# BUUGGA CUDDURADA CARUUTA

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Xuquuqda buuggan way dhowran tahay. Lama daabacan karo, lamana soo saari karo nuqullo ka mid ah ayada oo aan fasax laga haysan qoraaga buugga.

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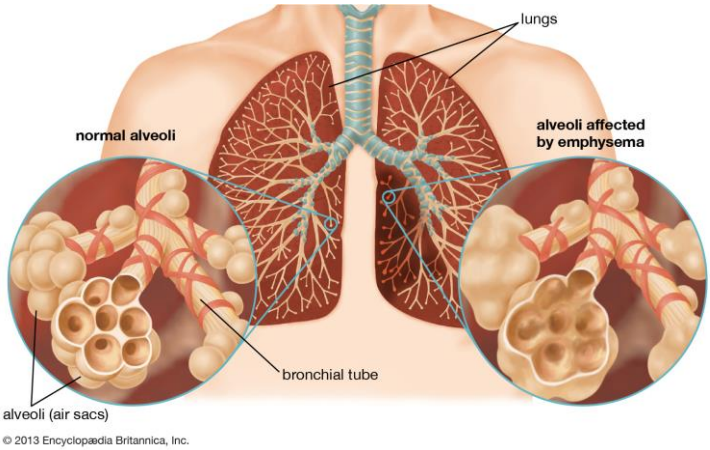
**Mahadnaq**

Waxaan u mahad celinayaa dhamaan dhakhaatiirtii iga caawisay qorista buuga daaweynta cuddurada caruurta (Pediatrics Clinical Treatment Guidelines)

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# 1.0 Respiratory Diseases

- Cuduradda kudhaca neef-mareen




## 1.1 Rhinitis and Rhinopharyngitis

Qeexid : Rhinitis and Rhinopharyngitis. waa xanuunada ugu caansan oo uu sababo fayraska, xanuunkaan wuxuu inta badan kudhacaa caruurta kayar 5 sano, wuxuuna ka haleelaa xuubka sanka (Nasal pharygeal Mucosa) xiliyada ugubadan ee lagu arko caruurta waa xilli roobaadka iyo waqtiyada qabow-ga sidaan horey usoo sheegnay (more frequent in cold and rainy seasons).

### Sababaha (Causes)

Waxaa sababa **Rhino virus** Waana fayraska ugu badan ee sababa hargabka iyo kuwo kale waxaana ka mid ah:

- Corona virus oo kudhaca neef-mareenka (respiratory) waa kuwo isku mid ah. (syncytial)
- Fayraska kudhaco aadamiga : Human

metapneumo virus)

- Influenza Virus waa nooca sababa hargabka ama durayga (influeza) oo la dhaho (Para influenza)

**Calaamadaha iyo Astaamaha (**signs and Symptoms)

- Sanka oo caburma ama uu qofku ka dareemo ciriiri (**Nasal congestion**)
- Cunaha oo qofka xanuuna (**Sore throat**)
- Hindisyo fara badan (more sneezing)
- Qufac badan (cough)
- Mararka qaarkood qandho iyo indhaha oo biyo casaan ku soo istaagan (water red eyes) iyo maddax xanuun (headache )

F.G Caalamadaha xasaasiyadda ee soo noqnoqda (Allergic rhinitis recurrent signs) waxaa wehliya cun cun sanka, indhaha, dhegaha, dhegxananka (nose , eyes , ears & plate itching)

**Dhibaatooyinka kadhasha haddii aan la daaweyn (Complications)**

- Xanuun ku dhaca dhagta dhexe : Otitis media
- Caabuq kuyimaada godka sanka : Sinusitis (in children over 6 years old)
- Quman : Tonsillitis
- Neefta oo kasii darta : Exacerbation of asthma

**Daawawada : Treatment (Management)**

Malahan daawo cayiman (No specific treatment)

Daaweyn gaar ah malaha waraabka sanka ee sodium chloride 0.9% 4 ilaa 6 jeer/maalin kasta si loo nadiifiyo hawada

- Haddii aad ku aragto bukaanka qandho (fever) sii Paracetamol sida soo socota: • 15mg/kg/dose maximum 4 times a day (maximum dose 60mg/kg/day) –
- Air humidification using nebulisation with 0.9% Sodium chloride once a day to clear the airway Postural drainage - For allergic rhinitis only, give an Antihistamine (Chlorpheniramine) for 3 to 5 days as follows:

**Talo soo jeedin (Recomendation)**

Looma baahna antibiyootik lagu muujinayo fayraska (Rhinitis) ka iyo

(Rhinopharyngiti) oo muuqda marka laga reebo kiisaska infakshanka weyn

## 1.2 Pneumonia

Oof wareen waa caabuq kudhaca sambabaha (Lungs) waana caabuq huuriya kiishashka hawada (alveoili) waxaa laga yabaa inay ka buuxsamaan dareere ama malax, taasoo keenta astaamo ay ka mid yihiin qufac, qandho, qarqaryo, iyo neefsashada oo dhib ah.

**Sababaha (Causes)**

- Bakteeriyada ugu badan ee sababta Oof-wareenka waa (Bacterial streptococcus pneumonia is the most common).
- Oof-wareenka ku dhaca da' da 5 ka weyn. (Mycoplasma chlamydia trachomatis) dhallaanka (staphylococcus aureus haemophilus influenza).
- Haddii aan la helin tallaalka (pseudomons aeruginos).
- Bukaanka difaac jirka (klebsiella) oof wareenka.
- Fayraska qalafsan ee neef sashada (adeno virus) hargabka A iyoB (para influenzae 1/3 virus metapneumo).

**Astaamaha (Signs and Symptoms)**

- Qandho : Fever
- Neeftuur : Tachypnea
- Dhibaato neef sashada ah : Respiratory distress
- Sanka oo barara : Nasal flaring
- Isticmaalka murqo dheeri ah : Use of accessory muscles

**Dhibaatooyinka :Complications**

- In lagu arko maal : Empyema
- Godka xuubka in uu biyo galo : Pleural effusion –
- Hawo gasho xabadka : Pneumothorax
- Jawaab xad dhaaf ah oo uu bixiyo jirka : Sepsis
- Qoor gooye : Meningitis
- Lafa xanuun : Arthritis

**Baaritaanka : investigations**

- ✓ FBC
- ✓ Chest x-ray
- ✓ Blood culture
- ✓ Baaritaanka aydhiska : HIV test

**Daawada : Treatmenta (Management )**

Burukiitada aadka udaran :Very severe pneumonia

- Hospitalization Dration 10 days
- Oxygen
- Correct shock, hypoglycaemia and dehydration
- Fluid maintenance
- Ampicillin 200mg/kg Q6hr or Benzyl penicillin

50,000 units/kg IM/IV Q6hr Plus - Gentamycine IV 7.5mg/kg IV over 3-5 minutes Q24hr Or

- Cefotaxime 50mg/kg/dose Q8hr (second line)

**Talooyinka : Recommendations**

Cudurka oof-wareenka joogtada ee sambabada aan caadiga ahayn ee raajada in ka badan 30 maalmood ka dib daaweynt bukaan socodka waa in dib loogu celiyo baaritaanka si looga saaro jirka shisheeyaha (ct scan bronchoscopy adenomatosis )

## 1.3 Wheezing child Asthma

Qeexid : Neefsashadu waa dhawaaq muusik ah oo is daba -joog oo ka soo baxa (oscillation)

Neefsashadu waa dhawaaqa asalka ka soo baxa marinnada hawadu ciidhiidhisan tahay xiiqdheerta waxaa la maqalaa badanaan dhicitaankeeda iyadoo ay sabab utahay xannibaadda dariiqa hawo ee muhiim ka ah (narrow,critical air way obstruction)

**Sababaha/sababaha halista ah Cause /Risk factor**

- Burukiito : Bronchiolitis
- Neefta : Asthma
- Hunguriga oo wax galaan : o esophgeal foreing bodias
- Cudurka gaaska : (gastro--oesophgeal reflux diseasses)

## 1.3.1Acute Bronchiltis

Qeexid : Waa caabuqa dahaarka labad ee tuubada hawada geeya sambabada kana soo qaada (which carry air to and from your lungs) iyadoo loo eegayo noolaha fayraska ilma aragtad ah oo ay sababtay xiiqsanka caruurta laba sano jirka ah waxay u horseedi kartaa dhibaato neefsasho oo dilaal ah oo ku dhacada kala duwanaansho xilliyeed waxayna leedahay awood faafa.

**Sababaha : cause**

- Cudurka daran ee loo yaqaan "brochiolitis"
- fayraska isku dhafka neefasashada waa kan ugu caansan

**Calaamadaha : Clinical signs**

- qufac malin iyo habeen ah : dyspnea with cough (both day and night)
- kala foogaanshaha xabadka ah : distension of the thorax
- Qandho heer hoose : Low-grade fever
- Xiiq daba dheerata oo samaysa sanbabada : Prolonged expiration with diffuse wheeze on pulmonary auscultation

**Dhibaatooyinka : Complications**

- Infekshanka labaad ee bakteeriyada : Bacterial secondary infection
- Burburka sanbabada : Atelectasis

- ❖ Joogsiga neefsiga oo ay ku dhashaan caruurta ilaa 20 il biriqsi : Apnoea especially in neonatal and infant period

**Baaritaanada : Investigations**

- ✓ FBC
- ✓ CRP (Less contributory as viral infection)
- ✓ Chest X-ray: show hyperinflated lungs with patchy atelectasis
- ✓ Viral testing

**Daawada : Treatment**

Hospitalize children if signs of serious illness

- Administer high humidified oxygen at 8L/min in 30 to 40 % oxygen
- IV fluid > maintenance
- Tube feeding when the child is in improved respiratory distress state
- In case of respiratory failure, use non-invasive naso CPAP or mechanical ventilation

**Talooyinka : Recommendations**

- Dawaynta antibiyootiga waxaa kaliya loogu tala galay caruurta qabta caabuqa heerka labaad iyada oo loo eegayo darnaanta calaamadaha sida qandhada sare . xaagada purulent , calaamadaha neef sashada oo sii xumaada sii antiboyootiga

(Give oral or parenteral antibiotics for 5 days Amoxicillin 25mg per dose/kg/day Q12hr PO) ama

- Ampicillin IM: 100 mg/kg/day in 3 divided doses or injections
- Erythromycin 30 -50 mg per dose/kg/day x3/day/7-10days

## 1.3.2Neef (Asthma)

Qeexid : neeftu waa cudur kudhaca sambabada muddo dheer . waxay keeni kartaa in marinada hawada ay bararaan ama cidhiidhi noqdaan taasoo adkeysa in la neefsado neefta daran waxay keeni kartaa dhibaato hadalka.

**Sababaha : Causes**

Lama garanayo waxa sababay laakiin arimaha soo soda ayaa laga aqoonsaday sida (Unknown but the following factors have been identified)

- Boorka guryaha, barafuunada, cuntada xayawaanka, hawda daqiiqadooyin (Allergens e.g., house dust, perfumes, food, animal airs, mites)
- Dawooyinka gaar ahaan propranolol iyo aspirin (Medicine (e.g., propranolol and aspirin)
- Deegaanka iyo isbadalka cimilada wasaqaysan (Environmental (e.g., change of weather, pollutants),
- Caabuqyada fayraska ama bakteeriyada

(Infections (viral or bacterial)

- Dareenka :Emotions
- Taariiqda qoyska sida hiddo sidayaasha (Family history (genetic factors)
- Laab jeex : Gastro-esophageal reflux

**Calaamadaha iyo Astaamaha : signs and symptoms**

- Neef la,aan : Breathlessness
- Qunfaca sii xumanaya gaar ahaan habeenkii oo xiiq ah (cough warse particularly at night
- Hawada bananka loo soo saaro oo yaraato :Wheezing/ prolonged expiratory
- Qufac joogta ah oo habeenkii hurdada ka suuliya : Cough (chronic nocturnal cough)
- Qufac kiciya jimicsiga : Exercise induced cough
- Cidhiidhi laabta ah oo soo noq noqada (Recurrent chest tightness)
- Soosaarida xaakada : Sputum production

**Dhibaatooyinka : complications**

- Neefta oo aan laxakamayn karin waxay sababee dhawac daran oo ay ugugeeysto sanbabada : Uncontrolled/poorly controlled asthma can lead to severe lung damage
- Neef daran oo sababi karta in uu sambabka shaqayn waayo iyo dhimasho : Severe asthma

exacerbation can cause respiratory failure and death

**Baaritaanada : investigations**

- ✓ Lung function to confirm diagnosis and assess severity
- ✓ Peak expiratory flow rate can help diagnosis and follow up
- ✓ Additional diagnostic tests
- ✓ Allergy testing (where applicable)
- ✓ Chest X-ray (for differential diagnosis)
- ✓ FBC for exclusion of super-infection

**Daawada : Treatment**

Asthma attack requires prompt treatment • Bronchodilators

- Salbutamol: begin with 2-4 puffs/20 min first hour then depending on severity:
- Mild: 2-4 puffs/3 hours
- Moderate: up to 10 puffs / hour
- Alternatively (especially in severe cases), use nebulization of Salbutamol 2.5mg in 2 ml of normal Saline /20 min first hour
- Prednisolone 0.5 to 1 mg/kg or equivalent over a 24 hour period Alternatively,

- Hydrocortisone IV, 5 mg / kg (Adult 400 mg), repeat every 6 hours during 24 hours
- Oxygen: Very efficient bronchodilator to achieve SaO2 ≥ 95 % if hypoxemic patient
- Adrenaline in case of anaphylaxis but not indicated for asthma attack (10µg/kg IM then infusion 0.1µg/ kg/min)

## 1.4. Ear Nose and Troat conditions

### 1.4.1 Acute Otitis

Qeexid : Caabuqa dhagaha ama infakshanka kudhaca waa marka dhagta dhaxdeeda ay galaan jarmiska bakteeriyada iyo fayrasyada, oo ay ku keenaan calamadaha xanuunka. Sida qandhada iyo appetite la.aan inta badan caruurta oodhan hal mar ayuu soomaraa caabuqa dhagta inta aysan gaarin labo sano

**Sidee udhacaa caabuqa dhagta?**

Caabuqa dhegahu waa jirrooyinka ugu badan ee kudhaca carrurta, wuxuuna ku dhacaa marka ilmaha dhagta uu jeermis ka galo . marxaladaha kale ee keena xanuunka dhagta waxaa kamid ah

**1**. Tuubada maqalka ee carruurta oo gaaban marka loo eego dadka waweyn taas oo keenta in carrurta si sahlan ku qadaan caabuqa dhagaha.

**2.** Difaaca carrurta oo ka yar dadka waweyn sababtuna ay tahay in difaacu u la koro jirka ilmaha

Dhagtu qaab ahaan waxay u qeybsantaa 3 qaybood oo kala ah:

- Qaybta gudaha (inner ear)
- Qeybta dhexe ( Middle ear)
- Qeybta dibada (Outer ear)

**Muxuu ku garan karaa dhaqtarka caabuqa dhagaha ee ilmaha aan hadli karin?**

a.Xumad

b.Dhagaha uu xoqayo anba uu jiidaayo sida qof meel cuncunaysa.

c.Biyo ama dheeceen kasocda dhagta.

Ilmaha hadli kara ayaga ayaa sheeganaya xanuun kooda

d.in ay hooyada canuga dhashay ay ka war bixiso xaladaha ay ku aragta canuga.

**Waxa sababa (Cause)**

- Fayras (Viral)
- Bactarial ( sterptococcus)

Oof-wareenka (hemophilus influenzae, moraxella catarhalis Iwm.

