Perichondritis pinna
12. Herpes zoster oticus
13. Myringitis bullosa and granulosa
14. Otitis media with effusion aero-otitis
15. Chronic suppurative otitis media for mastoidectomy and myringoplasty
16. Chronic suppurative otitis media attico-antral disease
17. Bell's palsy
18. Otosclerosis – conservative management
19. Menière's disease – conservative management
20. Benign paroxysmal positional vertigo (BPPV)
21. Deafness assessment and certification

Cases which are to be referred to tertiary care centers:

1. External canal atresia
2. Pinnaplasty
3. Foreign bodies in ear – impacted or in middle ear
4. Malignant otitis externa
5. Intractable referred otalgia and tinnitus for detailed evaluation
6. Trauma ear or temporal bone with neural and labyrinthine involvement or CSF otorrhoea
7. Chronic suppurative otitis media for ossiculoplasty

8. Complicated chronic suppurative otitis media suggested by fever, headache, nausea, vomiting, nerve involvement, vertigo, abscess formation, visual field defects
9. Facial nerve decompression
10. Otosclerosis – for surgery
11. Revision mastoidectomy and revision tympanoplasty
12. Menière's disease – for surgery
13. BPPV not responding to usual management
14. Sudden sensorineural hearing loss
15. Tumors of external, middle, inner ear or CP angle
16. Deaf for cochlear implantation

B. Nose and paranasal sinuses

Cases which can be managed at the primary care centers:

1. Uncomplicated furuncle nose
2. Acute rhinitis and rhinosinusitis
3. Allergic rhinitis and vasomotor rhinitis

Cases which can be managed at the secondary care centers:

1. Complicated furuncle nose with cellulitis or minor abscess formation
2. Uncomplicated fracture nasal bone
3. Deviated nasal septum and its surgeries
4. Mild and moderate epistaxis
5. Minor complications of sinusitis like cellulitis with facial edema
6. Septal hematoma
7. Septal abscess

8. Foreign body nose & rhinolith
9. Fronto-ethmoidal mucocoele
10. Atrophic rhinitis
11. Nasal myasis
12. Simple nasal polyposis and antrochoanal polyp
13. Headache and facial pain
14. Benign lesions of nasal cavity requiring excision
15. Malignant lesions of nose and PNS – biopsy may be taken

Cases which are to be referred to tertiary care centers:

1. Congenital anomalies like choanal atresia, nasal dermoid, meningocoele, glioma
2. Fracture nasal bone with telescoping into ethmoid
3. Fracture upper, middle and lower third of face with airway compromise or orbital complications
4. Severe epistaxis requiring post nasal packing and arterial ligations
5. Major complications of sinusitis as suggested by persistent fever, headache, nausea vomiting, proptosis, dimness of vision, double vision, restriction of eyeball movement or osteomyelitis of facial bones
6. Oro-antral fistula
7. Rhinitis requiring detailed evaluation including allergic testing
8. Granulomatous diseases and fungal infections
9. CSF Rhinorrhoea with or without meningocoele or meningoencephalocoele
10. Recurrent nasal polyposis requiring detailed evaluation

11. Allergic fungal rhinosinusitis
12. Headache not responding to usual lines of management and requiring detailed radiological and ENT evaluation
13. Benign and malignant lesions of nasal cavity requiring extensive surgery or radiotherapy

C. Oral cavity, pharynx, larynx head and neck

Cases which can be managed at the primary care centers:

1. Benign oral ulcers including aphthous ulcers
2. Acute tonsillitis and pharyngitis
3. Chronic tonsillitis and pharyngitis – medically managed
4. Acute laryngitis.
5. Uncomplicated viral and suppurative parotitis

(All cases with persistent hoarseness of more than two weeks to be referred to higher centre for indirect laryngoscopy and or direct laryngoscopy)

Cases which can be managed at the secondary care centers:

1. Oral ulcers with suspected malignancy which may be biopsied if needed.
2. Benign tumors of the oral cavity
3. Premalignant conditions of the oral cavity if biopsy is negative for malignancy and there is no progress of the disease
4. Peritonsillar abscess
5. Chronic tonsillitis and adenoids for surgery
6. Benign tumors and cysts of oropharynx if not compromising airway
7. Pharyngeal ulcers and growths – may be biopsied if needed
8. Chronic laryngitis

9. Gastro-esophageal reflux disease and laryngo-pharyngeal reflex
10. Uncomplicated foreign bodies of oropharynx or hypopharynx
11. Benign thyroid diseases
12. Benign neck swellings
13. Benign laryngeal tumors
14. Uncomplicated blunt trauma of neck
15. Superficial wounds of neck not involving larynx, pharynx or neurovascular bundles
16. Malignant laryngeal tumors with no airway compromise – may be biopsied
17. Terminal malignancies requiring only palliative care

- *Tumors with airway compromise or impending airway compromise may be managed if facility and competency for tracheostomy are both available*
- *Malignancy of any area if confirmed and requiring radiotherapy may be referred to department of radiation oncology after proper staging, with slides for pathological review if needed.*

Cases which are to be referred to tertiary care centers:

1. All neonates, infants and toddlers with airway compromise
2. Membranous tonsillitis
3. Lingual tonsillitis/abscess
4. Lingual thyroid
5. Peritonsillar abscess with: severe trismus, parapharyngeal or retropharyngeal space involvement, impending airway compromise
6. Ludwig's angina

7. Retropharyngeal and parapharyngeal abscesses
8. Acute epiglottitis especially in children
9. All cases of acute laryngeal edema
10. Corrosive poisoning
11. Foreign bodies of oral cavity, oropharynx or hypopharynx with abscess formation or impending airway compromise
12. Foreign bodies of oesophagus
13. Foreign bodies of bronchus
14. Penetrating neck injuries
15. Cases requiring micro-laryngeal surgery
16. Cases with trismus of spondylotic changes which necessitate fiberoptic scopies
17. Laryngeal injuries with fracture of cartilages or airway compromise
18. Nasopharyngeal angiofibroma
19. Pharyngeal pouch
20. Cases requiring oesophagoscopy
21. All malignancies of oral cavity larynx and pharynx requiring surgery
22. Benign or malignant tumors of the parotid
23. Unilateral or bilateral vocal cord paralysis – traumatic or otherwise
24. Thyroid malignancies
25. Benign and malignant parotid diseases
26. All malignant neck swellings including lymph nodes which require surgery
27. Unknown primary for detailed investigation

(All diseases of the throat are potential threat to airway; either the disease itself or the interventional surgery. This has to be anticipated and referral made at the earliest if facilities for airway management are not available)

B.6.Obstetrics & Gynecology:

Reference guidelines special to maternity referral: Maternity (Obstetric) referrals are more complex and the decision making window is narrow. Maternity referral is based on the concerned Obstetrician's clinical judgment depending on the nature of obstetric condition and proximity to the health care facility.

There are essentially two types of references: Elective (Planned referral) and emergency referrals.

As the obstetricians experience and availability of supporting specialist services differ, across institutions, the individual practitioner can take decision according to the merit of individual case and what is given is only general guidelines.

The following are the conditions for referral

- Patient should be preferably seen by a gynaecologist before elective referral.
- Emergency referrals can be done by the duty doctor after discussion with the gynaecologist.
- Medico legal cases should be seen by a gynaecologist wherever available.
- Medico-legal cases: The medico-legal case where gynecologist is not available on duty is sometimes referred unnecessarily for examination by gynecologists. The case should be attended by on call duty gynecologist and facility for transport should be made available by the hospital administration. This can avoid unnecessary referral.

- Stabilizing the patient before referral: All possible efforts should be taken for this and steps like starting an intravenous drip, administration of drugs like oxytocin in the case of hemorrhage, terbutalin in the case of pre-term labor etc. should be undertaken along with referral.
- All High risk cases need to be referred to tertiary care facility.

- **Elective antenatal references:**

  Risk assessment should be done at the first visit at all centers and early referral to be ensured.

  Any high risk factor identified should be referred after first visit

Pregnancy with Heart Disease: If known case of cardiac case or first detected heart lesion, first refer to a cardiologist for assessment of risk. If found to be low risk cardiac lesion (Like MVP or mild MR) then the pregnancy can be managed at secondary level .

Hypertensive disorders

Mild gestational hyper tension that is if BP is controlled with one drug and no other complications can be managed at the secondary level and other cases can be referred to a tertiary centre sufficiently early.

Diabetes

Gestational diabetes mellitus(GDM) without complications can be managed at the secondary level, Pre-gestational diabetes and complicated GDM cases should be referred to tertiary centre sufficiently early.

Multiple drug allergies should be referred to a tertiary centre

Thyroid disorders can be managed in consultation with a physician. Uncontrolled cases can be referred.

Systemic lupus erythematosis and auto immune disorders should be referred to tertiary centre.

Anaemia – Severe anaemia in late pregnancy should be referred to a tertiary care centre.

Jaundice complicating pregnancy: All cases should be referred.

Fever – follow the fever protocol in all cases and refer appropriately*.

Seizure disorders with pregnancy can be referred

Psychiatric cases after consultation with a physician or psychiatrist can be referred.

All cases with anticipated anaesthesia complications like severe obesity can be referred. Under weight cases (< 40 kg) and over weight (> 90 kg) can be referred.

*Short Febrile Illness including ILI Management guidelines: Public Health Division, Directorate of Health Services, Kerala, 2012.

Obstetric complications

1. All previous obstetric adverse outcomes should be referred to a tertiary care centre for evaluation.
2. Hyperemesis – Majority of Hyperemesis can be managed at secondary level and non- responding cases can be referred to a tertiary centre.
3. Previous caesarean where complications are anticipated like previous CS with placenta previa, anomalies, IUD and complications during previous LSCS should be referred sufficiently early.
4. Mal- presentation can be managed at the secondary level.
5. Multiple pregnancies with any complications should be referred.