Cunsurka sababikara waxaa ka mid ah nolol xumo (Poor living)

- Xasaasiyad (rhinitis , tonsilitis) asthma etc

**Calaamadaha ama Astaamaha (Signs and Symptoms)**

- Qandho (fever)
- Xanuun (retro auricular)
- Ooyin (crying)
- Dhaga xanuun (Otalgia)
- Maqalka oo daciifa, guduudasho dhegta( impaired hearing or redness of eardrum)

**Dhibtooyinka (Complications)**

- Dhibatooyin maqalka dhagta (Earglue)
- Cudurka dhagaha oo raaga (Chronic otitis media)
- Caabuq kudhaca xuubabka maskaxda

  qoor gooyaha (intrac

**Baaritaannada : investigation**

1. Marka ugu horeeya waa in loo sameeyo baritaanka loo yaqaano (otoscopy) oo ah aalad sitoos ah loogu arko waxa dhagta dhaxdeeda kujiro
2. Baritaan lagu eegayo unugyada guud ee kujira dhiiga (Full blood count( FBC)
3. In labaaro CRP si loo ogaado xaladaha kusooboodka ah (acute condition)

**Daawada (Treatment) Management**

Talaaboyinka guud ee uhoreeya waa in la ciribtiro ama la nadiifiyo waxa yaabaha ku jira dhagta dhaxdeeda sida malaxda,dhukeeyga waaweyn, qashinka. Etc

Dawada ugu horeysa ee ladooranayo sida loo daweyo xaladaan Treatment of first choice

**Treatment of first choice**

- Amoxicillin, Po 30mg/kg/dose P.O. Q8h for 7-10 days
- Hadii uu canuga qabo cabur sanka ah ugu dar
- Xylometazoline (Otrivine) 0.5% nose drops or simple argyrol drops 1% , 0.05%
- Paracetamol 10-15mg/kg/dose Q6hr if high fever or pain

- Dawooyinka kale aad siin karto (Alternative treatment)

- Amoxi-clav (Augmentin) 50mg/kg/day P.O, Q8h for 7 -10 days; Or • cefadroxyl (Oracefal): 25mg/kg/dose Q12h for 7 days
- cefuroxime (Zinat): 15mg/kg /dose Q12h for 7 days
- Azithromycine 5mg/kg/dose Q24h for 3 days
- Erythromycine 20 mg/kg/dose Q8h for 10 days

**Talo soo jeedin (Recommendations)**

Iska ilaali inaad gasho gudaha dhegta qoyan

## 1.4.2 Chronic suppative otitis media

Caabuq dhegta dhexe waa xanuun jogta ah oos oo noqnoqda ama dheecaan (otorrhoea ah iyadoo loo marayo dalool aan caadi ahayn in ka badan laba isbuuc

( 2weeks)

**Saadaalinta arimaha halista ah ee ku imaan kara (Predisposing risk factors)**

- Maqalka oo lawaayo ama yaraado (otitis media)
- Infakshannada hawo mareenka sare oo soo noqnoqda
- Qaab dhismeedka tuubada oo wax is kabadalaan (ANatomic factor) ama gaagaaban (eustachian tube)
- Xaalada nolosha oo liidata (poor living condition ) ama xaalada nadaafadeed ee guriga oo liidata (poor housing,hygieging, )
- Difaaca jirka oo yar ama in uu jiro (Hiv infection)

**Sababaha Causes**

Waxyaabaha sababi kara waxaa kamid ah,

- ✓ Qaaxada Tuberculosis
- ✓ qaarjeex Pneumonia
- ✓ Hargab Influeza
- ✓ Baktariya Staphylococcus , aureus

**Calaamaddaha iyo sababaha (Signs And Symptoms)**

- Dheecaan ka soobaxa dhegta oo ku soo noqonoqda duleelka (recurrent pus discharge)
- dheecaan ka soo baxa dhegaha oo soo noqo noqod dololka dhagta.

ballaaran ee dhegta ah markii la baaro (large perforation of theeardrum on examination)

**Dhibaatooyinka Complications**

Dhibaatooyinka ku imaan karo waxaa kamid ah

- ➢ baristolka hoostiisa oo malax gasho : Subperiosteal abscess)
- ➢ In ay curiyamaan dareema yaasha wajiga ( Fasial nerve paralysis)
- ➢ Maskaxda oo malax gasho : (brain abseess)
- ➢ Qoorgooye in uu kudhaco (Meningitis)
- ➢ Maqal la,aan (Hering impairment)

- Dhagool nimo (Deafness)

**Baaritaanada investigations**

Baaritaanada loo sameeyo xanuun kaan dhagaha ku dhaca waxaa kamid ah

- Bacterial Cultures
- CT-scan

**Daawada (Treatment)**

• Topical (Ciprofloxacin ear drops Q12h for 7 days)

• Systemic treatment: ceftazidime IV or IM 50mg/kg/dose Q8h (max:6gr/day) for 7 days

**Surgical**

• In loo sameeyo qaliin ( In case of mastoiditis: Mastoidectomy)

**Talo soo jeedin Recommendations**

Maaraynta saxda ah ee (otitis) ka ba,an iska ilaali inaad ku qoyso gudaha dhegta biyo

tusaale dabaasha , adeeg so dawooyinka lagu dhaqo dhagta sida (Iodine saline solutions)

### 1.4.3. Tonsillittis (qumanka)

Qeexid: caabuqa kudhaca qumanka waa caabuq kudhacaa dadka waweyn iyo caruurta waxaana unugul carruurta kayar 12 sano

**Waxa sabbaba Causes**

- Bacterial infection gaar ahaan nuuca loo yaqaano (Group A β-hemolytic streptococcal)

- fayras ama hargab (Viral infection (Rhinoviruses, influenza)

- Fungal infection

**Caalamadaha Signs and Symptoms**

- Xanuun liqida oo adkaata iyo barar (difficult and painful swallowing (dysphagia/odyphagia)
- Diidmo naas nuujinta ah (Refusal of breastfeeding)
- Qandho iyo jarees : Fever, chills
- Madax xanuun (Headache)
- Matag (Vomiting)
- Cune xanuun (Sore throat)
- Xaaladaan waxey sii jiri kartaa 48 sacadood waxaana dhici karta in uu yahay mid daran (lasts longer than 48 hours and may be severe)
- Qumanka oo yeesha bararar, gaduud iyo dhibco cadcad ( Swollen red tonsils with white spots)

**Dhibaatooyinka Complications**

- Wadne xanuun (Rheumatic heart diseas)
- Infakshanada dhagta dhaxdeeda ah (Middle ear infections - Peritonsillar abscess (quinsy)
- Caabuq dhuunta dhexe ah (Abscess of the pharynx)
- Sanboorka (Sinusitis)
- Boronkiito ama oof wareen (Bronchitis or pneumonia)
- In ey xiranto marinada hawada (Airway obstruction)

**Baaritaanada : Investigation**

- In dheecaanka dhagta lagu sootiro suuf si loogu baaro sheeybaar (Swab for laboratory analysis)
- In labaaro tirinta dhiiga loo yaqaano (Complete blood count)
- In lahubiyo baktariyada loo yaqaano (Streptococcal screen)

**Daawawada : Treatment**

- ✓ Amoxicillin 15-30 mg/kg/dose Q8h for 10 days Or
- ✓ Penicillin V tabs: 15mg/kg/dose Q12h for 10days Or
- ✓ Erythromycine 15-20mg/kg/dose Q8h for 10

days Or Azithromycine 5mg/kg/dose Q24h for 3 days In case of allergy to penicillins use

- ✓ If fever or pain, give Ibuprofen: 2-3mg/kg/dose Q8h Or Paracetamol 10-15mg/kg Q6h, max 60mg/kg/day If no response with the first choice
- ✓ Amoxi-clav (Augmentin) 15-20mg/kg/dose P.O, Q8h 7 -10 days; Or
- ✓ cefuroxime (Zinat): 15mg/kg /dose Q8h for 7 days

**Qaliimada lagu daweeyo (Surgical treatment)**

Waxaa loo sameeyaa marka loo bahdo qaliin in lagu sameeyo qaliinkaka loo yaqaano

(Tonsillectomy )

→Waxaa inta badan qaliimada nuucaaan ah lagu sameyaa qumanka soo noqnoqda ( Chronic repetitive tonsillitis)

→ Qumanka xiran (Obstructive tonsils )

**Talooyinka Recommendations**

- ❖ Si wanaagsan usiii dawada qalajiyaasha ah carrurta 3 sano ah adiga oo usiinaya sida ey ukala horeeyaan si looga hortago xanuunada ku imaan kara wadnaha,

(Systematically give Antibiotherapy to children > 3 years in order to prevent rheumatic heart disease

## 1.4.4. Acute Mastoiditis

Waa caabuqa kudhaca lafta dhagta gadaa sheeda, waxaana loo yaqanaa (mastoiditis) Caabuqaan wuxuu keeni karaa dhaawac soo gaara lafaha dhagaha iyo samaysanka. Malax ka buuxsanta dhagaha mararka qaar caabuqa dhagta dhaxe ee daran ayaa kufaafa unugyada kale ee qolfoofta dhagaha,oo ay kujiraan maskaxda ama xubabka ku xeeran maskaxda, xaladaan oo mararka qaar ay kadhalankarto xanuunka (Meningitis)

**Waxa sababa : Cause**

- ❖ waxaa sababa faafida jirooyinka daran ee ka dhasha dhagaha iskuna badala (Mastoid)

(Acute otitis media to the mastoid bone)

**Calaamada Signs and Symptoms**

- ➢ Qandho Fever
- ➢ Xanuun, damqasho, raaxo la,aan iyo barar dhgagta gadadaasheeda (Pain, tenderness, discomfort and swelling behind the ear )
- ➢ Mararka qaar malax ayaa kasoo baxda caarada lafta danbe ee dhagta,
- ➢ Madax xanuun (Headache )
- ➢ Maqalka oo luma (Hearing loss)

**Dhibaatooyinka Complications**

- Curyaannimo wajiga (Facial paralysis)

- Maskaxda oo malax gasho ( Brain abscess )

- Dhuunta oo malax gasho (throad abess)

- Cilad qoorta ah (Neck abscess )

**Investigations**

- Raaji in laga saaro qeybta danbe ee lafta dhagta (X-Ray of the mastoid bone)
- In iskaan laga saaro dhagta dhexe (CT-scan of the middle ear)
- Abuur in laga sameeyo dhicaanka dhagta (Culture of the pus from the mastoid bone)
- In lahubiyo calamadaha qoor gooyaha (LP if signs of meningitis)

**Daawada : Treatment**

•Treatment of first choice

→ Cephalosporine 3rd generation:

- Ceftriaxone IV 100mg/kg/dose Q24h for 7-10 days
- Cefotaxime IV 30-50 mg/kg/dose Q8h for 7-10 days Or
- Ampicillin IV 50mg/kg/dose Q6h for 7-10 days and
- Gentamycin IV 5mg/kg/dose Q24h 5 days

→ If fever or pain, give

- Ibuprofen: 2-3mg/kg/dose Q8h or Paracetamol

10-15mg/kg Q6h, max 60mg/kg/day

**Qaliinka : Surgical**

Waxaa jira qaliin loo sameeyo oo la yiraahdo ( Mastoidectomy )

- Jeexitaan maqaarka ah (Incision of abscess)

→ Marka laga shakiyo caabuqa anaerobic infection kudar (Add Metronidazole IV, 15-20 mg/kg/dose Q8h a

## 1.4.5. Epistaxis

Qeexid: San-gororku waa dhiig kayimaada sanka waxana loo yaqaanaa (nosebleeed) taasoo ay katimid in uu sanka kamid yahay xubnaha ay qudiyaan xidido badan wuxuuna ku yaalaa meel uu halis ugujiro in dhaawac uu gaaro maadaama uu wajiga kasoo baxsan yahay,sidaa darteed wixii jug gaara wajiga sankana dhawac ayey gaarsiiyaan kadibna san-goror ayay keenaan. ( Epistaxis is nose bleeding)

**Causes**

- Jug ama dhawac (Trauma)
- Sanka oo shay galo (inflammation, foreign bodies),
- Burooyin kasoobaxa sanka ( tumours of the nose)
- Sanboor joogto ah (rhinopharynx, chronic using of nasal steroides,)
- Cudurda kudhaca wadnaha (Cardiovascular

diseases) ,

- Dawooyinka qaar gaar ahaa kuwa sanka laga qaato (Steroid-ka)

**Caalamaadaha iyo astaamaha : (Signs and Symptoms)**

- Dhiig kayimaada sanka (Blood coming from the nose )

- in horay dhiig sanka kasoo baxay uu jiray (History of recurrent nasal bleeding)

**Dhibaatooyinka Complications**

- in uu yaraado dhiiga/biyaha jirka kadibna shoog dhaco (Hypovolemic shock )

- dhiig yaraan (Anaemia)

**Investigations**

Waxaa loo sameenayaa baritaanada kala ah,

- Tirinta dhiiga oo buuxa (Full blood count)
- Waqtiga xinjiroowga (Clotting time)
- Waqtiga dhiig baxa( bleeding time)
- Kumbuyutarka (CT scan ama MRI)

**Management Non pharmaceutical**

1, Fadhiisi bukaanka si aad uga fagaato dhiig bax siyaada ah, (Sit the patient up to avoid aspiration)

2, Nadiifi sanka hadii uu dhiig xinjirow kujiro ( Cleaning of blood clots from the nose)

3, Cadaadis kusamee meelaha jilicsan ee sanka 5 daqiiqo ilaa iyo 20 daqiiqo (Direct pressure applied by pinching the soft fleshy part of the nose applied for at least five minutes and up to 20 minutes)

Pharmaceutical

- Topical antibiotics ointment
- Xylometazoline spray (otrivine) 0.5mg/ml
- Cauterization of the bleeding site with silver nitrate or 20% of solution trichloracetic acid under topical anesthesia

**Talooyinka Recommendations**

- Waa in si qota dheer loo baaro waxa keeynay xaaladaan
- Tixraac ku samee kiiska
- Waa in uu fuliyaa qabiir( ENT specialist)

## 1.4.6. Sinusitis

Waa Caabuq kudaca sanqada gaar ahaan daloolada lafaha sanqada

Sida caadiga ah, duleelada ama jeebabka sanqada waxaa kujira hawo, lakiin markuu infagshan qaado waxaa ku aruura dheecaan ay keento bakteeriyada ama fayraska.

**Waxa sababa Causes**

- Wax yaabaha ugu caansa ee sababa waa sanboorka (Rhinitis (most common cause)
- Jug inay kudhacdo : Trauma with open sinuses
- Caabuqa ( Bacterial infections)
- Hargabka . (Influenza, )
- Mid kamid ah bakteeriyada ugu caansan ( staphylococcus Aureus, anaerobies)
- fayraska (Viral)

Wax yaabaha kale ee keeni kara waxaa kamid ah. Hilibka sanka kasoo baxo,ama carjawda sanka kala qeybiso oo qaloocan,

**Caalamadaha iyo ataamaha (Signs and Symptoms )**

- dheecaan sanka kayimaadaa ama labada san (Purulent nasal discharge (unilateral or bilateral)
- Qandho iyo qufac ( Fever and cough)
- Ciriiri sanka iyo xermo (Nasal obstruction and congestion)

- Madaxxanuun qeybta hore ( Frontal headache) bending the head

**Complications**

- Lafa in uu infekshan kudhaco ama lafta isha caabuq kadhasho : Local: Osteomylitis, orbital cellu litis, orbital abscess
- Caabuqyada ee keenaan qumanka, burikitada, qaarjeexa( infections: pharyngitis, tonsillitis, bronchitis, pneumonia
- Qoor gooye : meningitis,
- Maskaxda oo malax gasho : brain abscess, )

**Baaritaanada : Investigations**

- Raajo in lasaaro si loo hubiyo heerka hawada (Paranasal X-ray (shows opacification with air-fluid level)
- In lasaari iskaan (CT scan)

**Daawada (Treatment) Management**

❖ Dawada ugu horeysa ee lada dooranayo (Treatment of first choice)

→ Amoxicillin, Po 15-20mg/kg/dose Q8h 7-10 days

→ Paracetamol 10-15mg/kg/dose Q6hr

❖ Dawooyinka kale ee la siin karo (Alternative treatment)

→ Amoxicillin-clavu lanate (amoxi-clav, augmentin®)

1520 mg/kg/dose PO, Q8h 7 -10 days → Add Xylometazoline (Otrivine) 0.5% drops or simple argyrol drops 1% , 0.05% Or

→ cefadroxyl (Oracefal): 25mg/kg/dose Q12h for 7 days

→ cefuroxime (Zinat): tabs 15mg/kg/dose Q12h for 7 days

→ Azithromycine 5mg/kg/dose Q24h for 3 days

→ Erythromycine 15-20 mg/kg/dose Q8h for 10 days

→ Rovamycine 3MI units: 50000-100000 UI/kg/dose Q8h for 10 days

→ Argyrol-ephedrin nasal drops 2% 3 drop x3/day/7 days

**Talo soojeedin (Recommendation)**

- Ha qaadan saa buunada ay kujirto madada monomin (Do not use nasal decongestants taking a monoamine oxidase)

## 1.4.7. Laryngitis

Waa caabuq kudhaca santuuqa codka iyo qaybaha kala duwan ee dhuunta

Xabeebta waxaa luuqada ingiriiska lagu yiraahdaa (hoarsenness) waxa ayna timadaa marka uu caabuq kudhaco santuuqa codka ama Larynx .

Santuuqa codka ( voice box) waxa uu kuyaalaa waxyar meel ka horaysa hunguriga cad (Trachea)

**Cause**

- Infagshan neef mareenka ah, (Viral respiratory tract infection )
- Qaybta 1aad ee harkabka iyo qaybta 2 baad(Parainfluenza Virus Type 1 and 2, Rhinoviruses, Syncytial Viruses, adenoviruses)

**Calaamada (Signs and Symptoms)**

- inuu ka sii daro neefta (Progressive Laryngeal dyspnea)

- Cunaha iyo codka oo isbadal (Sore throat - Hoarseness of voice)

- Qufac goosgoos ah : Barking cough

- Qandho (Fever)

- gaduud iyo barar : Erythema and Edema of larynx

**Dhibaatooyinka (Complications)**

- Neef sasho daran (Severe respiratory distress)

- haleelida caabuqa 2-aad (Secondary infection)

- In ay xiranto hawo mareenka (Airway obstruction)

**Baaritaanka : Investigation**

- Waxbaritaan ah loo ma sameeyo hadii uusan jirin caabuqa 2-aad (Unless there are signs of secondary infection)

Management Non Pharmacological management

•Humidified O2 therapy

•Plenty of fluids

**Daawada (treatment )**

- ❖ Adrenaline nebulisation 0.5ml/kg [of diluted 1:1000 (1 mg/ ml)] in 3 ml Normal saline. Maximum dose 2.5ml for ≤ 4yrs old and maximum 5ml for > 4yrs old.
- ❖ Dexamethasone IM 0.3-0.6mg/kg per dose x 2/day/2days or Prednisolone PO 1-2mg/kg/day divided in 2 doses (Maximum dose 50mg in 24hrs) Recommendation - Patients who don't improve after treatment should be intubated

## 1.4.8. Epiglottitis

Waa xalad daran oo dagdag ah taas oo ka dhalata baraarka dhuunta kuyimaada kadibna sababa neefta oo ku xirantacanuga yar (Acute epiglottitis )

**Cause**

- Waxaa sababa nuuc kamid ah hargabka (It is caused by Haemophilus influenza type b.)

**Signs and Symptoms**

Croup (laryngitis) Epiglottitis

- Qufac daran (Cough Severe)
- Qandh kasareeyso 38 (Fever <38,5°C >38,5°C)

**Daawada (Treatment Management)**

- Cefotaxime IV 30-50 mg/kg/dose Q8h for 7-10 days Or
- Ceftriaxone IV 100mg/kg/dose Q24h for 7-10 days

## 1.4.9. Pertussis (Whooping Cough)

Xiiq dheer waa xanuun inta badan ku dhaca caruurta kayar 15 sano iyo qof kasta waxa uuna kamid yahay xanuunada la, is qaad siiyo ama faafa xanuun kaan waa laga hortagi karaa hadii dhalaanka lasiiyo naas nuujin dhamees tiran ama talaal ku haboon.

**Waxa sababa : Cause**

- Waxaa sababa baktariyada loo yaqaan ( Bordetella pertussis)

**Calaamadaha iyo astaamaha : Signs and Symptoms**

- Qufaca oo siyaada isbuuc kadib ( after one week )
- Matag jogta ah (vomiting.)
- Wajiga oo gaduudta ama buluug, (the face goes red or blue )
- Cuntada oo ka istaagta.

**Investigations**

- Baaritaanka in diif sanka laga soo qaado kadibna sheybaar lagu baaro (Culture if available

- FBC: marked lymphocytosis (>15 109/l)

**Daawada Treatmen (Management)**

- Symptomatic treatment: O2, Naso-Gastro tube feeding

  ➢ Erythromycin 15-20 mg/kg/dose Q8h for 14 days

•Infants and children aged >6 months

→ 10 mg/kg (maximum: 500 mg) on day 1, followed by 5 mg/kg/dose Q24h (maximum: 250 mg) on days 2-5. Or

  ➢ Azitrhomycin, Infants aged <6 months: 10 mg/kg/dose Q24h for 5 days. • Infants and children aged >6 months: 10 mg/kg (maximum: 500 mg) on day 1, followed by 5 mg/kg/dose Q24h (maximum: 250 mg) on days 2-5

**Talo soojeedin Recommendation**

- Ka hortag wax yaabaha xariirka la leh (Prophylaxis for close contacts)

## 1.4.10. Allergic Rhinitis

Waa caabuq ama barar kuyimaadaa xuubka sare ee sanka (It is an inflammation of the mucous lining of the nose)

**Sababaha : Causes**

- in ay jireen wax yaabo horay u wasaqeyay hawo ,mareenka, kaa soo kasoo garay xoolaha iyo beeraha. dust, fumes, animals

- isticmaalka xad dhaafka ah ee dajiyaha sanboorka, Overuse of nasal decongestants (Rhinitis medicamentosa

- Caabuqa fayraska, Viral infection
- Caabuqa bakteriyada iyo qeybta 2-aad ee fayraska, Bacterial infection secondary to viral infection

**Caalaamada iyo ataamaha : Signs and Symptoms**

- Raaxo daro iyo cariiri sanka ah .Nasopharyngeal discomfort with nasal congestion
- Qufac qala lan. dry cough
- Madax xauun Headache
- Indhaha oo biyo kayimaada . Watery eyes
- Hindhiso iyo sanka oo biyo kayimaada . Sneezing and watery running nose
- Dareenka sanka oo xirma . Sensation of nasal obstruction

**Dhibaatooyinka Complications**

- Xauun dhagta dhexe ah. Otitis media
- Sanboor. Sinusitis
- Pharyngitis
- Buriikito bronchitis

**Baaritaanada Investigations**

- Xasaasiyada oo laga baaro dhiiga Blood tests for allergens (Serum immunoassays for specific IgE)

- Baaritaanka xasaasiyada maqaarka . Skin testing for specific allergens

- ismiirka lagu sameeyo sanka. Nasal smears for specific allergens

**Maareenta Management**

- Kafagow wax yaabaha xasaasiyada dhaliya . Avoid allergens
- Dawo maleh hargabka caadiga ah, lakiin dawo wala siyaa si loo ga hortago caqabadaha imaan kara, There is no cure for the common cold; treatment is given for symptom relief
- Waxaa lagu tageeraa nasashada, cabitaanka badan iyo jiifka , Supportive care includes bed rest and drinking plenty of fluids

**Daawada ku haboon Treatment of first choice**

- 2-5 years : chlorpheniramine tabs/syrup :1mg x3/day/1-3 days
- 6-11years: chlorpheniramine tabs/syrup: 2mg x3/day/1-3 days
- 12 years: chlorpheniramine tabs/syrup: 4mg x3/day/1-3 days
- nasal steroids, 1-2 spray/nostril/dose Q12-24h

# 2.0 Infectious Diseases



## 2.1. Malaria

Cudurka Malaariyada waa cudur kudhaca unugyada dhiiga cas ee loo yaqaan (red blood cells) ama (RBC) wuxuuna aad ugubadan yahay meelaha biyo dageennada ah.

**Sababaha : causes**

- protozoao

**Qeeybaha : Types**

- Plasmodium falciprum
- Plasmodium vivax
- Plasmodium ovele
- Plasmodium malaria

**Caalaamada Signs and Symptoms**

- ✓ Nausea : lalabo
- ✓ Headache : madax xanuun
- ✓ Diarrhoea : shuban
- ✓ Body ache : jir xanuun
- ✓ Dizziness : wareer xaga maskaxda ah
- ✓ Tiredness : daal
- ✓ Insomnia :(lack of sleeping : hurdo la,aan
- ✓ Fatigue : daal
- ✓ Convulsion : wareer
- ✓ Shivering : gariir/jareen
- ✓ Joint pain : kalagoysyo xanuun

**Dhibaatooyinka : Complication**

- ➢ Kiliya xanuun : renal failare
- ➢ Bararka sanbabada : pulmonary oedema
- ➢ Dhiig yari : anemia

**Baaritaanada** : **Investigations**

- Blood flim for microscopical examination

**Daawa : Treatmenn**

Children

- Artemether syrup 100ML
    - 1-6 months 10ml 24 hours 5ml
    - 7M-3Y 20ml kadib 10ml
    - 4-8Y 30ml kadib 15ml
    - 9-12Y. 40ml kadib 20ml
- Paracetamol syrup 60ml 1x2
- Cotexin syrup 80mg isticmaalka 20ml maka uguhoreysa kadibna 10ml 1x1

Hadii uu xanuun jiro sii;

- Paracetamol 250mg 1X2

Infants

- Chloroquin syrup 60ml 7.5ml

Severe Malaria – Treatment

Malariyada aadka udaran udir isbitaalka sida kuwa gaarka looleyahay ama cusbitaalada doolada (Hospital or the National Referral Hospital (private or public)

- Give Arthesunate 3.2 mg /kg IV as a single dose before transferring the patient

Or

- Quinine by intrarectal route in children, 20mg per kg body weight diluted in 4ml of distilled water of physiological saline, administered with a 5 ml syringe without a needle
  Or
- Give Quinine IV, preferably by intravenous infusion as a loading dose of 20 mg /kg body weight to run in 4 hours (not exceeding a total dose of 1200 mg for the loading dose);

## 2.2. Meningitis

Qeexid : Meningitis waa caabuq kudhaca xuubka difaaca ee daboolka maskaxda iyo xangulada laf dhabarta.

**Sababaha : Causes**

- Bacteria (H.influenzae, streptococcus pneumoniae, meningococcus)
- Viruses (Herpes group)
- Fungi (Cryptoc occus Neoformans)
- Protozoa (Toxoplasma gondii)

**Calaamada iyo astaamaha : Signs and Symptoms**

Dhalaanka yar : In younger infants

- Majiraan astaamo gaar ah tusaale marka laga reebo matag iyo nafaqo dara(No specific features e.g. vomiting, restlessness, and poor feeding )

- ❖ Wareer : Convulsions and bulging fontanel are more reliable signs in this age group

Caruurta waweyn : In older children

- ❖ Madax xanuun : Headaches
- ❖ Qandh : Fever
- ❖ Gariir : Convulsions
- ❖ Qoorta oo adkaata : Stiffness of the neck

**Dhibaatooyinka : Complications**

- Gariir : Convulsions
- Barar maskaxda ah : Brain oedema
- Koomo : Coma
- Brain abscess
- Maqnaashaha maskaxda : Cranial nerve palsies
- Cuuriyaan : Psycho-motor retardation
- Dib udhaca maskaxda : Mental retardation
- qalal : Epilepsy

**Baaritaanada : Investigations**

- ✓ Lumber puncture and laboratory analysis of cerebral spinal fluid
- ✓ CBC, serum glucose, electrolytes (Na and K)

- ✓ Blood culture

**Dawaada : Treatment (Management)**

•Follow ABC guidelines for unconscious patient

•Correct hypoglycemia if present

- Give maintenance fluids IV
- Stop convulsions with Diazepam 0.5mg/kg intra rectal or Phenobarbital 10- 15mg/kg IV and Dexamethasone 0,5mg
- Feeding by NGT with milk, soup and porridge, if stabilized (then, stop IV fluids)

-Antibiotics

- defnitive meningitis: 3rd generation cephalosporins (cefotaxime 50 mg/kg IV every 6 hours for 10 to14 days) or ceftriaxone 50mg/kg every 12 hours for10 to14 days

→ If not available Ampicillin 50 mg/kg IV 6 hourly + chloramphenicol 25mg/Kg IV every 6 hour for 10 to 14 days

- Probable meningitis: chloramphenicol and Penicillin – double dose if age >1m minimum 10 days of treatment IV
- Possible meningitis: IV chloramphenicol and Penicillin – senior review

- Monitor

- Vital signs (temperature, RR, HR, level of consciousness, diuresis)
- Fluid input and output

If suspected viral Meningo-encephalitis

- Add Acyclovir IV 20mg/kg every 8 hours for 3 weeks
- If tuberculous meningitis, fungal and protozoal meningitis treatment refer to the respective treatment services

- Contraindications to performing LP

- Focal neurological signs (strabismus, focal convulsions, unequal pupils)
- Papilledema
- Glasgow coma scale less than 8/15 or Blantyre scale <3

## 2.3. Tetanus

Qeexid : teetanada waa caabuq sun ah oo ay keento bakteeriyada loo yaqaan ( clostridium tetani ) marka ay bakteeriyadu soo gasho jidhka, waxay soo saartaa sun (toxin) taasoo keenta murqo xanuun badan

**Sababaha : Cause**

- Clostridia tetani

**Calaamada : Signs and Symptoms**

- ❖ Awood la,aan kalafurida afka ah : Trismus (lock jaw)
- ❖ Xuubabka dhabarka oo qalafsan : Opisthotonos (Rigid arching of back mucles)
- ❖ Wax liqida oo adkaata : dysphagia
- ❖ Hadalka ama neefsiga oo adkaada : Laryngospasm
- ❖ Nidaamka neerfa yaasha oo aan daganayn : Autonomic nervous system instability

**Dhibaatooyinka : Complications**

- Asphyxia
- Wadne istaag : Heart failure
- Burukiiti : Bronchitis
- Jabka : Fractures
- Dhaawac maskaxda ah oo ay sabab utahay ogsijiin la, aan : Brain damage due to lack of oxygen during spasms

**Baaritaanada : Investigations**

- ✓ No specific lab test is available to determine the diagnosis of tetanus
- ✓ Other tests done to rule out meningitis, rabies, strychnine poisoning etc.

**Management Non**

- Oxygen to prevent hypoxia and ventilatory support if needed
- Monitor:

→ Temperature

→ Respiration

→ Heart rate

→ Blood gases

→ Sao2

→ Blood Pressure

→ Blood glucose

→ Electrolytes

→ Acid–base status

**Daawada : Treatment**

- Tetanus immunoglobulin, IM, 500–2 000 IU as a single dose
- Eliminate toxin production
- Benzylpenicillin (Penicillin G), IV, 50000IU/kg/day (Neonate every 12hours and in older children every 6 hours)
- Metronidazole 40mg/kg/day IV in three divided doses for 7-10 days

Neonates less than 7 days old

- <1.2 kg 7.5mg/kg/ i.v Every 48 hours
  1.2-2 kg 7.5kg/kg i.v Every 24 hrs
- > 2kg 15kg/kg/day Every 12 hours

Neonates 7 days and older

- <1.2kg 7.5kg/kg Every 48 hours
- 1.2-2 kg .15mg/kg/day Every 12 hours
- >2kg .30mg/kg/day Every 12 hourls

Infants and children

- 30mg/kg/24 i.v every 6 hourls

→ Diazepam, IV, 0.1–0.2 mg/kg/dose 4–6 hour

**Talo soojeedin : Recommendation**

- ✓ Udir dhamaan xaladaha daran ee teetanada qaybta daryeelka dagdag ah .

(Refer all severe cases of tetanus to Intensive Care Unit)

## 2.4. Hepatitis

Qeexid : hepatitis. Waa barar dagdag ah oo ku dhaca beerka oo leh heerar kaladuwan kan ugu caansan waa Cagaarshowga A sidookale waxaa jira B,C,D iyo E oo aan caadi ahayn .

HEPATITIS A

**Waxasababa : Causes**

- Hepatis A RNA (virus)
- Vaccination does exist but provided in developed countries
- HAV is spread via the fecal-oral route

**Calaamadaha iyo astaamaha : Signs and Symptoms**

- Qandho : fever
- Raaxo daro : malaise,
- Cunto xumo : anorexia,
- Matag : vomiting,
- Labolbo : nausea,
- Calool xanuun : abdominal pain
- Shuban : diarrhea

**Dhibaatooyinka : Complications**

- Beerka oo xumaada waana naadir : Acute liver failure is rare)
- Mararka qaar waa loo dhintaa : death

**Baaritaan Investigations**

- ✓ Liver Function tests
- ✓ Anti-HAV IgM in a patient with the typical clinical presentation

- ✓ Serological tests for Hepatitis A

**Maareenta : Management**

- o Improved sanitary conditions, adherence to sanitary practices, hand washing +++ (virus may survive for up to four hours on the fingertips)
- o (Chlorination and certain disinfecting solutions are sufficient to inactivate the virus)
- o No specific treatment for Hepatitis A
- o Bed rest may be recommended
- o Active vaccine is recommended for all children 12- 24 months
- o Human immunoglobulin prophylaxis for those who had contact Patients rarely require hospitalization except for those who develop fulminant hepatic failure. The following criteria were proposed by the Pediatric Acute Liver Failure Study Group:

  • Absence of known chronic liver disease

  • Evidence of hepatic injury

  • PT>15 and/or INR>1.5 with encephalopathy

  • PT>20 and/or INR>2.0 with or without encephalopathy

These criteria should be fulfilled within eight weeks from the onset of illness, and the above-described coagulopathy (prolonged prothrombin time and/or INR) should be unresponsive to vitamin K therapy. If suspicion refer to a specialist.

**HEPATITIS B**

Cagaarshowga nooca B waa cudur kudhaca beerka cagaar showga B waxa uu fidaa marka dhiiga, shawada, ama dareera kale ee qofka qabafayraska ay galaan jirka qof aan cudur qabin

**Sababaha : Causes**

- Waxaa sababa fayraska dhiiga raaca. ee Hepatitis B virus (HBV)

**Calaamadaha iyo astaamaha : Signs and Symptoms**

- Cunto xumo : anorexia,
- Matag : vomiting,
- Maqaarka oo isbadala
- Indhaha oo huruud noqda

**Baaritaanada : Investigations**

- ✓ Serologic responses to HBV infection**:**
- ✓ Liver Function tests (Prothrombin time, Bleeding time)
- ✓ Glycemia if severe

- ✓ HBV tests (refer to figure)
- ✓ Urea and electrolytes in cases of liver failure
- ✓ CBC to determine severity of anaemia

**Dhibaatooyinka : Complications**

- ❖ Cudurka beerka ee daba-dheerada (Chronic Liver disease
- ❖ Waxaa laga yabaa in ay hooyada kudhasho caruurta xanuunkaan) In children born from infected mothers)
- ❖ Kudhawaad 76% caruurta ayaa ku hadhay HbeAg togan iyiga oontoban jir ah (approximately 76% of children remained HBeAg positive at 10 years of age.)

## 2.5. Acute Liver Failure

Qeexid : caabuqa beerka ee daran waa luminta shaqada beerka oo si dagdag ah u dhacda –maalmo ama isbuucyo badanaaba qofka aan lahayn cudur hore ee beerka inta badan waxaa keena xanuunkaanfayraska cagaarshowga ama dawooyinka sida acetaminophen shaqa la, aanta beerka ee dagdagga ahi way ka yartahay beer-la, aanta joogtada ah, kasoo si tartiib ah u koraya.