6. All ante partum hemorrhage cases should be referred. Placenta previa cases diagnosed after 28 weeks can be referred.
7. IUGR: Growth restriction severe enough requiring neonatal care in can be referred.

Emergency Referral

1. It is better not to refer ruptured ectopic, cord prolapse, failed induction and incomplete abortion if facilities for immediate intervention are available.
2. Pre- term labour and PPROM can be referred to tertiary centre for neonatal care.
3. PPH and third stage complications can be referred in time after first aid measures like IV crystlloids, condom tamponade, continuous bladder drainage and oxytocin drip.
4. Eclampsia can be referred after giving 1st dose of Magnesium sulphate with proper documentation.
5. Post operative complications. Any acute or severe post operative complications can be referred if the treating gynaecologist feels necessary.
6. Re laparotomy should be avoided in the periphery as far as possible.
7. Postnatal reference – Details of mother's treatment and investigations should be furnished in the reference card even if the mother is referred for baby sake.
8. Acute abdomen in pregnancy – Any case of acute abdomen in pregnancy can be referred.

Conditions not to be referred*– just because the case is having only the specified condition and otherwise no added risk.*

1. HbsAg, HIV
2. Chicken pox
3. Un complicated IUD

Gynaecology Reference

1. All cases of suspected malignancy

2. Any gynaecological condition with significant medical or surgical co morbidities and drug allergy.

    - All reference letters should contain the details of the patients with treatment given and other relevant investigation findings.

B.7. Pediatrics

REFERRAL PROTOCOL FOR NEWBORNS, INFANTS AND CHILDREN

NEWBORNS

In newborns, whenever a cannula is put, a sample of blood should be drawn for relevant investigations if needed and then only sent.

Refer

- Preterm < 32 wks , IUGR < 1.8 kg
- Major congenital malformations

eg. TOF, choanal atresia, diaphragmatic hernia, ruptured meningo-myelocele, ectopiavesicae

- Central cyanosis
- Any bleeding manifestation in spite of Vitamin K administration
- Bulging anterior fontanelle
- Blood in stools
- Pathological abdominal distension / bilious vomiting
- Initially normal, by 3-28 days, cannot suck and has stiffness/ muscle spasm
- Not gaining weight as expected

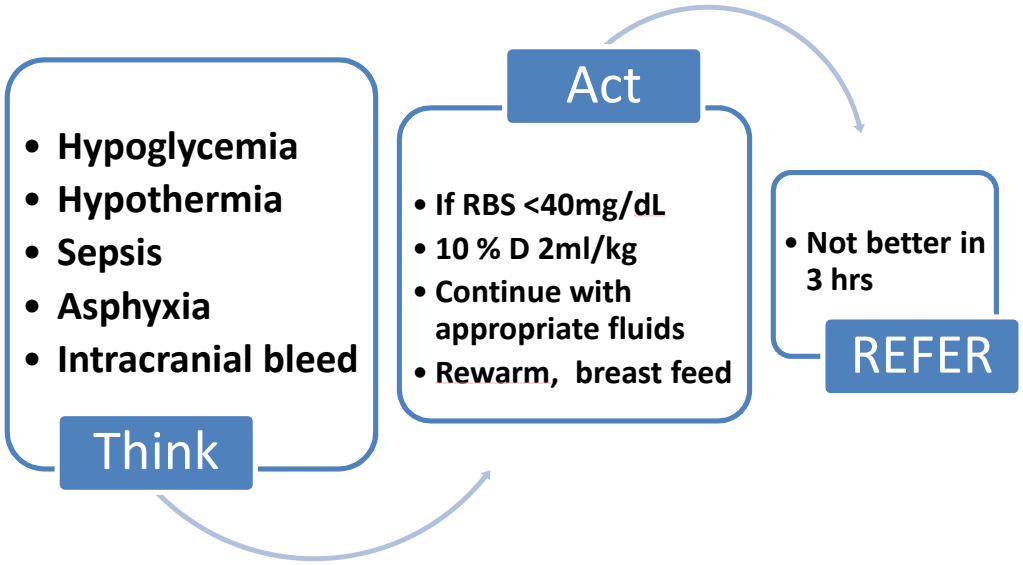
Respiratory distress or respiratory rate > 60 per minute with cyanosis / grunt / severe chest retractions/ indrawing

Think of hyaline membrane disease, surgical conditions, sepsis, pneumonia and asphyxia. Assess Downes score and if more than 3, refer with free flow oxygen.