**Sababaha : Causes**

- ➢ In ay dhintaan unugyada jirka : Massive necrosis of liver cells
- ➢ Hepatic encephalopathy

- Sumoowga beerka oo ay sababto acetaminophen (Hepatotoxicity due to acetaminophen)
- Fayraska cagaarshowga : Viral (Hepatitis,
- Autoimmune hepatitis

**Calaamadaha iyo astaamaha :Signs and Symptoms**

- Raaxo daro : Malaise
- Matag : Vomiting
- Cunto xumo : Anorexia
- Cudur ama daawac saameeya maskaxda : Encephalopatthy
- Dhiig bax :Bleeding tendency
- Dareera ku aruuro meelo banaan ee caloosha : Ascites
- Cagaarshow : Jaundice

**Baaritaanada : Investigations**

- ✓ Raised or low liver enzymes, low serum albumin, raised bilirubin, raised blood ammonia
- ✓ Hypoglycaemia
- ✓ Prolonged prothrombin time
- ✓ Low fibrinogen
- ✓ FBC

- ✓ Urea -creatinine and electrolytes

**Daawada : Treatment**

- Lactulose, oral, 1 g/kg/dose every 4–8 hours via nasogastric tube, then adjust dose to produce frequent soft stools daily (to reduce intestinal protein absorption) Or
- Polyethylene glycol solution with sodium sulphate and electrolytes, oral/via nasogastric tube, 10–25 mL/kg/hour over 6 hours. Follow with lactulose.
- Neomycin, or Gentamicin oral, 12.5 mg/kg/dose every 6 hours for 5 days
- Mannitol, IV, 250 mg/kg administered over 30–60 minutes (if cerebral Oedema with serum osmolality < 320)
- Fresh frozen plasma, IV, 20 mL/kg over 2 hours (preoperative)
- Vitamin K1, IV/oral, 2.5–10 mg daily never gives IM → Monitor response to vitamin K1 with INR and PTT
- Platelet transfusion (if platelet count < 10 x 109/L or if < 50 and with active bleeding
- Ranitidine, IV/oral 3–4 mg/kg/day every 8 hours Or
- Omeprazole, oral initiated by the specialist:

  → Neonate 1–2 mg/kg, every 12– 24 hours

→ 1 month–2 years 5 mg, every 12 hours

→ 2–6 years 10 mg, every 12 hours → 7–12 years 20 mg, every 12 hours
And/Or

- Sucralfate, oral, 250–500 mg every 6 hours
- Dextrose 10%, IV bolus 2 mL/kg (for patient with hypoglycaemia)
- Ringers lactate with dextrose 5%, IV, 60–80mL/kg/day, ensure a minimum of 3–6 mmol/kg/day of potassium (for electrolyte imbalance, maintenance volumes)
- Midazolam, IV, 0.1 mg/kg Amelioration of liver injury, especially in idiopathic/toxin cases
- Ampicillin, IV, 25 mg/kg/dose, 6 hourly + cefotaxime, IV, 25–50 mg/kg/dose, every 6–8 hours + nystatin 100 000 units/mL, oral, 0.5 mL after each feed. Keep nystatin in contac

**Talo soojeedin : Recommendation**

U dir dhamaan kiisaska adeega gaarka ah si loo go aamiyo sababta asaasiga ah ee bilwga daweynta kuhaboon ,

## 2.6. Salmonella Infections (Typhoid Fever)

Qeexid : typhoid waa caabuq bakteeriyo keento qandho badan , shubab, iyo matag

**Sababaha : Cause**

- Bacteria (Salmonella typhi)

**Calaamadahaiyo astaamaha : Signs and Symptoms**

- Qandho : Fever
- Raaxo daro : malaise
- Madax xanuun foolka hore ah : dull frontal headache
- Xanuun caloosha : Poorly localized abdominal discomfort
- Cunto xumo : Anorexia
- Lalabo iyo shuban : nausea and diarrhea
- Calool fadhi : constipation
- Beerka oo waynaada : hepatomegaly
- jareen ama gariir : Febrile convulsions
- cagaar show yaa dhicikara : Jaundice may occur

**Dhibaatooyinka :Complications**

- Dhiig bax calooshaa : GIT: gastrointestinal bleeding,
- Isbadal wadnaha oo aan calaamad lahayn
- Dhiig yari : Anemia,
- Dhibatooyin neef mareenka sida burukito iyo oof

wareen (Respiratory: Bronchitis,

**Baaritaanada : Investigations**

- ✓ Serology — Serologic tests such as the Widal test
- ✓ FBC (may show leucocytosis more common in children or leucopenia, thrombocytopenia, severe anaemia follows intestinal bleeding)
- ✓ Blood culture (Gold standard) will isolate the bacteria during the first 2 weeks of illness
- ✓ Stool culture will isolate the bacteria during the later period of illness
- ✓ Plain x-rays of abdomen in erect position will show gas under the diaphragm if there is gut perforation

**Daawada :Treatment (Management)**

- Paracetamol to reduce fever
- Rectal Diazepam if there are convulsions and blood transfusion in case of severe bleeding
- Ciprofloxacin 10mg/kg (max400mg) every 12 hours ciprofloxacin 15mg/kg (max500mg) orally every 12 hours for7-10 days
- Ceftriaxone 50 mg/kg every 12 hours IV for 7-14 days Or
- Cefotaxime 50 mg/kg IV every 6 hours for 7-14day

# 3.0 Gastro-intestinal Disorders



## 3.1. Acute Gastroenteritis

Waa caabuq kuyimaada caloosha iyo xiidmaha kaa soo keena shuban. Matag, lalabo iyo xaalada dheef shiidka oo isbadal kuyimaada waxaa dhici karta in uu shuban biyo ah ama dhiig uu dhigo canuga.

**Sababaha Causes**

- Fayras. Viral gastroenteritis:
- Rota fayris waa nuuca ugu badan ee keena shubanka ilmaha kayar shanta sano Rotaviruses are the most likely cause of infectious diarrhea in children under age 5
- Bakteeriya Bacterial gastroenteritis:
- Waxaa kamid ah waxayaba sababa nuucyada bakteriyada ugu caan san oo ay kamid yihiin Campylobacter, Salmonella or E. coli
- Dulinka xiidmaha. ee loo yaqaan jardiga

Intestinal parasites: Giardia lamblia

**Calaamada Signs and Symptoms**

- ❖ Fuuqbax dehydration : 3 - 5%
- ❖ Jirka oo is dhima loss of body weight
- ❖ Fuuqbax daran : Severe dehydration : 10-15%
- ❖ Indhaha oo god noqda Sunken Eyes
- ❖ Maqaarka oo jiid jiidma Skin pinch
- ❖ Daganaasho la,aan iyo xanaaq Restlessness /Irritability

**Dhibaatooyinka kadhalan kara, Complications**

- Dhiiga jirka oo yaraada : Hypovolemic shock
- Wadne garaac dagdag ah : Tachycardia
- Qabowga gacmaha ah, cold hands
- Garaaca wadnaha oo hoos udhacda ama lawaayo, weak or absent pulse,
- Hypovolemic shock: (Tachycardia, cold hands, weak or absent pulse,
- Dheelitir la,aan, Electrolytes imbalance:
- Sokor aad udaran in ay ku dhacdo. Severe hypokalemia (<3mmol/L)
- Barar, madax xanuun, wareer, matag, lalabo, tabar daro,

Cerebral œdema: (headache, convulsions, vomiting, nausea, weakness)

- Dhiigbax ku yimaada dhalaanka iyo carrurta yaryar kaa soo sababta fuuqbaxa aadka udaran,

  Intracerebral haemorrhage: due to severe dehydration in infants and young children

**Baaritaanada : Investigations**

- ❖ Baaritaanka saxarada in loo sameeyo Stool exam: direct/culture (if blood or pus in stool)
- ❖ Nuucyada baaritaanada kala ah FBC, CRP, Hemoculture if suspicion of bacterial blood stream
- ❖ In labaro madooyinka jirka sida, Electrolytes (Sodium and Potassium)
- ❖ In lagabaaro sokorta, kiliyaha iyo naxdin. Glyceamia, urea/Creatinine if shock

  FG. Waxaa qiimeen ku samaysaa nuuca fuuqbax sida,

  - Isotonic dehydration: Na 130 to 150 mmol/L
  - Hypertonic dehydration: Na > 150 mmol/L
  - Hypotonic dehydration: Na < 130 mmol/L

**Maaraynta : Management**

• Severe dehydration

•Failure of home oral rehydration

- Hdii uusan canuga laheyn calaamadaha yaraanta dhiiga ama dareeraha jirka iyo nafaqo darada sii daawada

• 20ml/kg of normal saline (NS) or Ringers Lactate(RL)

• Hadii uu naxdin jiro ama fuuqbax daran sii faleembada cusbada ama iskudarka cusbada iyo sokorta 4 ilaa iyo 3 jeer

NS or RL 3-4 times if persistence of signs of shoc

**Consider CAB**

**(Plan C):**

Hadii uu jiro fuuqbax daran oo shook la,aan ah. - If severe dehydration without shock

- Waxaa lasiinayaa dawadaan iyda oo loo eegayo dada canuga Ringers Lactate (Normal Saline

Age < 12 months Age ≥ 12 months to 5 years

**Step 1**

30 mls / kg over 1 hour 30 mls / kg over 30 mins

**Step 2**

70 mls / kg over 5 hours 70 mls / kg over 2.5 hours

**(Plan B):**

Hadii uu fuuqbaxu dhax dhaxaad yahay sii - If moderate dehydration

• Sii ORS 75ml/kg during 4 hours After 4 hours:

**(Plan A):**

Hadii uu wax fuuqbax ah aanu jirin - If no dehydration

• Sii dawadaan canuga ORS 10ml/kg after each watery stool

• Kulatali hooyada 4 ta xeer ee daawaynta guriga,

→ Sii dheecaano dheeraad ah Give extra fluid

→ Sii kaabayaasha zinc Give zinc supplements

→ Quudin joogta ah Continue feeding

## 3.2. Persistent Diarrhea. Shubanka joogtada ah

Shubanka joogtada ah waa shuban dhiig leh mararka qaar waxaa laga yabaa in uu san yeelan wax dhiig ah. Waa shuban si dagdag ah ubilawda. Ugu badnaan wuxuu socon karaa shubanka nuucaan ah , afar iyo toban maal mood 14 days or longer.

**Waxyaabaha sababa : Causes**

Dhalaanka. : Infancy

Marka loo eego dhalaan dhawaan galka ah ee udhaxeeya 1bil ilaa iyo 1 sano waxaa kusababi kara shubanka joogtada ah.

- Cilada nuugista Post gastroenteritis mal absorption syndrome
- Caanaha loda. Oo ay kubadan yihiin borootiinka. Cow's milk/soy protein tolerance
- Secondary disaccharidase deficiencies
- Cystic fibrosis

Caruurta Childhood

Caruurta iyaga waxaa ku sababi kara xanuuno kala duwan sida.

- Secondary disaccharidase defiencies NB
- Goor yaanka loo yaqaano Giardiasis
- Cilad katimaada nuugista Post-gastroenteritis mal absorption syndrome
- Celiac disease
- Cystic fibrosis
- Xanuunka aydhiska. HIV
- Nafaqo daro : Malnutrition

Qaan gaarka Adolescence

Marka loo eego qaan gaar nimada waxaa soo yaraada asbaabaha u keeni karo xanuunkaan dhanka kale marka loo eego waxaa waynaada asbaabaha ku sababi kara sida.

- Caloosha oo aad ukacda ama qasanta Irritable Bowel Syndrome
- Cuddurka aydhiska . HIV
- Barrar ku yimaada mindhicirada Inflammatory Bowel disease

**Dhibaatooyinka Complications**

- Fuuqbax dehydration
- In uu cuntada cuni waayo . Failure to thrive, malnutrition

**Baaritaanada Investigations**

- In laga baaro saxarada Stool examination:
- Baaritaanka dhiiga cada iyo dufanka PH, White blood count, Fat, Ova, osmolarity, Culture
- Baritaanada kala ah FBC, CRP, electrolytes, urea and creatinine
- Cad laga soo qaado mindhicir yaraha. Small bowel biopsy
- In lagu baaro tuboyinka loo yaqano.Endoscopy: Sigmoidoscopy or coloscopy with biopsy

**Dawada Treatmenta**

- In lasiiyo fuuq celin afka ah, Oral rehydration
- Treat the cause (see algorithm)

## 3.3. Bloody Diarrhea

Xanuunka shuban dhiiga ama dhisantrariyo waxaa lagu qeexaa shuban ama saxaro jilicsan oo ay lasocdaan axal, dhiig, malax callol majiir. Dadka somaliyeed xanuunkaan waxay uyaqanaan magacyo badan oo ay kamid yihiin axal-dhiig, shuban-dhiig, xudhur iyo kuwakale. Dhisantariyada waa xanuun kudhaca mindhicirada.

**Sababaha : Causes**

- Goor yaanka ameebaha waa midka ugu qatarsan ee sababa shuban dhiiga kudhaca carruurta. Amoebic dysentery is the most common serious cause in children
- Caabuqa baktariyada gaar ahaan salmoneela . Bacterial infections (e.g. Shigella, salmonella)
- Caabuqa dulinka. Parasitic infestations (e.g. amoebic dysentry)
- Xasaasiyada caanaha Milk allergy
- Cudurada mindhicirada Chronic inflammatory bowel disease

**Calaamadaha. Signs and Symptoms**

- Sudden onset
- Calool xanuun. Abdominal cramps
- Qandho, shuban, , fever and diarrhea
- Dhiig iyo xab saxarada soo raaca blood and mucus in the stool
- Gariir iyo wareer ayaa dhici kara , eningismus and convulsions may occur
- Matag vomitus

**Dhibaatooyinka. Complications**

- ✓ Fuuq bax dehydration
- ✓ Wareer Convulsions
- ✓ In tirada dhiiga jirka yaraato Shock
- ✓ Sumoobid : Toxic
- ✓ Acidosis
- ✓ Dabada oo ay kasoo muqdaan maroorka Rectal prolapse
- ✓ kiliyaha oo shaqada gaba : Renal failure
- ✓ Haemolytic uraemic syndrome NB

**Baaritaanada. Investigations**

- In labaaro kaljarka saxarada siloo ogaado cuddurka shikaloosis-ka. ( Stool culture to confirm diagnosis of Shigellosis
- In sheybaarka lagu ogaado saxaro dhiiga Stool microscopy reveals many polymorphs and blood
- In si dhaqsa ah loo baro saxarada diiran si loo helo ameebe (Immediate microscopy of warm stool to diagnose amoebic dysentery)

**Daawada Treatment**

(Management)

Waxaan dawo aheyn. Non-pharmacological

- Hubi nafa qadiisa inta aadan dawo siin hadii ay nafaqo daro jirto u samee fuuq celin.

Dawada Pharmacological

- Fluid and electrolyte replacement (see Acute diarrhea)
- Ciprofloxacin, oral, 15 mg/kg/dose 12 hourly for 3 days Or
- Ceftriaxone, IV, 20–80 mg/kg as a single daily dose for 5 days (If hospitalised or if unable to take oral antimicrobial agents)
- Metronidazole, oral, 15 mg/kg/dose 8 hourly for 7 – 10 days

Waa hadii sheybaarka lagu arko gooryaanka. ameebaha (If amoebic dysentery, seen on stool microscopy)

**Talo soo jeedin. Recommendation**

- Udir dhaqtar taqasus ah hadii uu calool xanuun la dhibaatoonayo. Ama naxdin.

Refer patient to the specialist, if dysentery with complications, e.g. persistent shock

## 3.4. Constipation

Calool – istaag ama caloo- fadhi waa dib udhac kutimaada saxarada waxaana ka dhasha cilado badan oo ay kamid yihiin baabasiirka. Iyo xanuuna kale. Inta badan calool fadhiga ilmaha waa mid sahlan marka loo eego dadka waaweyn.

**Sabbaha Causes**

- Jimicsi la,aan : Lack of exercise
- Dawooyinka qaarkood. : Certain medicines
- Dheef shiidka. Neerfaha. Ciladaha caloosha hoose. (Metabolic, endocrine, neurogenic and lower bowel abnormalities
- Xanuun nada nafsiga ah. Psychogenic disorders
- Cunooyinka aan dhali tirneen. diet that does not include an adequate amount of fiber-rich foods
- Jeexitaanka dabada ama dildilaaca daharka dabada. (Anal fissure (a tear or crack in the lining of the anus)

- Shaqala aanta kiliyaha Chronic kidney failure
- Kansarka mindhicirka ama malawadka. Colon or rectal cancer
- Murugada depression
- Sokorta ama kalshiyaamta oo dhiiga ku badan.( Hypercalcemia (abnormally high levels of calcium in the blood)
- Qanjirka tayroodh aan fifircoonayn ( Hypothyroidism (underactive thyroid gland)

**Calaamadaha : Signs and Symptoms**

- ✓ Saameynta mindhicirada : Symptomatic bowel impaction
- ✓ Saxaro dhiig : Blood in the stool
- ✓ Isbedal ku dhaca caloosha : Changes in bowel patterns
- ✓ Xanuun caloosha ah : Abdominal pain,

**Dhibaatooyinka : Complications**

- Mindhiirada oo xirma : Bowel obstruction
- Calool fadhi : Chronic constipation
- Baaba siir : Hemorrhoids
- In lagu arko xanuunka Hernia
- Caloosha oo iska socota mar walba : Laxative dependency

**Baaritaanada : Investigations**

- ❖ Caloosha oo raajo lagasaaro : Abdominal X-ray
- ❖ Inlabaaro dhiiga iyo sambalka saxarada iyada oo labeegsanayo qeybta dhiiga leh
- ❖ Laboratory analysis of blood and stool samples for internal bleeding)
- ❖ Tuubada caloosha :Sigmoidoscopy (examination )

**Daawada : treatment (Management)**

Mabaa diida dawada kahor (Principles)

→ In laga hortago in ay saxarada adkaato : Initial clearance of stool

→ In la isticmaalo cunooyinka dabiiciga ah. (diet with additional natural fibre from fruit, vegetables and bran)

Daawada : Pharmacological

• Enema twice daily for 3 days 1x1

→ Lactulose, oral, 1x2 daily

■ < 1 year 2.5 mL

■ 1–6 years 5 mL

■ > 6 years 10 mL

**Talooyinka : Recommendations**

- Ugudbi dhaqtar taqasus ah hadii calool istaaga uu jiray

mudo dheer.

- hadii uu calool istaaga uu sii jiro mudo halbil ilaa iyo kabadan dawada waa la sii wadi karaa.

## 3.5. Upper Gastro-Intestinal Tract Bleeding

Qeexid:Dhiig-baxa kudhaca qeybta sare ee caloosha , inta badan wuxuu ka yimaadaa qeybta ugu horeyso ee min-dhiciradda yar-yar waana meesha ugu danbeysa caloosha ilaa laga gaaro waxa loo yaqaano ( Jejunum ) oo ah qeyb ka mida min-dhicirka yar-yar waana inta u dhaxayso ( Duodenum & Ileum )

**Sababaha : Causes**

- Dhalaanka : Neonates

• Dhiig bax been ah ama dhiiga hooyada uu liqo : False bleeding (maternal blood swallowed

• Yaraan shaha fitamiin k1 : Vit K1 deficiency

• Nabraha calloosha: Stress gastric/ ulcer

• Cabbuqa beerka iyo shaqo gabka beerka. (infection, liver failure, )

• Hemangioma

- dhalaanka socod baradka ah : Infants and toddlers

- Dawooyinka xanuun babiyaasha - inflammatory drugs
- esophagitis
- Cunooyinka birta leh. : Caustic ingestions, iron

poisoning

- Huunguriga oo dilaaca dhiigbaxna sababa : Oesophageal varices

**Baaritaanada : Investigations**

- Baaritaanka waxay ku xirantahay waxa la tuhun san yahay in la ogaado

❖ In lahubiyo dhiig isdiidka hadii loo bahdo dhiig shubid (FBC, cross-match blood in case transfusion ) is required ,

❖ In labaaro qeybta sare ee dhaafshiidka iyada oo la adaag sanayo : Endoscopy diagnosis )

**Maareenta : Management**

Ujeeddooyink ugu waaweyn (Main objectives)

- Kayaree xanuunka ama ka dawee hadii uu jiro dhiig bax ama shoog :Relieve or treat hemorrhagic shock if present)
- Hadii uu dhiig bax jiro jooji (Stop bleeding )

Daawada lasiiyo dhalaanka. ( Neonates )

→ Cimetidine IV 5-20mg/kg divided in 2 doses OR Ranitidine IV 2mg/kg/24 divided in 2-3 doses for 10 days Or

→ Omeprazole, PO 0.5–1 mg/kg, 12– 24 hourly for 10 days

Dhalaanka socod baradka ah: Infants and toddlers

→ Octreotide, IV bolus, 1–2 mcg then 1–5 mcg/kg/ hour by infusion,

→ Omeprazole, PO

■ 1 month–2 years: 2.5mg, 12 hourly

■ 2–6 years 5 mg, 12 hourly initiated by the specialist for post bleed prophylactic manage

Carrurta iyo qaan gaarka, Older children and adolescents

→ Omeprazole, PO

■ < 20 kg: 10 mg Qd

■ >20 kg: 20 mg Qd Note: Endoscopy is recommended to be performed within 24 to 48 hours for infants and children

**Talooyinka : Recommendations**

- Dhamaan kiisaska waa in loo diro qabiir si loo helo baaritaan iyo daweyn ku haboon.

- Waa in tixraac lagu sameyo dhamaan noocyada kaladuwan ee dhiig bax.

## 3.6. Boog calooleed Peptic Ulcer Disease

Boog boogta waa xakameyn uureysiga caloosha ama duoenum (qeybta hore ee mindhiirka yar ) boogaha waxaa lagu magacabaa boog . sababta oo ah waxay laxariiraan hawsha acid-ka iyo pepsin-ta boogta min dhicirka caloosha ayaa loo yaqanaa boog calooleed hadii

ay kujirto duoeenum waxaa lagu magacaabaa boog duodada.

**Sababa Cause**

- Waxaa sababa bakteeriyada loo yaqaano : Helicobacter pylori (H. pylori)
- Wuxuuna ku dhacaa in tabadan carrurta kaweyn 10 sano ilaa iyo qaan gaar kooda.

**Calaamadaha : Signs and Symptoms**

- ❖ Boog caloosgha ama dhiig bax : Peptic ulcers such as hemorrhage
- ❖ Waxaa yaabaha ugu badan ee lagu arki karo waa gaaska caloosha. caloosha oo gubasho laga dareemo.
- ❖ lalabo. Matag. Dharagsanaa mar walba ah calool majiir.

**Dhibaatooyinka : Complications**

- Dhiiga oo hoos udhaca : blood loss

- Maadada birta oo yaraata kadibna sababta dhiig yari : Iron deficiency anaemia

**Baaritaanada : Investigations**

- Baaritaanka gaas : testing for H. pylori infection
- Saxarada : Stool analysis for occult blood

- FBC
- Hadii uu jiray dhiig bax kabaar dhiig yari (For Hb)

**Maareenta : Management**

- Kafogow cuntooyinka gaaska kiciya ama calool xanuun ku keeni kara bukaanka (.Avoid any foods that cause pain to the patient (e.g. acid foods, soda drinks)
- Kafogow dawooyinka gaaska kiciya : Avoid gastric irritating drugs (NSAIds)

- Sii dawooyinka gaaska dajiya Sida . Magnesium-based antacids or aluminium)

Habka ugu horeeya ee ciribtirka gaaska : First line H pylori eradication regimens are:

• Sii dawada sadaxda ah : Triple therapy with:

→ PPI + Amoxicillin + Imidazole

Or

→ PPI + Amoxicillin + clarithromycin

Or

→ Bismuth salts + Amoxicillin + Imidazole

Or

→ Omeprazole PO

- 15-30 kg: 10 mg twice daily

■ >30 kg: 20 mg twice daily

Or

→ Cimetidine 20–40mg/kg/day + clarithromycin : 500mg BId + Amoxicillin 1g twice daily

Or

→ Cimetidine 20–40mg/kg/day +Clarithromycin : 500mg + Metronidazole 500 mg (15–20mg/kg/day ) twice daily

**Talooyin : Recommendations**

- Udir dhaqtar taqasus ah hadii uu jiro dhiig bax daran : Refer to a specialist, if there is severe hemorrhage
- Kushub dareeraha IV fluids si aad u ilaaliso cadaadiska dhiiga : (Stabilize the patient before transfer - Infuse IV fluids/blood to maintain normal volume/pulse)
- Hubso in si sax ah loo qimeeyay dhiig baxa :Ensure continuous assessment of further blood los.

## 3.7. Gastroesophageal Reflux

Definition: GER is the passage of gastric contents into the esophagus with or without regurgitation and vomiting. GER is a normal physiologic process occurring several times per day in healthy infants, children, and adults. Most episodes of GER in healthy

individuals last <3 minutes, occur in the postprandial period, and cause few or no symptoms. In contrast, Gastroesophagial reflux disease GERd is present when the reflux of gastric contents causes troublesome symptoms and/or complications.

**Sababaha : Causes**

- Wali macada sababta dhabta ah ee cudurkaan : The cause is still unclear
- Ii ay jira cilado sida . harniya : Anatomical abnormalities such as a hiatal hernia
- In mudo dheer la isti maalo tubada aloosha : Long term use of nasal gastric tube
- Cuntooyinka kiciya wax soo saarka ashitada. : diet that stimulates gastric acid production
- Naafo nimada neerfaha,cayilka , hido sida yaasha qaarkood, walwalka,

**Calaamadaha : Signs and Symptoms**

- Ilmaha oo lagu arko matag soo noqnoqda : In newborn: Recurrent vomiting, stridor, apnea
- Matag badan oo lugu arko ayaa saameen karta neefsiga ilmaha ama ku keeni karta qufac qalalan . : (Recurrent vomiting, respiratory manifestations, (dry cough,
- Caruurta qaan gaarka ah waxaa lagu arki karaa wadne garaac, xabad xanuun, qufac qalalan , iyo neefsa shada oo adkaata, (In children /adolescent: Heartburn, epigastria or chest pain.

Respiratory manifestations: (dry cough, recurrent wheeze or cough,

**Dhibaatooyinka : Complications**

- laqidataanka cuntada oo ku adkaata : Dysphagia

- xanuun marka uu wax laqayo : Odynophagia

- Misaanka oo yaraada : Weight loss

- dhiig yaraan : Anemia

- caabuq huunguruga kudhaca :Esophagitis

- Rabitaanka oo is badala : barara. : Aspiration pneumonia

- Hunguriga oo barara : Barrett's esophagus

**Baaritaanada : Investigations**

- 24 hours esophageal PH monitoring
- Endoscopy with biopsy to rule out oesophagitis
- Barium X-rays for severity of oesophagus stenosis
- FBC look for anemia

**Daawada : Treatment**

• Hadii uu xanuunka yar yahay dawada lasiinayo ilmaha (Less Severe or Non Erosive)

→ Anti-acids:

■ Sodium alginate (Gaviscon Enfant) /antacid combination, oral, month 1ml after each meal

o 1-2 months 1.5 mls after each meal

o 2-4 months 2mls after each meal

→ Aluminium and Magnesium hydroxide (Maalox) Syrup 0.5 ml/kg/dose PO QId

→ H2 Antagonists:

■ cimetidine IV/syrup/tab

- Dhalaanka yar dawada la siiyo : Neonates:

5-20mg/kg/24 hr divided in 2 doses

o Dhalaanka bilo jooga dawada lasiiyo :Infants:

10-20 mg/kg/24hrs divided in 2 doses

- Caruurta dawada la siiyo Children:

20-40mg/kg/24hr divided in 2 doses

• Hadii uu daran yahay dawada la siiyo ilmaha. (Severe or Erosive)

→ Omeprazole, oral

■ dhalaanka. : Neonate 0.5–1 mg/kg, 12– 24 hourly

■ carrurta : Children 1- 16 years

o 5 kg to <10 kg: 5 mg once daily o 10 kg to ≤20 kg: 10 mg once daily

>20 kg: 20 mg once daily

**Talooyinka : Recommendations**

- Bar waalidiinta masuuliyada cuntada bukaanka.Educate parents/guardians on patient diet
- Cun cunooyinka yaryar : Eat small, frequent meals

# 4.0 Dermatology



## 4.1. Eczema

Qeexid: Eczema. Canbaarta oo sidookale loo yaqaano dermatitis (Eczema, also known as dermatitis,) waa cilad lagu garto barar saaran maqaarka sare iyo cuncun.(superficial inflammation of the epidermis and itching.)

**Noocyada : types**

- Cudur daba dheeraad oo kudhaca maqaarka iyo neef mareenada. Sida, cuncunka. Sanboor. (dermatitis, rhinitis and conjunctivitis.)
- Waxyaabaha la xarira canbaarta barar daran uu sababay xasaasiyada ama cucun (Contact dermatitis: Acute or chronic inflammation caused by allergens or irritants)

- Noocyada ay sababaan xafaayada : Napkin (Or diaper area) dermatitis

**Calaamada iyo astaamaha : Signs and Symptoms**

- ❖ Nabro : Blisters
- ❖ Nabad guur yacni meesha xanuunka ku dhacay oo banaanata : Exudates and Erosions
- ❖ Jilicsanaanta baxnaashaha : Crusting/Excoriations
- ❖ Barar daran oo neefta halis galin kara : Erythroderma

**Dhibaatooyinka : Complications**

- o Caabuqa heerka labaad : Secondary infection (bacterial, viral, fungal, etc)
- o Maqaarka oo midab yeesha sida haaraha oo kale ama madmadoow (Post inflammatory Hypo or Hyper pigmentation)
- o In lagu arko maqaarka meelo adag : Lichenification

**Baaritaanada : Investigations**

- In la aqoon sado xasaasiyada iyada oo lagabaarayo (Prick Skin Test or Patch test)
- In si buuxda loo baaro dhiiga guud : Full blood count (Increase of Eosinophiles)

**Daawada : Treatment ( management)**

• Local Treatment

- Antiseptic – Exudative lesions, Potassium permanganate diluted at 1/10,000 (500mg Tablet in 5 liters)
- Antibiotics – Impetiginized lesions, Fucidine 2% 1 application/day/5 days

→ Dawoyinka xasaasiyada ee ugu fiican ee lasiinkaro ugu horeyn waxaa kamid ah : Topical steroids First choice

- Clobetasol propionate (Dermovate) cream 2 applications/day for 3-4 days, then 1 application/ day for 3 days then 1 application every 2 days/ week for 2 weeks Or
- Betamethasone dipropionate (Diprosone, Diprolene) cream/ointment 2 applications/day for 3-4 days, then 1 application/day for 3 days then 1 application every 2 days/week for 2 weeks

→ hadii uu aad udaran yahay xasaasiyada sii dawadaan

- Betamethasone valerate (Betneval) cream/ ointment 2 applications/day for 3-4 days, then 1 application/day for 3 days then 1 application every 2 days/week for 2 weeks

  Or
- Hydrocortisone cream/ointment 2

applications/ day for 3-4 days, then 1 application/day for 3 days then 1 application every 2 days/week for 2 weeks

Or

- Methylprednisolone (Advantan) cream/ ointment 1 application/day/3-4days then every 2 days/week for 1 week

**Talooyinka : Recommendations**

- Muddo gaaban in la mariyo dawooyinka steroids-ka markasta oo ay suurta gal tahay jooji xasaasiyada
- Kudhiiri gali isticmaalka macmacaanka
- Ka fagow saabuunada qaar kood
- Waa in tixgalin gooni ah lasiiyo dawaynta canbaarta si looga baqsado cunun joogta ah .

## 4.2. Bacterial Infections (Impetigo)

Qeexid : impetigo waa caabuq kudhaca maqaarka sare ee jirka kaas oo ay sababaan mid ama labo bakteeriyo oo kala ah . streptococcus or staphylococcus arueus. Wuxuuna inta badan ku dhacaa caruurta yar.yar waana caabuq lakala qaadikaro . carurta uu inta badan kudhaco waxaa lagu ar kaa dildilaac iyo qolof waxayna ka kooban tahay labo nooc oo kala ah

1. Non Bullous Impetigo

2. Bullous Impetigo

**1.Non Bullous Impetigo**

Astaamaha impetigo oo aan xoog badanayn waxayna kabilaabmaan nabro gaduudan oo ka soo baxa afka, iyo sanka agtiisa meelaha kale wuxuu kasoo bixi karaa wajiga iyo adimaha.

**2.Bullous Impetigo**

Waa caabuq maqaarka oo ay keento nooc kamid ah bakteeriyada sida , (staphylococcus arueus) taas oo keenta samaysanka nabro waaweyn oo loo yaqaano (bullae) wuxuuna ku badanyahay kilkilaha,gumaarka,faraha dhaxdooda, suulasha, nasska hoostiisa, barida dhexdeeda.

**Calaamadaha iyo astaamaha : Signs and Symptoms**

- Astaamo aan xoog badnayn : Non Bullous Impetigo
- Waxaa kamuuqanayo midabka malabka oo kale :Honey colored crusters
- Nabro waawayn oo soo muuqda : Bullous Impetigo

**Dhibaatooyinka : Complications**

- Nabro :Ulcerations
- Dhiiga oo sumooba :Septicemia
- Maqaarka oo lagu arko gaduud : Staphylococcal scaled skin syndrome (SSSS)

**Baaritaanada : Investigation**

- Swab for bacterial culture and sensitivity test

**Daawada : Treatment (Management)**

- Local Treatment:

  - Antibiotics Fucidic acid ointment (Fucidine 2%) 2 applications/day/7 days
  - disinfectant with antiseptic solution:
  - Potassium Permanganate diluted at 1/10,000 (500mg in 5 liters)
    Or
  - chlohexidine solution (dermobacter) 2 applications/ day/7-10 days

- Systemic treatment-diffuse lesions

  - cloxacilline Syrup/Tabs 50mg/kg/day divided in 3 doses for 7 days

Or

  - Erythromycine Syrup/Tab 50mg/kg/day divided in 3 doses for 7days

**Talo soojeedin : Recommendation**

- Waa in si wanaagsan loo daba galaa cudurkaan si loogu guuleysto

## 4.3. Fungal Infections

### 4.3.1. Dematophytes

Qeexid: Caabuqa fangaska oo intabadan loo arko. Tinea ama Ringworm. noocyada ugucaan san caabuqaan waa. Laba nooc oo kala ah .