Downes score

Score	0	1	2
Respiratory rate	<60	60-80	>80/ apnea
Cyanosis	none	In air	In 40% oxygen
Grunt	none	Audible with steth	Audible without steth
Retraction	none	mild	severe
Air entry	good	diminished	Barely audible

Poor feeding/ poor activity

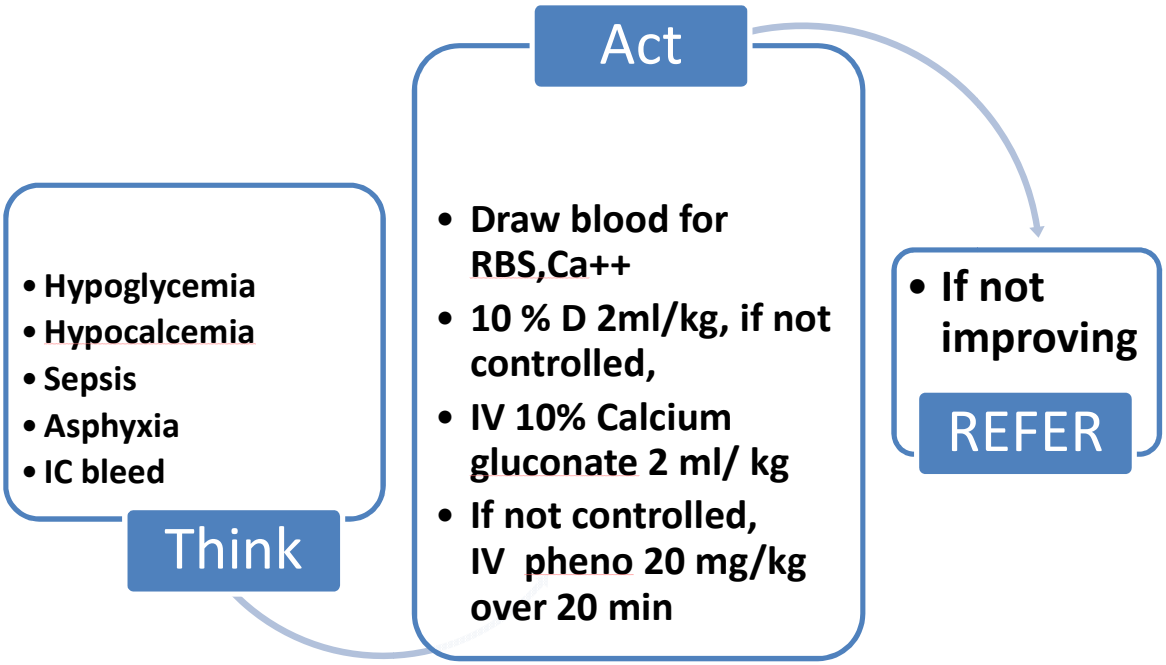


Apnea

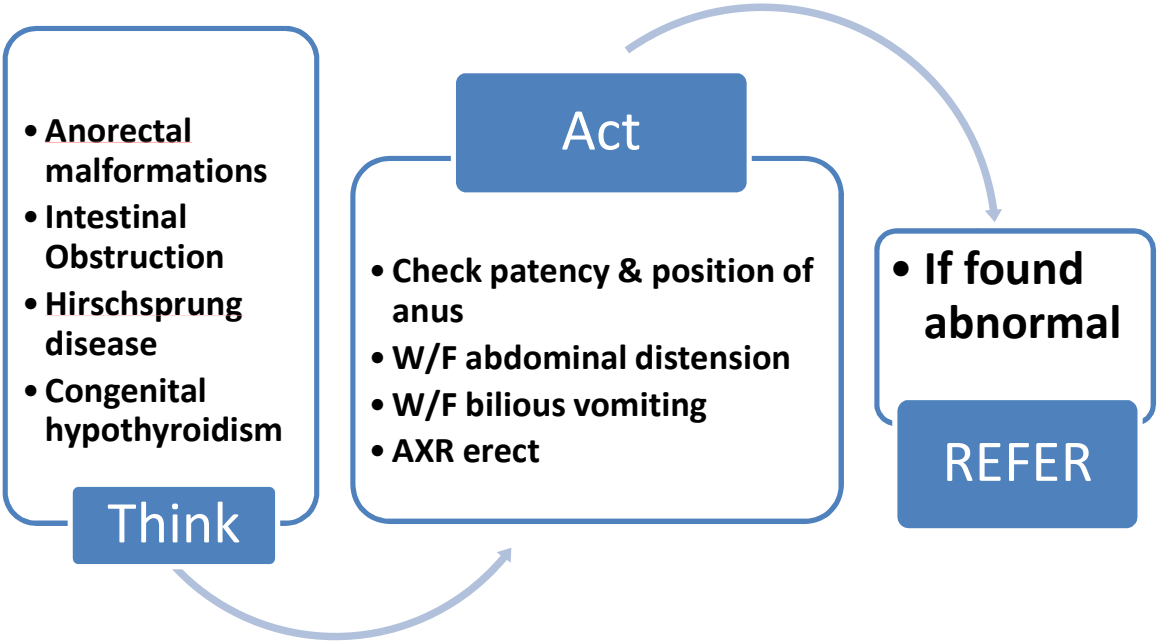
Think of hypoglycemia, hypothermia, sepsis, intracranial bleed, anemia and apnea of prematurity. Immediate actions include stimulation of the baby, positioning the neck and suctioning mouth & nose.Bag and mask ventilation

may be given if needed. 10 % D and warmth may be provided if hypoglycemic or hypothermic. If not improving with these measures, baby should be referred.

Convulsions



Failure to pass meconium in 24 hrs



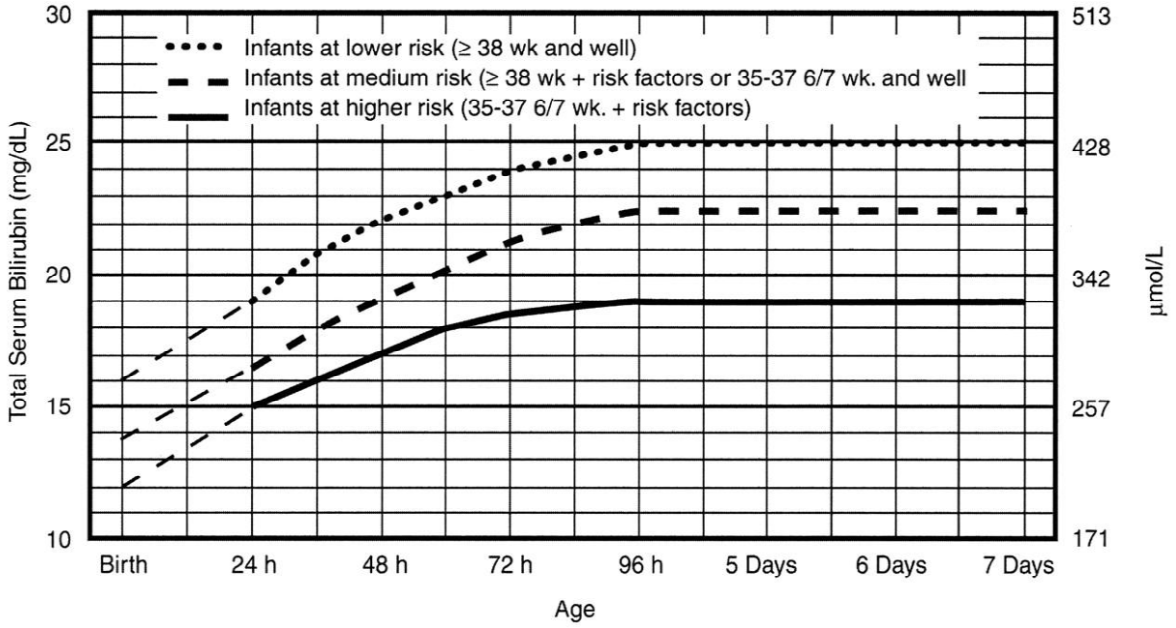
Failure to pass urine in 48 hrs

Think of genitourinary malformations. Review antenatal ultrasound records (oligamnios, fetal kidneys) , look for palpable bladder & kidneys, assess lactation and put intravenous fluids. Refer if any abnormality is found or no urination occurs after a challenge with intravenous fluids.

Neonatal Jaundice –

Do serum bilirubin, Hb and blood grouping. Refer if serum bilirubin in indefinite/ exchange range, serum bilirubin in phototherapy range but has no facility, baby is sick – poor feeding / activity, excess cry, convulsions and jaundice > 2weeks with clay colored stools.

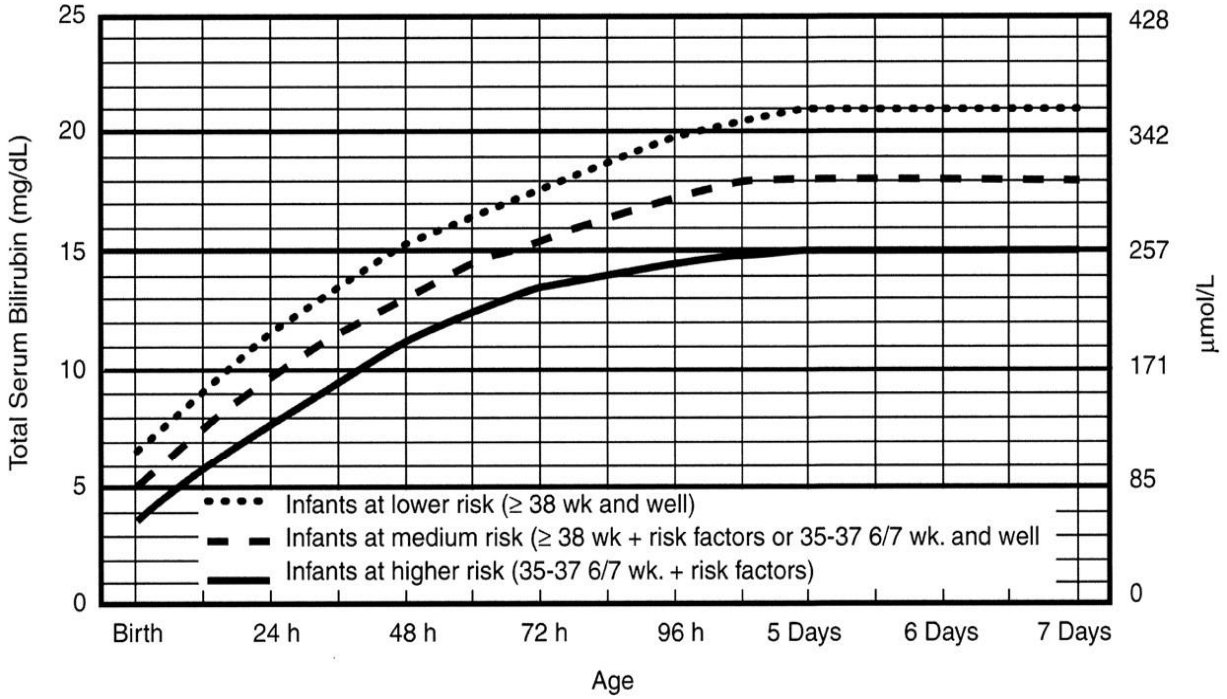
Guidelines for exchange transfusion in neonatal hyperbilirubinemia- FIMNCI 2009