1. Tinea capitis:

   Waa fangaska kudhaca madaxa intabadan waxaa laga helaa caruurta.( : Fungal infection of the scalp or head and often found in children)

2. Tinea corporis:

   Caabuqaan wuxuu intabadan kudhacaa oogada sare ee maqaarka gaar ahaan jirka(Fungal infection of the glabrous skin (hairless part of the body)

**Calaamadaha : Signs and Symptoms**

Tinea Capitis

- Jajabka timaha : Hair fracture
- Hair fracture at the scalp giving black dots aspect
- Xanuun kudhaca timaha Inflammatory Tinea
- Barar daran iyo nabro malax wata : Severe inflammatory reaction with deep abscess
- Timaha oo luma taas oo yeelata baaba sanaan timaha madaxa ama bidaar : hair loss with permanent alopecia

Tinea corporis:

- Cuncun : Itching
- Nabro maqaarka kasoobaxo : Skin rash
- Meelo yar oo gaduuta ama madmadoow yeesha : Small area of red, raised spots and pimples
- Xudduda nabraha waxay u muuqan karaan qolof : The border of rash may look scaly
- Finanka waxaa laga yabaa in ay kasoo baxaan lugaha, gacmaha, wajiga, ama jirka intiisa kale : (Rash may occur on the arms, legs, face, or other exposed body areas)

**Baaritaanada : Investigations**

- Waxaa dheecaan laga qaadayaa nabra hoostooda si loo gu baaro sheybaar baaritaan kaas oo loo yaqaano (KOH)test
- Cad laga soo jaro maqaarka : Skin biopsy for histological exams

**Daawda : Treatment**

Tinea capitis

- Ketoconazol (Nizoral) shampo istimaal 3 mar isbuucii
- Whitefield ointment , 1x2
- Griseofulvin (tabs 125mg,250mg, 500mg):

20 mg/ kg/ day, 6 ilaa 8 isbuuc haljeer maalikii

- Fluconazol (Flucazol susp 50mg/ml) 6 mg/kg/day, 6 ilaa 8 isbuuc once a day
- Hadii uu jiro caabuq Tinea: sii antibiotics

Tinea Corporis

- Miconazole nitrate 2% cream, 2 applications/day for 15 days
- ama - Clotrimazol cream, 2 applications/ day for 10 days

Or

- Ketoconazole cream, 2 applications/ day for 10 days
- Griseofulvin 20 mg/kg/ day, 3-4 weeks
- Fluconazol (Flucazole suspension, 50mg/ml) 6 mg/ kg/day, 6 to 8weeks once a day.

**Talo soojeedin : Recommendation**

- Kafagow in aad lawadaagto shalooyinka alaabaha kale si aad oga hor tagto caabuqa tinea (Avoid sharing combs and towels to prevent Tinea capitis)

## 4.4. Viral Infections

### 4.4.2. Herpes Zoster Virus (HZV) Infection

Qeexid : herpes zoster . waa caabuq fayras ah oo sababa dilaac finan maqaarka ah. Waxaana keena fayraska loo yaqano (Varicella-zoster ) kaasoo ah isla faraska keena busbuska

**Sababaha : Causes**

- Herpes zoster virus

**Calaamadaha** : **Signs and Symptoms**

- Mukuliska yaryar oo siyaada 12 ilaa 14 isbuuc : Small red macules that progress rapidly over 12 to 14 hours to papules
- Nabro maqaarka laxariira : Pruritus usually associated with skin lesions
- Qandho daba dheeraata : Prolonged fever

**Dhibaatooyinka : Complications**

- ✓ Caabuq nabro leh : Bacterial super infection with subsequent scarring
- ✓ Dhibaato maqaarka korkiisa ah : Extra-cutaneous complication
- ✓ Dhibaatooyin dhiigbax oo ku dhaca caruurta : Hemorrhagic complications in immunocompromised children

**Daawada: : Treatment**

Caruurta aan difaacooda dhameys tirnayn
Immunocompetent children

Dawooyinka lasiiyo xaaladaha aan darnayn :
Symptomatic therapy for non severe cases

- Calamine (ZnO + Fe2O3) lotion 4-5 application /day
- Promethazine sp 5mg/5ml, 7.5mg at bed time > 2 -5 yr ; 12.5mg at bed time >6 yr (oral antihistaminic)

Xaaladaha daran : In severe cases

- Acyclovir 20mg/kg a day for 5 days

Dawada lasiinayo ilmaha 12 sano kawayn : 12 years
Symptomatic therapy

Cudurkooduna yaryahay : in less severe disease

- Calamine (ZnO + Fe2O3) lotion 4-5 application a day
- Oral antihistaminic: Promethazine 25mg at bed time associated with oral acyclovir 800 mg 5 times/day for 7 days

Immunocompromised / Immunosuppressed children

• Symptomatic therapy

- Calamine (ZnO + Fe2O3) lotion 4-5 application a day
- Oral antihistaminic: Promethazine 25mg at bed

time

- Oral Acyclovir 800 mg 5 times/day for 7 days

Hadii xaladu nolasha qatar kutahay sii : In life threatening conditions

- Give IV Acyclovir: 10 mg/kg, infused at a constant rate over 1 h, every 8 hours for 7 days

## 4.5. Parasitic Infections

### 5.5.1. Scabies

Qeexid : Human scabies. Waa cudur kudhaca maqaarka oo lakala qaado ayna keento S.sabies mite var hominis.) waxaa lagu kala qaadaa si toos ah iyo xariir dheer oo lala yeesho qofka cudurka qaba .

**Sababaha : causes**

- Waxaa sababa cayayaan loo yaqaano (Sercoptic Svabies)

**Calaamada ha : Sign and Symptoms**

- Cuncun daran oo habeenkii ah : Nocturnal intense pruritus
- Dhawac maqaarka ah : Skin lesion
- Caabuqa oo lagu arko ibta naasaha : infalamation the nipples
- Xubinta taranka oo lagu arko xaalad daran : Genital region
- Maqaarka oo madoobada : black skin

- Nabro afka biyo kuwata

**Dhibaatooyinka : Complications**

- In lagu arko Cabuuqa maqaarka heerka labaad : Secondary skin infection
- Sepsis

**Baaritaanada : Investigation**

- ✓ In shaybaar lagu baaro : Microscopic identification of skin scrapings

**Daawada : Treatment (Management)**

- Benzyl Benzoate Emulsion (BBE) 25% (12.5% in children <5 yr, diluted in water 1:1, and 7.5% in infant, diluted in water 1:3), applied for 24 hours for three to five successive days. Apply from chin to toes and under fingernails and toenails. Repeat the same treatment ten days after.
  Or - Permethrin 5% cream as follows
- : Apply from chin to toes and under fingernails and toenails • Rinse off in shower / bath 12 hours later; repeat in 1 wk
  Promethazine sp5mg/5ml, 7.5mg/nocte > 2 -5 yr, 12.5mg nocte > 6 yr for 5 days

**Talooyinka : Recommendations**

Waa in si wadajir ah loo dawayee xubnaha qoyska hadii lagu arko xanuunkaan .

# 5.0 Endocrine System Conditions



## 5.1.. Diabetes Mellitus (Type I and Type II)

Macaanku waa cudur waqti dheer jirikara taasoo ka dhalata sare ukac kuyimid sonkorta kujirta dhiiga . waxaa ka qeyb qaata in sonkorta kujirta dhiiga sare ukacdo.

- Hadii uu yaraado dheecaanka loo yaqaano insulin oo laga soo saaro ganaca (pancreas)
- Hadii isticmaalka sonkorta uu yaryahay (ulilization) iyo soo sarista production oo badan waxay keeni kartaa in sonkorta sare ukacdo Hyperglceamia

Qeeybaha sokonrta types of . Diabetes

Cudurka macaanka wuu qaybo badan yahay laakiin waxaaugu caan san labo qaybood oo kala ah.

- Diabetes Mellitus Type I:

- Diabetes Mellitus Type II:

1. Nooca koobaad : Diabetes Mellitus Type I:

    - Nooca koobaad wuxuu kudhacaa caruurta badanaa wuxuu ku tiirsanyahay insulin qofkuna waa in uu insulin qaataa noloshiisa oo dhan sababta ayaa ah in uu jidhkiisu insulin_tu wuu isticmaali karaa lakiin in sulin ma soo saarikarto xubinta pancreas.

    - Buurnida wax xiriir ah lama lahan taas badalkeedana qofka noocaan qaba badanaa wuu dhuub dhubtaa. Dunida macaanka noocaan ah wuxuu kayahay 4-10%

Nooca labaad : Type II:

Waa nooc kudhaca inta badan dadka waweyn wuxuu is ka caabiyaa insulin-ta jirkiisu ma ,isticmaalikaro saas daraadeed waxaa loo yaqanaa insulin resistence DM.

Inta badan waxaa lagu daweyaa kaniini mararka danbe waxaa la siyaa insulin.

Dunida sonkorta noocaan ah wuxuu kayahay 5-90% waana noocalabaad

**Signs and Symptoms**

- Kaadi badan : polyuri a
- Rabitaanka cuntada oo kordha : polyphagia
- Daciifnimo : weakness

- Miir-beel : unconcsious
- Miisaanka oo yaraada : weight loss
- Harraad badan : polydpsia
- Boogaha dhaawaca oo bogsanin dhaqso.
- Arag-xumo
- Kaadida oo gubta.
- Cagaha ama gacmaha oo kululaada

**Dhibaatooyinka : Complications**

Marka loo firiyo dhibaatooyinka wuxuu leeyahay.

- Dhibatooyinka muddada gaaban : Short-term complications:
- Dhibaato muddo dheer : Long Term complications:

**Baaritaanada : Investigations**

- ✓ Blood sugar:
- ✓ Blood gas
- ✓ Electrolytes
- ✓ Renal function tests (urea and creatinine)
- ✓ Urine analysis

**Daawada : Pharmaceutical management**

- Badi caruurta qaba sonkorowga waxay leeyihiin

nooca 1-aad (The majority of children with diabetes mellitus have type I diabetes )

→ Caruurta qabta xanuunka macaanka inta badan waxay u baahan yihiin insulin (diabetes Mellitus Type I: Children with diabetes Mellitus Type I require insulin therapy. )

## 5.2. Diabetic Ketoacidosis

Qeexid : ketoacidosis –ka sonkorowga waa dhibaato aad udaran ee macaanka ah oo dhacda marka uu jirku soo saaro aysiidh dhiig oo sarreeya oo layiraahdo (ketnes) kabadan 5m/l xaaladaan waxay soo baxdaa marka uu jirdhku soosari kariwayo insulin kufilan

**Sababaha : Causes**

- Sonkorowgii hore oo aan la ogaan : Previously undiagnosed diabetes
- Joojinta daweynta insulin-ta : Interruption of insulin therapy
- Infakshanka iyo jirooyinka is daba jooga ah :Underlying infection and intercurrent illness
- Maareenta liidata ee nooca 1aad : Poor Management of dM type I
- Walwalka : Stress
- Dawooyinka sida xasaasiyada iyo WM. : Medication like corticosteroids, clozapine etc.

**Astaamaha iyo calaamadaha : Signs and Symptoms**

- Kaadi badan : Polyuria
- Fuuqbax : Dehydration
- Maqaarka oo qalalan : Dry skin,
- Lalabo iyo matag : Nausea, vomiting
- Cadaadiska dhiiga oo hooseya : Low Blood Pressure
- Calool xanuun : Abdominal pain
- Wareer ama miir beel : Confusion, or unconsciousness

**Baaritaanka : Investigations**

- ✓ Blood glucose
- ✓ Urine glucose
- ✓ Urine ketones
- ✓ Blood urea and electrolytes

**Maaraynta : Management**

Principles

• In loo sameeyo habraac loo yaqaano (Manage A,B, C)

• In lageeyo ICU hadii suurta gal tahay : Admission in ICU if possible

• in la soo caliyo dareeraha luma iyada oo xididka lagasinayo dareere : Correction of fluid loss with intravenous fluids

• in la saxo sonkorta dhiiga oo leh insulin : Correction of hyperglycemia with insulin

• in lasaxo qulqulka iyo lumitaan ka botaasiyaam-ka : Correction of electrolyte disturbances, particularly potassium loss

• in lasaxo ama la dheelitiro aysid-ka : Correction of acid-base balance

• in ladaweeyo hadii uu jiro caabuq : Treatment of concurrent infection, if present

**Rehydration**

Hadii uu jiro fuuqbax sii

| AGE | 1 hour | Next 7 hours | Next 16 hours < |
|---|---|---|---|
| 1 yr | 20 ml/kg | 15 ml/kg | 7 ml/kg |
| 1 - 7 yrs | 20 ml/kg | 10 ml/kg | 5 ml/kg |

5 ml/kg 4 ml/kg

| | | | |
|---|---|---|---|
| 8 – 14 yrs > | 20 ml/kg | 9 ml/kg | 5 ml/kg |
| 15 yrs | 20 ml/kg | 8 ml/kg | 4 ml/kg |

Emergency Insulin Therapy

- delay insulin until serum K+ is known to be > 3,5 mmol/l
- Insulin should only be started after ½ - 1 hour of fluid therapy, provided shock has been treated.

Doses and route

- Low dose hourly regimen
- Regular (neutral, soluble) Insulin (Actrapid or Humulin R), give 0.1 unit/kg per hour i.v
- Giving hourly bolus doses ensure regular medical and nursing supervision of the patient

## 5.3. Hypoglycemia

Qeexid : hypoglycemia . waa heerarka sonkorta dhiiga kujirto oo ka hooseeya heerkii loo gu tala galay ( Blood glucose levels below the lower limit of the normal range (blood glucose < 2.2 mmol/L, for malnourished children <3 mmmol/L).

**Sababaha : Cause**

- Qadarka xad dhaafka ah ee dawada sonkorta : Excessive dose of medication anti−diabetic medication

- Cuntada laga saaray ama aan kufilneyn : Omitted or inadequate amount of food
- Muqaal jidh oo caadi ahayn : Unaccustomed physical over activity
- Caabitaanka aashitada leh : Alcohol intake

Calaamada iyo astaamaha : Signs and Symptoms

- In uu dawaqo : dizziness
- Araga oo cawalan : Blurred vision
- Madax xanuun : Headaches
- Garaac : Palpitation
- Xanaaq iyo dabeecad xumo : irritability and abnormal behavior
- Dhidid : Sweating
- Gariir : Tremors
- Wadne garaac : Tachycardia
- Wareer : Confusion
- Miir beel : Unconsciousness

**Baaritaanada : Investigation**

- in lagabaaro dhiiga sokorta : Blood glucose

**Daawada : Treatment (Management)**

- 10% Glucose, IV, 2−4 ml/kg body weight 1 to 3

minutes through a large vein followed by 5−10% Glucose, IV, according to total daily fluid requirement until the patient is able to eat normally Alternatively

- Glucagon, IV, IM or subcutaneous,
- Age over 8 years (or body weight over 25 kg); → Sii 1 mg stat IM hadii lahelikaro
- Age less than 8 years (or body weight less than 25 kg); → sii 500 microgram stat IM hadii lahelikaro

**Talooyinka : Recommendation**

- Lasoco sonkorta 30 daqiiba kadib : Control blood glucose 30 minutes after 10% blood of Glucose

# 6.0 Haematological Conditions



## 6.1. Anemia

Qeexid : dhiig- yarida waxaa lagu qeexaa hoos udhaca unugyada dhiiga cas (RBC) ama muga haemoglobin-ka oo ka hooseeya inta caadiga ah. Marka ay tirada unugyada dhiiga cas-cas yar yihiin ogsijin yar ayaa soo gasha qaybaha jirka.

**Sababaha : Cause**

- Dhiig-yaraanta waxaa loo kala saaraa iyada oo laraacayo habka (physiologic process) hoos udhaca ama burburka kuyimaada unugyada ama dhiig-bax
- Waxyaabaha ugu badan ee sababa dhiig yarida ayaa ah heerka maadada birta (iron) ee kujirta dhiiga oo yaraata waxaana loo yaqaan (Iron Deficiency Anamia)

**Calaaamadaha : Signs and Symptoms**

- Xuubkac lagu arko calaacalaha iyo cidiyaha : Pale mucous membranes, palms and nail beds
- Dawaqaad iyo daal : dizziness, fainting
- Madax xanuun : Headache
- Neefta oo kuyaraata : Shortness of breath
- Araga oo isku darsama : Visual disturbances
- Koritaan xumo : Poor growth
- Jahwareer iyo dhaqdhaqaaqa maskaxda oo yaraata : Confusion, decreased mental activity
- Garaaca wadnaha oo dagdag ah : Rapid heartbeat or palpitations

Sida caadiga ah dhiiga caruurta waxaa laga rabaa marka loo eego da,da (Age)

2 weeks 16.5

3 months 12

6 months-6 years 12

7 years-12 years 13

**Dhibaatooyinka : Complications**

- Bararka sanbabada : Pulmonary edema
- Wadne istaag : Congestive heart failure

- ❖ Xanuunka neefmareenka oo daran : Acute respiratory distress syndrome (ARdS)

**Baaritaanada : Investigations**

- ✓ Blood film for malaria parasites
- ✓ Stool examination for eggs of hookworm
- ✓ Sickling test
- ✓ Hemoglobin (HP)
- ✓ Iron studies (Fe, Ferritin, TIBC, transferring % saturation)

**Daawada : Traetment**

- Elemental Iron 4-6 mg/kg/day oo loo qebinayo 3 doses malintii ilaa uu dhiiga uu gaaro sida caadiga ah ( Hb has reached the normal range)
- Hadii lagu arko bukaanka cudurka layirahdo (Sickle cell disease) waa in lasiiyaa dawada ( iron tablets kaliye hadii uu ironku yaraado dhiiga ugu dar (Folic acid.)
- Folic acid, oral: 5 mg every 2 days for 30 days or for as long as required.
- Hadii uu dhiig yaridu sababay goor yaanka loo yaqano (hookworms ) sii dawada gooryaanka ee (Albendazole 400 mg po x 3 days or mebendazole 100 mg po x 3 days)
- Vitamin B12 deficiency: (Hydroxycobalamin) injection IM: Initially 100mcg/day X 10-15

days. Maintenance dose 3050 mcg/month

- Hadii uu jiro dhiig-yaraan aad udaran laguna arko wadne garaac kana hooseeyo dhiigiisa (Hb < 5 g/dl) wuxuu u baahan yahay in loo sameeyo dhiig kushubis( blood. Transfusion )

Dhibatada dawada ayroonta : Side effects of iron therapy

- Shuban : Diarrhea,
- Calool xanuun : Abdominal discomfort,
- Calool fadhi : Constipation,
- Saxarada oo madoobata : Black Stool

**Talooyinka: Recommendations**

- Udir dhamaan bukaanada qaba dhiig-yaraanta la xariirta cunto xumada xarumaha caafimaad ee nafaqeeynta ilmaha( health center for nutritional )
- Tixraac ku samee bukaanada qaba dhiig-yarida soo noqnoqta.

## 6.2. Sickle Cell Anemia

Qeexid : sickle cell anamia waa cilad kutimaada unugyada dhiigga cas oo aan lahayn unugyo dhiig cas oo caafimaada qaba oo ku filan qaadista oksijiinta jirka oo dhan.

**Sababaha : Cause**

- Dhaxal : Homozygous inheritance of mutated

HBS (amino−acid valine is substituted for glutamic acid in the position 6 of the β−chain)

**Calaamadaha : Signs and Symptoms**

- ❖ Koriimada iyo hormarka : Impaired growth and development
- ❖ Dhiig-yari iyo cagaarshow : Anemia and mild jaundice
- ❖ Beerka iyo beer yarada oo waynaada : Hepatosplenomegaly (in younger children)
- ❖ Lafo xanuun gaar ahaan lafaha dhaadheer ee carruurta : Bone pain (especially long bones in children)
- ❖ Xanuun iyo barar gacmaha iyo cagaha imaha lix bilood ilaa 3 sano : Pain and swelling of the hands and feet (6 months and 3 years ).
- ❖ Arthralgia with fever
- ❖ Calool xanuun daran iyo matag : Severe abdominal pain with vomiting
- ❖ Xanuun laabta ah : Acute Chest Syndromes

**Calaamadaha iyo astaamaha : Complications**

- Waxaa lagu arki karaa cabuqa gaar haan : Streptococcus pneumoaniea:
- Osteomyelitis (Streptotococcus pneumonia and Salmonella)

- Qoor gooye : Meningitis
- Xanuunka faaliga : Stroke
- Dhiig-kar sanbabada : Pulmonary hypertension
- Xanuunada xabadka : Acute chest syndrome
- Qandho fever,

**Baaritaanada : Investigations**

- Full blood count
- Hb electrophoresis
- X-ray of long bones, cortical thinning
- X-ray of skull bone (shows widening of diploic space)

**Daawada : Treatment**

• Analgesics (WHO Step wise pain management)

- Paracetamol 10-15mg/kg/dose po every 4-6 hours associated with Brufen 5-10mg/kg/dose po every 6-8 hours
- Codeine 0.5-1mg/kg/dose every 6 hours
- Pethidine 0.5−2mg/kg 4hrly)
- Morphine (titrate to effect) PO: 0.2-0.5 mg/kg/dose every 4-6 hours, IV, IM, SC: 0.1-0.2 mg/kg/dose every 2-4 hours
- Give supplementary Folic Acid (5 mg oral

daily) but avoid iron (risk of hemochromatosis).

**Talooyinka : Recommendations**

- Waa in uu cabaa biyo badan maalin kasta : Should drink much water daily
- is ka ilaali qabowga oo ku labiso dhar diiran : Avoid getting cold (dress with warm clothes by cold weather)

## 6.3. Idiopathic Thrombocytop enic Purpura (ITP)

Qeexid : waa cilad keeni karta nabro fudud ama xad -dhaaf ah iyo dhiig-bax wuxuuna kayimaadaa heerarka kala duwan ee xinjirowga – unugyada caawiya xinjirowga dhiiga. Taasi waxay keeni kartaa nabro fudud ama xad-dhaaf ah iyo dhiig bax ( is a blood – clotting disorder that can lead to easy or excessive bruising and bleeding.)

**Calaamada iyo astaamaha : Signs and Symptoms**

-Taariiq : History

- Canug hore oo caafimaad qaba oo 14 jir ah oo si lama filaan ah ugu dhaco (petechiae and purpura)
- In uu horay ujiray caabuqa fayraska 1-4 isbuuc kahor xinjirowga dhiiga ( history of a preceding viral infection 1–4 wk before the onset of thrombocytopenia)
- Dhiig-bax kayimaada ciridka iyo xuubabka

(Acute bleeding from the gums and mucous membranes)

- Astaamaha caafimaad : Clinical manifestations

- Findings on physical examination are normal, other than the finding of petechiae and purpura.
- Nabro qafiif ah :Mild symptoms: bruising)
- Dhiig-bax aad udaran sida caadada ,sangoror (Severe: bleeding episodes—menorrhagia, epistaxis,)

**Baaritaanada : Investigations**

- Laboratory:

- FBC with differential (should not show any anemia (unless significant bleeding) or anomaly of WBC count)
- Profound thrombocytopenia (platelet count <10 × 109/L).
- Peripheral blood film examination (will show large or giant platelets)
- Bone marrow examination only indicated if no response to therapy or before starting steroids
- HIV test

**Daawda : Treatment (Management )**

- No therapy other than education and counseling of the family and patient for patients with minimal, mild, and moderate symptoms, as defined earlier - Intravenous Immunoglobulin (IVIG).

- IVIG at a dose of 0.8–1.0 g/kg/day for 1–2 days induces a rapid rise in platelet count (usually>20× 109/L) in 95% of patients within 48 hr.

- IVIG appears to induce a response by down regulating Fcmediated phagocytosis of antibody-coated platelets.

- IVIG therapy is both expensive and time-consuming to administer

- IV Rh (D) Immune globulin can be used in Rh positive patients at a dose of 50-75 microgram/kg. This causes a rise in platelet count above 20 x 109/L within 48-72h in 90%

# 7.0 Cardiovascular Diseases



Inta badan cudurrada wadnaha ee carrurta yaryar waa mid lagu dhasho halka carrurta waweyn ay kudhashaan ama uu cudur haleelo. (Most cardiac diseases in young children are congenital,)

## 7.1 Heart Failure (Congestive Cardiac Failure)

Waa cilad caafimaad daro oo ka timaada karti darada myocardium si loo buuxiyo oksijinta iyo xubnaha dheef shiidka

**Sababaha : Causes**

- Habdhiska wanaha ee caadiga ah : In normal heart anatomy

- Dhiig-yaraan : Anemia
- Sumobida iyo caabuqa dhiiga : Infection/sepsis

- Culeeska badan : Volume overload
- Garaaa wadnaha oo qaldama : Arrhythmia
- Murqaha oo jirada : Cardiomyopathiy
- Dhiig karka. : Hypertension
- Kiliyo oo shaqada gaba. : Renal failure
- Caabuqa qanjirada : Hypothyroidism
- Macluul : Kawasaki disease

Cudurka wadnaha ee lagu dhasho : In Congenital heart disease

- Left to Right shunt (Ventricular Septal defect, Patent ductus Arteriosus)
- Arotaha oo xirma ama cariiri noqda : Aortic coarctation
- Falfaha oo cariiri noqda. : Aortic valvular
- Cudurka loo yaqaano. : aortic stenosis
- Xanuun ku dhaca xididada iyo sanbabada. : Pulmonary veins stens

**Calaamadaha : Signs and Symptoms**

- ❖ Neefta oo dhibta : Tachypnea/dyspnea
- ❖ Qufac : Cough
- ❖ Dhidid : Sweating

- Misaanka oo siyaada iyo barar. : Excessive weight gain/oedema
- Quudiinta oo liidata : Poor feeding/ failure to thrive
- Garaaca wadnaha oo bata : Tachycardia
- Gunuunac wadnaha ah : Gallop rhythm with or without heart murmur
- Garaaca oo daciifa : Weak pulses
- Dhiig-kar : Hypotension
- Jilbaha oo qabow ah : Cold extremities
- Kaadida oo yaraata : Oliguria

**Baaritaanada : Investigations**

- In loo sameeyo baritanada kala ah. :CBC, Electrolytes, Urea and Creatinine, Blood Gas if available
- Raajada xabadka. Laga saaron : Chest X-ray
- Kumbuyutarka wadnaha : ECG : Echocardiogram

**Daawada : Tteatment**

- Frusemide IV 1-4mg/kg divided in 2 doses (to be increased progressively)
- Digoxin per os 0.01mg/kg/day (no loading dose!!)

- Captopril 1-4mg/kg/day divided in 3 doses if normal creatinine (to be increased progressively, beware of hypotension)
- Carvedilol for stable older children > 30 kg: initiate with 3.125mg BId, increase every 15 days if good tolerance. Maximum dose: 12.5mg Bid

**Talooyinka: Recommendations**

- Hadii uu wadnaha istaago gaar ahaan wadna midig .sii Furosemide (see dosage above) and Aldactone 2mg/kg/day divided in 2 doses
- Dhaqaatiirta wadnaha waa in ay si dagan oga fiirsadaan xaaladaha wadnaha ee carruta.

## 7.2. Carcinogenic Shock

Qeexid : Shooga noocaan ah. waa cilad kutimaada shaqada wareega dhiig. Sida in uu wadnaha uu halinwaayo dhiig kufilan. Ama oksijiinta. Sabatuna tahay bamka wadnaha oo kufashilma dugsiga sare ee shaqada wadnaha oo liita.

Bukaanka wuxuu inta badan qabaa cudurk wadnaha ee loo yaqaano (Hart failure )

**Calaamadaha iyo astamaha : Signs and Symptoms**

- Dhiig-kar : Hypotension
- Wadne garaac : Tachycardia
- Beerka oo waynaada : Hepatomegaly

- Sababada oo cod xabeeb leh yeesha ama shanqar : Crackles/wheezes
- Digaanka wadnaha oo lawaayo : Weak and fast pulses (or absent)
- Gacmaha iyo lugaha oo qabow noqda : Cold extremities/ palor
- Kaadida oo lawaayo ama yaraata : Oliguria/anuria

**Daawada : Treatment**

- Dopamine IV 5-10 microgram/kg/min, may increase to 20 microgram/kg/min Or
- Dobutamine IV 2 to 20 microgram/kg/min
- Furosemide IV 2mg/kg/dose 1X1

## 7.3. Pulmonary Oedema

Qeexid : Bararka san babada waa xaalad ay keento dheecaan xad- dhaaf ah oo kujira sanbabada iyo alfiyool-ka taas oo ka dhalata geedi socodka cudurka iyada oo ku saleysan xaalad ahaan bararka san babada waxaa lagu tilmaamaa in uu yahay mid wadne garaac ah waxaa laga yabaa in bukaanka lagu arko qufac ama cilad xaga neef sashada ah. Bararka san babada si fudud ayaa loo aqoon san karaa hadii la saaro raajada xabad-ka chest x-ry iyo CTscan

**Sababaha : Causes**

- Wadnaha sinfiican ugama saarayo dareeraha wareega sanbabada. : Heart not removing fluid

from lung circulation)

- Dhaawac toos ah oo lagu arko sanbabada : direct injury to the lung parenchyma

**Caalaamadaha iyo astaamaha : Signs and Symptoms**

- Neefsasho la,aan ama dhibaato neefsiga ah : Breathlessness/ respiratory distress
- Dhidid Sweating
- Hoos udhac ku yimaada oksijiinta : (decreased oxygen saturation)
- Xaako dhiig ama xinjirow : Frothy blood-tinged sputum

**Baaritaanada : Investigations**

- ✓ Raajada xabad-ka in lasaaro si loo ogaado luminta marinada ee kala duwan : (Chest x-ray
- ✓ In laga baaro gaas hadii ay macquul tahay : (Blood Gas if possible)
- ✓ In lasaaro kumbuyutarka wadnaha : ECG
- ✓ In la saaro kunbuyutarka wadnaha : (Echocardiography)

**Maareenta : Management**

- Ku hay bukaanka meel ku haboon : (Maintain patient in a semi sitting position)
- in loo xiro oosijiinta wajiga hadii la helikar : (Oxygen by facial mask with reservoir bag if

available)

- IV Furosemide 2mg/kg/dose, maximum 8mg/kg/day 1x1

**Talooyinka : Recommendations**

- U wareeji dhaqtarka wad naha si uu u sii maamulo (Transfer to cardiologist for further management)

## 7.4.Congenital Heart Diseases

Qeexid : Cudurka wadnha ee lagu dhasho ama ay ku dhashaan ilmaha yaryar. Cudurka wadnaha ee lagu dhasho waxaa loola jeedaa dhibaato la xirirta qaab – dhismeedka wadnaha iyo shaqada sababta oo ah garaaca wadnaha oo caadi ahayn. Ama neefsa shada oo dagdag ah tasoo lagu arko in uu maqaarka buluug noqdo sababtuna tahay ogsijin la,aan (blue discoloration caused by a relative lack of oxygen).

Waxaana loo qaybiyaa labo qaybood oo kaala ah

1. Non-cyanotic
2. Cyanotic .

### 7.4.1. Non Cyanotic Heart Diseases

Cudurada wadnaha ee aan cynotic ahayn

Ciladaan wadnaha ah waa fasal kamid ah ciladaha wadnaha eelagu dhasho. Kuwani, dhiigu wuu ka go,aa ququla dhinaca bidix ee wadnaha ilaaiyo dhinaca midig ee wadnaha, waxaa sabab u ah cilad dhisme ama dalool septum-ka ah.

**Calaamada iyo astaamaha : Signs a nd Symptoms**

- Wane xanuun : Tachypnea, dyspnea
- Wadne garaa :Tachycardia
- Dhidid : Sweating
- Quudinta oo aan wanagsanan : Feeding difficulties / failure to thrive
- Calaamadaha xabadka oo soo noqnoqda : Recurrent chest symptoms
- Cagaar showga beerka : Hepatomegaly
- Cadaadiska halbowlaha : increased jugular venous pressure

**Dhibaatooyinka : Complications**

- ❖ Koriinsho xumo : Failure to thrive
- ❖ Infective Endocarditis
- ❖ Pulmonary vascular obstructive disease (pulmonary hypertension) which can lead to Eisenmenger syndrome

**Baaritaanada :Investigations**

- Raajada xabadka : Chest X-Ray
- Kubuyutarka : ECG
- Kubuyutarka wadnaha : Echocardiogram

**Daawada Treatmen**

Daawada waxay ku xirantahay hadba xaalada taagan waxaa laga yabaa in uu canuga u baahdo qaliin. (Treatment depends on the specific condition. )

- Lasix 2mg/kg/day
- captopril 1-3mg/kg/day (start with 1mg/kg)
- Increase calories in feeding
- Iron if Hb less than 10g/dl (preferably reach 15g/dl) - Surgical repair generally before 1 year if possible

## 7.4.2. Cyanotic Heart Diseases

Cudurka wadnaha ee cynotic waa cilad ku dhacda wadna kaa soo ay ku dhashaan caruurta. Taas oo keenta heerarka oksijiinta dhiiga oo hooseeya (90%) low blood oxygen levels (< 90 % even with oxygen).

**Calaamadaha iyo astaamaha : Signs and Symptoms**

- asasho la,aan iyo xanuun daran : Hyperpnea and restlessness
- Cyanosis-ka oo kordha : Increased cyanosis
- Xalada neefsiga : Gasping respiration
- Gariir : convulsions
- guuxa wadnaha oo baaba : Heart murmur disappears

**Dhibaatooyinka : Complications**

- Horumarka /koritaanka oo dib udhaca : delayed development/growth
- Cuddur kudhaca unugyada cascas RBC : Polycythemia
- Wareer mararka qaarkood ee la xariiraan qalal iyo dhimasho .: ( Hypercyanotic attack, sometimes associated with seizures and death)
- Maqnaasha maskaxda : Brain abscess

**Baaritaanada : Investigations**

- Baaritaanka raajada xabadka : Chest x-ray

- Baaritaanka guud ee dhiiga : Complete blood count (CBC)

- Cabirka wadnaha : Echocardiogram

- Baritaanka kubuyutarka wadnaha : Electrocardiogram (ECG)

**Daawada Treatment : Management**

- Kataxadar fuuqbax iyo walbahaar : Avoid dehydration and stress
- Propanolol 0.5-1mg/kg every 6 hours to prevent hypercyanotic attacks
- Iron 5mg/kg /day to prevent microcytosis
- Surgical repair, urgent as soon as spells begin

- In case of Hypercyanotic attacks

  • Diazepam 0.3mg/kg IV or 0.5mg PR if convulsing

  • normal saline 10-20ml/kg/ 30 minutes

  • Sodium bicarbonate 8.5% 1ml/kg to correct acidosis

  • Morphine 0.1mg/kg IV if persistent attacks (but risk of respiratory depression)

  • Propranolol IV 0.1 – 0.2 mg/kg slowly then continue oral maintenance to relax the inf

**Talo bixin : Recommendations**

- Dhamaan carurta qaba cudurada wadnaha ee cyanotic ee lagu arko shuban iyo matag waa in laseexiyaa cusbitaalka si loola socdo xaladooda caafimaad.

## 7.5. Acquired Heart Diseases

### 7.5.1. Acute Rheumatic fever

Waa cudur saamayn kara wadnaha laabatooyinka, maskada, iyo maqaarka, qandhada rheumatic-k ayaa soo bixi karta hadii aan sifiian loo dawaynin qandhada faraha bada ee lagu arko carurta xanuunka wadnaha qaba ayaa dhibaateen karta hanaanka daganaa shaha dhalaanka. Ogaanshaha hore ee caabuq yadaan iyo daaweynta antbiyootigyada ayaa fure u ah ka-hortaga qandhada rhumatic-ka. Inta badan qandhada nuucaan ah waxaa lagu arkaa caruurta u dhaxaysa 3 iyo 15 jir.