- The dashed lines for the first 24 hours indicate uncertainty due to a wide range of clinical circumstances and a range of responses to phototherapy.
- Immediate exchange transfusion is recommended if infant shows signs of acute bilirubin encephalopathy (hypertonia, arching, retrocollis, opisthotonos, fever, high pitched cry) or if TSB is ≥5 mg/dL (85 µmol/L) above these lines.
- Risk factors - isoimmune hemolytic disease, G6PD deficiency, asphyxia, significant lethargy, temperature instability, sepsis, acidosis.
- Measure serum albumin and calculate B/A ratio (See legend)
- Use total bilirubin. Do not subtract direct reacting or conjugated bilirubin
- If infant is well and 35-37 6/7 wk (median risk) can individualize TSB levels for exchange based on actual gestational age.

In case of indirect hyperbilirubinemia in phototherapy range in a newborn who isnot sick, phototherapy is to be started if facility is available. Encourage breast feeds and give intravenous fluids if needed for hydration. Repeat serum bilirubin after 6 h and if values have not come down or rising, baby should be referred.

Guidelines for initiating phototherapy in neonatal hyperbilirubinemia - FIMNCI 2009



- Use total bilirubin. Do not subtract direct reacting or conjugated bilirubin.
- Risk factors = isoimmune hemolytic disease, G6PD deficiency, asphyxia, significant lethargy, temperature instability, sepsis, acidosis, or albumin < 3.0g/dL (if measured)
- For well infants 35-37 6/7 wk can adjust TSB levels for intervention around the medium risk line. It is an option to intervene at lower TSB levels for infants closer to 35 wks and at higher TSB levels for those closer to 37 6/7 wk.
- It is an option to provide conventional phototherapy in hospital or at home at TSB levels 2-3 mg/dL (35-50mmol/L) below those shown but home phototherapy should not be used in any infant with risk factors.

INFANTS AND CHILDREN

Acute short febrile illness

Control fever before your clinical examination as a child with high grade fever will appear sick. Once fever is controlled, do a clinical examination and decide whether the child is sick or not sick. Arrive at a provisional diagnosis and do investigations as required. Clinical examination includes vital signs, capillary filling time, the feel of extremities, sensorium, appearance whether toxic or not, pallor, icterus, lymphadenopathy, ear nose, throat, chest, anterior fontanelle in small children and meningeal signs in older children, abdomen and skin.

Treat but refer if not improving in case of viral fevers, measles without complications, dengue without warning signs, uncomplicated malaria, ear, throat & other URI, ALRI, ADD as per algorithm,uncomplicated UTI (culture facility present) and uncomplicated skin infections.

Refer in case of sick child with danger signs eg. Shock, altered sensorium, bleeds etc, severe dengue, measles with severe complications, CNS infections (if CSF study & culture facility not available), complicated UTI, complicated malaria and ALRI, ADD as per algorithm.

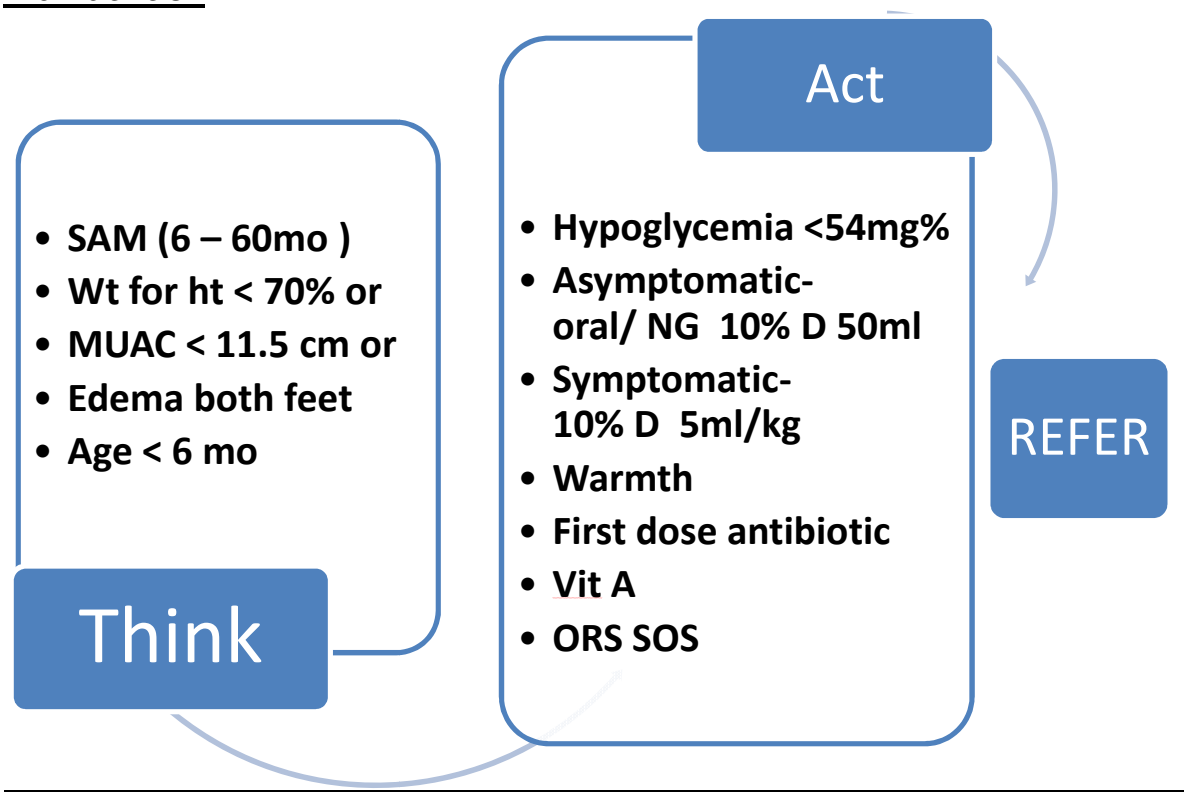
Pyrexia of Unknown Origin

Defer antibiotics if not sick. Investigation includes urine & blood C&S. In enteric fever not responding to treatment or with any complications, referral should be done. Leptospirosis with complications should also be referred.

Pneumonia

Classify severity of pneumonia based on age, presence of danger signs (not able to feed, drowsiness, cyanosis, stridor in a calm child, convulsions, severe palmar pallor, severe malnutrition and severe dehydration). ALRI, very severe illness without tertiary care facility for management, ALRI, very severe illness, tertiary care facility available but not responding to treatment in 24 hrs , presence of complications (empyema, pneumothorax, pleural effusion), rapidly progressing pneumonia (staph, viral) and associated congenital heart diseases, immunodeficiency, nephrotic syndrome, malignancy and on immunosuppressive therapy should be referred. Pre referral actions include taking a chest X-ray, administration of first dose antibiotic and free flow oxygen. The latter should be continued during transport also.

Malnutrition



Bronchial asthma

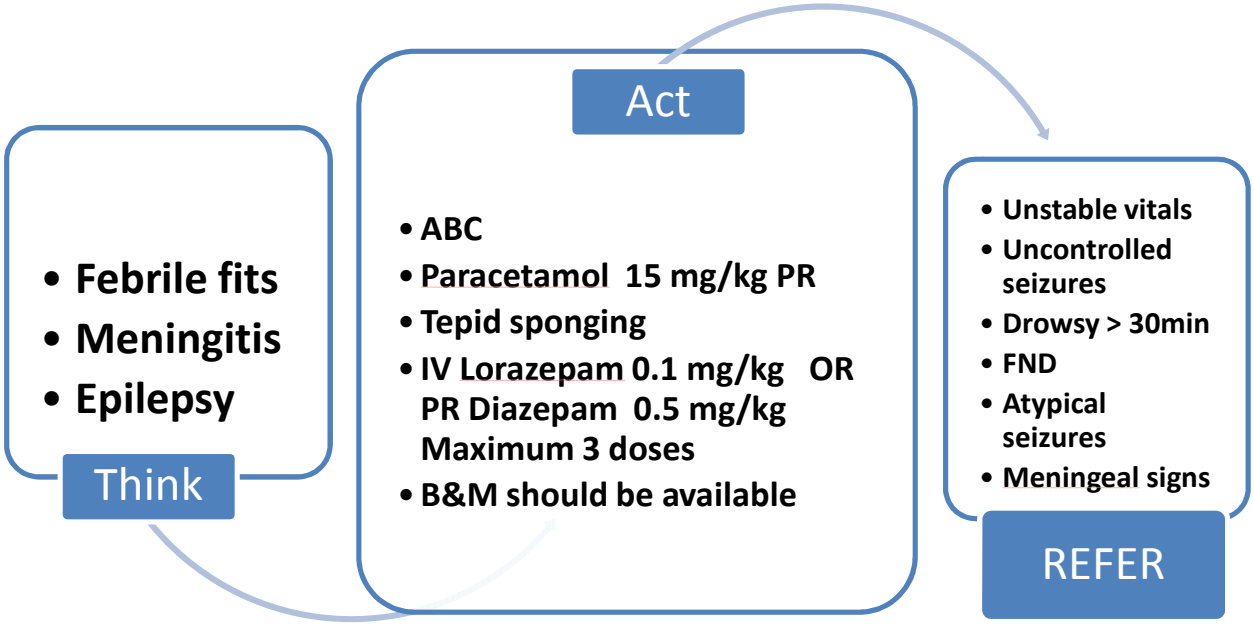
Child should be referred if there is no improvement with 3 doses of nebulization with short acting beta 2 agonists (SABA), SPO2 after 3 doses of nebulization with SABA < 92%, on maximum dose steroids, past history of ventilatory management, ICU admission or life threatening episode and history of sibling death due to asthma.

Acute diarrheal disease

Classify dehydration. In severe dehydration, give 30 ml/kg of intravenous RL or NS over 30 min in an older child and over 1 hr in an infant. 70 ml/kg of the fluid should be continued over 2 ½ hrs in an older child and over in 5hrs in an infant. ORS may be given if possible. Give oxygen if in shock. In

case, shock is not corrected with this management, child should be transferred with intravenous fluid and oxygen to a higher centre. Associated severe acute malnutrition and suspected sepsis are other indications for referral.

Fever with convulsions



Anemia

Refer if Hb< 7 g/ dl, in suspected hemolytic anemia/ hypoplastic anemia/ malignancy, iron deficiency anemia not responding to oral therapy in 3 mo and associated chronic heart/ respiratory/ hepatic/ renal disease.

Acute nephritis

In case of urine output < 1 ml / kg / hr, hypertension with complications, rising blood urea levels, renal failure requiring peritoneal dialysis and seizures, patient should be referred. Indications for peritoneal dialysis

include blood urea > 150mg/dl, serum creatinine> 4 mg/dl, serum potassium> 6meq/l.

Acute hepatitis

Signs of hepatic failure including flap, altered sensorium, altered PT and sudden shrinkage of liver span are indications for referral.

Acute abdomen & acute scrotum

All cases should be referred to a surgeon or a higher centre

Snake bite

Presence of local reaction, systemic reaction, prolonged CT and abnormal vital signs are indications for referral.

Care of newborn /child during transport

- Provide warmth- covering should include scalp & extremities in newborns
- Appropriate fluids if hypoglycemic/ dehydrated
- Oxygen if in respiratory distress or has tachypnea / cyanosis
- Inform the higher centre beforehand over phone if possible

C Appendix

C.1. Definitions of terms

Referral systems: Referral can be defined as a process in which a health professional at a one level of health system having insufficient resources (equipments/drugs/skills) to manage a clinical condition seeks the assistance of a better or differently resourced facility at the same or higher level to assist in or take over the management of the client's case.

Referring facility: The initiating facility from where the decision to refer is made

Referral receiving facility: The institution where a referred patient is received and managed.

Directory of services: The list of specialists or special procedures or investigations available in each facility. This facilitates the search for appropriate service provider.

Back referral: Back referral means referring the patient back to the lower and referred out facility for further follow up and care.

Referral card: The letter to accompany the outward referral from the initiating facility

Referral Register: A maintaining list of all outward and inward referrals for one facility or service provider. Information includes who referred, where referred, when and why and the appropriateness of referral

Levels of care: In a three tired health system model the three levels of care are a) primary (Primary health centers and sub-centers b) secondary

(Talukhead quarters hospitals, FRUs and CHCs) c) tertiary (District hospitals, general hospitals and medical hospitals, regional institutes)

Appropriateness of referral: This is decided based on the preconditions

1) Timeliness i.e. neither too early nor too late as decided by the referring physician as well as the receiving physician and depending upon the patient's clinical condition noted by them respectively.
2) Effectiveness: Whether the objectives of referral achieved or not (a) to get expert opinion b) to get an additional skill oriented service example surgery c) to get admitted and managed at a higher level centre d0 to get a diagnostic investigation done
3) Cost effectiveness i.e. the benefits exceed and justify the costs

C.2. **REFERRAL CARD**

Name of the Patient & address: **Special comments if any**

Age in years: **Sex: M/F**

Date & Time of Reference

Total monthly income for the family:

APL/BPL if BPL No:

Brief on Illness

Investigations done

Working diagnosis

Treatment given

Reasons for reference

Referred to

Any additional information or comments

Signature

Name & Designation of Doctor

Phone No,

email Optional)

Name of

Hospital