**Sababaha : Cause**

- Cudurada difaaca jirka : Auto-immune disease

**Calaamadaha iyo astaamaha : Signs and Symptoms**

- Xumad : Fever
- Gala goys xanuun : Arthritis

**Complication**

- ✓ Wadne xanuun : Rheumatic heart disease

**Investigations**

- ❖ Dhuunta oo dheecaan laga soo tiro : Throat swab for culture (positive throat culture of group A Streptoccocal infection)
- ❖ Baaritaanka dhiiga sida ESR/CRP
- ❖ Raajada xabadka Chest x-ray –
- ❖ Kubuyutarka wadnaha : ECG
- ❖ Cabirka wadnaha Echocardiogram

**Daawaynta : Tratment (Management)**

- Sii hal cirbad oo ah. Benzathine penicillin G (Extencilline): 25,000–50,000 units/kg/dose, maximum 1.2 mega units dose

  Or

- Oral Penicillin (Pen V) 25–50mg/kg/day in divided 3 doses for 10 days Or (Erythromycin

30-50mg/kg/day divided in 3 doses if penicillin allergy)

Marka laga dawaynayo astaamaha qndhada : Symptomatic Treatment

•Arthritis and fever

→ Aspirin 75–100mg/kg/ 7 maamood 1x2

→ Prednisolone 1-2mg Od for 2 isbuuc syrup

## 7.6. Rheumatic Heart Diseases

Qeexid: waa dhaawac barar ah oo kudhaca valves-ka wadnaha. Sida dhibaatooyinka qandhada ee rheumatic ee daran . ( It is an inflammatory damage of the heart valves, as a complication of acute rheumatic fever).

**Caalaamadaha iyo astaamaha : Signs and Symptoms**

- Gunuunaca wadnaha : Heart murmurs over affected valve
- Qandho : fever

**Dhibaatooyinka : Complications**

- Wadne xnuun aan caadi aheyn : Congestive cardiac failure
- Barar sanbabada ah : pulmonary oedema
- Baktariyada qanjirada : Bacterial endocarditis

**Baaritaanada : Investigations**

-Raajada xabadka : Chest x-ray

- Kunbuyutarka wadnaha : ECG

- Cabirka wadnaha : Echocardiography

**Daawada Treatment (Management)**

Dawada lasiinayo bukaanka hadba waxay ku xirantahay sida ay xaaladu tahay t

Tusaale : hadii ay qandho jirto sii dawooyinka qandhada hadii ay neefsiga uu cilad kajiro sii hawo nadiif ah sida ogsijiinta. Ku la tacaal xaladaan.

→ Amoxicillin 50mg/kg (Max 2gr) 1 hour before the procedure Or

→ Erythromycin 50mg/kg (max 1.5gr) – if allergic to penicillins

→ Ampicillin 50mg/kg IV or IM (max 2gr) with Gentamycine, 2mg/kg (max 120mg) 30minutes before the procedure Then

→ Amoxycillin per os 25mg/kg (max1gr) 6 hours

## 7.6.1. Infective Endocarditis (IE)

Qeexid : waa caabuq kudhaca dusha sare ee wadnaha oo mararka qaar ilmaha yar si daran usaa meeya noloshooda. Waxaana lagu arkaa ilmaha uu haleelay caabuqaan qandho jogta ah. Iyo wane xanuun

**Sababaha : Causes**

- cudurka :Rheumatic valvular disease

- Cudurka wdnaha ay kudhashaan caruurta : Congenital heart disease

**Calaamadaha iyo stamaha : Signs and Symptoms**

- Qandho heer hoosa oo joogta ah oo aan lahayn sabab cad oo jirta : (Persistent low grade fever without an obvious underlying cause )
- Daal : Fatigue,
- Kala goosyo xanuun : joint pain,
- Qandho uu heer keedu kasareeyo 38ºC : Fever ≥ 38ºC

**Baaritaanada : Investigations**

- ✓ In loo sameeyo sadax baritaan kahor dawada qalajiha ah : (Blood cultures( at least 3 cultures) before antibiotics )
- ✓ FBC /CRP/ESR
- ✓ Urine test strips – haematuria - Echocardiography

**Daawada : Treatment (Management)**

- Paracetamol, oral, 20 mg/kg at halmar sii , kadib sii 10–15 mg/kg/ dose, every 6 hours
- Antibiotics regimen: IV antibiotics are always given,
- Native Valve Endocarditis (NVE) due to Streptococci
- Benzylpenicillin (Penicillin G), IV, 300 000 units/ kg/day divided in 4 doses for 4 weeks Or

- Ceftriaxone 100mg/kg/day as single dose (maximum 2g) for 4 weeks PLUS
- Gentamicin, IV, 3mg/kg/day divided in 3 doses (maximum 240mg/day) for 2 weeks.

→ Patients allergic to penicillin and cephalosporines

- Vancomycine 40mg/kg/day divided in 3 doses (max 2g/day) for 4 weeks.

## 7.7. Hypertension in children

Qeexid : Dhiigkar-ka waa marka uu kordho cadaadiska dhiiga ee xidida jirka, wuxuuna cadaadiska dhiigu uu kordhaa marka ay yaradaan ama dhuudhuubtaan xididdada ama halbolayaasha dhiiga qaada . caruurta sanado badan ayuu heyn karaa isaga oo wax calaamad ah aan mujineyn.

Waxa uu wax yeelo daran ugeystaa xididada dhiiga qaada, maskaxda, wadnaha, indhaha, iyo kiliyaha,

**Sababaha : Causes**

- ❖ Waxaa sababa dhiiga oosaaid u kaca : Severe hypertension
- ❖ Isku dabaridka arotaha : Coarctation of Aorta
- ❖ Waqti dheer oo dawadalaqaato : Long term steroid therapy

Waxa ugu caan san ee sababa dhiig-karka heerla labaad iada oo lofirinayo da,da ( Most common causes of secondary hypertension by age)

• Marka loo eego dhalaanka cusub : New born

- Xalada kiliyaha oo daran : Renal abnormalities
- cilad artaiga ah :artery stenosis
- Xinjirowga dhiiga : thrombosis

• Sanadka koowaad dhalaanka : First year. Waxaa ku sababa.

- Coarctation of the aorta
- Xanuun ku dhaca kiliyaha iyo xididada : Renal vascular desease
- Buro kasoo baxda : Tumor
- Dawooyinka : Medications (steroids)

• 1-6 years

- Xanuun ku dhaca kiliyaha iyo xididada : Renal vascular diseases
- Renal parenchymal diseases (glomerulonephritis, hemolytic-uremic syndrome)
- Coarctation of the aorta
- Dawooyinka : Medication
- Essential hypertension

• 6-15 years

- Xanuun ku dhaca kiliyaha iyo xididada : Renal vascular diseases

- ❖ Renal parenchymal diseases (glomerulonephritis, hemolytic-uremic syndrome)
- ❖ Essential hypertension
- ❖ Coarctation of the aorta
- ❖ Endocrine causes
- ❖ Cunooyinka cayika keena : Nutritional causes (obesity)

**Signs and Symptoms**

- ✓ Madax xanuun : Headache
- ✓ Gariir, koomo iyo araga oo is badala : Convulsions, coma and visual symptoms
- ✓ Barar iyo kaadi dhiig : Oedema, haematuria, proteinuria
- ✓ Wadne istaag iyo barar san babada ah : Acute heart failure and pulmonary oedema
- ✓ Carurta qaar waxaa laga yabaa in ay sabtomaytic yihiin : Some children may be asymptomatic

Da,da carurta iyo cabirka dhiiga kore iyo dhiiga hoose lagarabo (Age of child 95th Percentile of Systolic and Diastolic Blood Pressure)

12 saac ee hore ee dhalashada (First 12 hours )
Isbuuca hore ee dhalashada( First week)

- ➢ Newborn prem 65/45 mmHg
  80/50 mmHg

- Newborn fullterm 80/50 mmHg
  100/70 mmHg

| Systolic mmHg | Diastolic mmHg |
|---|---|
| 6 weeks-6 Years<br>80 | 115 |
| 8 years<br>82 | 120 |
| 9 years<br>84 | 125 |
| 10 years<br>86 | 130 |
| 12 years<br>88 | 135 |
| 14 years<br>90 | 140 |

**Baaritaanada : Investigations**

- Baaritaanka kiliyaha : Urea, creatinine, electrolytes (Na+, K+)
- Fundoscopy
- ECG
- Echocardiogram
- Kubuyutarka caloosha : Abdominal ultrasound (focused on kidneys)

**Sida loo maareeyo carurta dhiikarka leh (Management)**

Hadii ilmaha yar lagu arko dhiig-kar lamafilaan ah (Acute hypertension) u samee dar yeel ku haboon xaladaan sida in aad kacabirto dhiiga 10 daqiiqo mar(BP) ilaa aad xasilooni kadareento canuga. sii dareera yaasha ku hoboon . ku nasi sariirta wadnaha xakamee qadashada dareeaha aad siisay.( Control fluid )

**Daawada Treatment**

Ha isku darin dawooyinka isku fasalka ah :( Do not combine drugs of the same class )

- Furosemide, IV, 1–2 mg/kg as a bolus slowly over 5 minutes, Increase up to 8 mg/kg/day
- Nifedipine 0.25-0.5mg/kg (max: 10mg) sublingual OR Amlodipine, oral, 0.2 mg/kg/dose. May be repeated 6 hours later, thereafter every 12 hours
- Refer the patient to a specialist when the patient is stable

Chronic Hypertension

First line

- Hydrochlorothiazide 1-2mg/kg/day once daily (maximum 25mg/day)

Dhibatada ay ku yalen karto dawadaan (Side effact) sokorta oo dhacda : hypokalemia

Second line

- Nifedipine OR Amlodipine 0.3-1mg/kg/day divided in 3 doses 0.1mg/kg/day (maximum dose 10mg/day) once daily

Dhibatada ay ku yalen karto dawadaan (Side effact) sifican looma oga caruurta kayar 6sano

Third line

- Captopril Or Lisinopril 0.5 – 4mg/kg/day divided in 2 doses 0.07- 0.6mg/kg daily

Dhibatada ay ku yalen karto dawadaan (Side effact) sokorta oo dhacda : hyperkalemia

Fourth line

- Atenolol 0.5-1mg/kg/day once daily (max up to 2mg/kg/day, do not exceed /100mg/day).

Sii daawada Furosemide (lasix) haddii uu jiro barar ama xanuunka kiliyaha

Note: do not associate Furosemide with Hydrochlorothiazide

**Talooyinka : Recommendations**

- Dhamaan bukaanada qaba xanuunka dhiig-karka joogtada ah. Waa in la kontorolaa xaladooda sida caafimaad qabka kiliyahooda iyo xididada dhiiga.

# 8.0 Musculoskeletal Conditions



## 8.1. Septic Arthritis

Qeexid : waa caabuq ku dhaca dareeraha wadajirka ah ee kala-goysyada (synovial) iyo unugyada wadajirka. Waxay ku dhacdaa inta badan caruurta marka loo eego dadka waawayn. Caadi ahaan infekshanku wuxuu gaaraa kala-goysyada isaga oo sii mara marinka dhiigga. xaaladaha qaarkood , kala-goysyada ayaa laga yaabaa inay caabuqaan ,

**Sababaha : Causes**

Dhalaanka : Neonates

- ✓ Dhalaanka waxaa ku sababa Group B. Streptococci, E. coli, fungi
- ✓ Caruurta waxaa kusababa cudurkaan : S.aureus, H. influenzae, Group A Streptococci S. pneumonia
- ✓ Carurta qaar waxaa ku sababa xanuunada galmoodka lagula qaado sida : N. gonorrhoea

- ✓ Waxaa sidookale sababi kara cuduradda raagay : sida. Brucella, tuberculosis, atypical mycobacteria, fungi and other uncommon organisms

**Qataraha : Risk factors**

- ➢ Jug ama dhaawac : Trauma
- ➢ Romatiisin : Rheumatoid arthritis
- ➢ Cudurka . Sickle cell disease
- ➢ Infekshanada maqaarka : Skin infections

**Calaamadaha iyo astamaha : signs and Symptoms**

Dhalaanka : In neonates and infants

Calaamadaha iyo astaamaha dhalaanka

- ❖ Khalkhal dheefshiidka ah : digestive disturbance
- ❖ Dhaqdhaqaaqa cirifka oo yaraada : diminished movement of the extremity
- ❖ Miisaanka oo hoos udhaca : Poor progression of weight
- ❖ Qandho : Fever
- ❖ Dhiiga oo sumooba : Septicemia
- ❖ Kala goysyada oo barara : Swollen, warm and painful joints

Caruurta : Older infants and children

- ❖ Xanuun aad udaran : Acute onset of pain,
- ❖ Barar kala goysyada ah : swollen joints

**Dhibaatooyinka : Complications**

- ➢ Jawaab xad dhaaf ah uu jirku kabixiyo caabuqa : Sepsis
- ➢ Lafaha oo jilca ama barar kudhaca : Osteomyelitis
- ➢ Burbur car jawda ah destruction of articular cartilage, permanently damaging the joint
- ➢ Secondary infectious site (bacterial endocarditis, brain abscess, etc.)

**Baaritaanada : Investigations**

- ✓ Joint ultrasonography
- ✓ Arthrocentesis with synovial fluid examination
- ✓ FBC and CRP
- ✓ X-ray
- ✓ Scintigraphy
- ✓ MRI

**Daawada : Treatment (Management )**

- In lasiiyo daawada qalajiyaasha ah muddo 4-6 isbuuc haddii qalliin lagu sameeyay jilibka. (Antibiotics: minimum duration of therapy is 4–6 weeks)

→ Dhalaanka : Neonates

- Cloxacillin IV o 1st -2nd week of life: 50 mg/kg/dose every 12 hours o 3rd – 4th week of life: 50mg/kg/dose every 8 hours o > 4 weeks of life 50mg/kg/dose 6 hourly + Cefotaxime, IV, 50 mg/kg/dose ( preterm 12 hourly, 1st week of life 8 hourly and > 2 weeks every 6 hours)

→ Caruurta : Infants and children

- Cloxacillin IV 50mg/kg/dose, every 6 hours + Cefotaxime IV 25–50mg/kg/dose, every 6 hours
- Alternative: Vancomycine 50mg/kg/day divided in 3 doses. Maximum dose is 1g/dose

Antipyretics and anti-inflammatories

- Ibuprofen, oral, 5–10 mg/kg/dose, every 6 hours

**Talooyinka : Recommendations**

- Daawada qalajiyaha ee pencillin waxaa lasiiyaa ilaa 6 isbuuc iyadoo 2da isbuuc ee hore laga siiyo xididka kadibna in ta soo hartay afka lagasiiyo .hadii uu afka ka qaadan karo daawada (Penicillin antibiotic given for up to 6 weeks, with the first 2 weeks administered intravenously followed by a switch to oral treatment if an oral option e)

## 8.2 Juvenile Rheumatoid Arthritis

Qeexid : Rheumatoid Arthritis -ka ee dhalaanka waa mid gaaban ee kudhaca caruurta kasoo laga yaabo in uu daba dheeraado waxaana lagu gartaa bararka kala goysyada sidoo kale waxaa lagu arkaa caruurta kulayl iyo xanuun. Arthritis-ku waxa uu noqon karaa muddo gaaban sida in uu jiro dhoor isbuuc ama bilo kadibna wuu baaba, aa, wuxuu u dhacaa habab kala duwan ( Ocurs in different forms ) mid kudhaca da, kasta intabadan wuxuu kudhacaa 2-4 sano (occurs at any age (mostly between 2−4 years old)

SYSTEMIC ONSET ARTHRITIS

**Calaamadaha iyo astaamaha :Signs and Symptoms**

- Qandho : fever
- Finan : Rash
- Bararka qanjirada : Lymphadenopathy
- Bararka beerka iyo beer yarada : Hepato−splenomegaly
- Xanuunka lafaha : Arthralgia
- Xanuunka gala goysyada : Arthritis, multiple joints

## POLYARTICULAR ONSET ARTHRITIS

### Calaamadaha iyo astaamaha : Signs and Symptoms

- Xanuunkaan wuxuu saameeyaa ilaa 5 kala goys 6 bilood ee hore (Affects ≥ 5 joints in the first 6 months )
- Xanuun kudhaca kala goysyada waa waawayn iyo ku yar : large and small joints
- Xanuun kaan oo noqonkara midjira iyo mid aan jirin : Rheumatoid factor either positive or negative
- Xanuunka oo daba dheerada ilaa iyo qaan gaarnimada : Aggressive form of diseases with chronic course persisting into adulthood

PAUCI − ARTICULAR ONSET ARTHRITIS

### Calaamadaha iyo astaamaha : Signs and Symptoms

- Wuxuu kulug yeeshaa kala goysyo xanuunka wawayn sida . curcurka, jilbaha , anqawyada, ama suxulada , (Involves the large joints (wrists, knees, ankles or elbows)

### Dhibaatooyinka : Complications

- ✓ Adimada oo dhareera : Leg length discrepancy
- ✓ Qalooc laf dhabarta ah : Scoliosis
- ✓ Murqaha oo adkaada : Contractures

**Baaritaanada : Investigations**

- FBC, differential, ESR
- Rheumatoid factor
- X−ray of affected joints
- Anti Nuclear Antibodies (ANA)

**Daawada : Treatmant**

- First Choice: Brufen 5-10 mg/kg/dose x 3/day
- Alternative: Prednisone PO 2 mg/kg as a single daily dose for 1–2 weeks, continue with 0.3–0.5 mg/kg/day as single dose for 3 months

Hadii aan laxaka meenkarin : If Arthritis not controlled

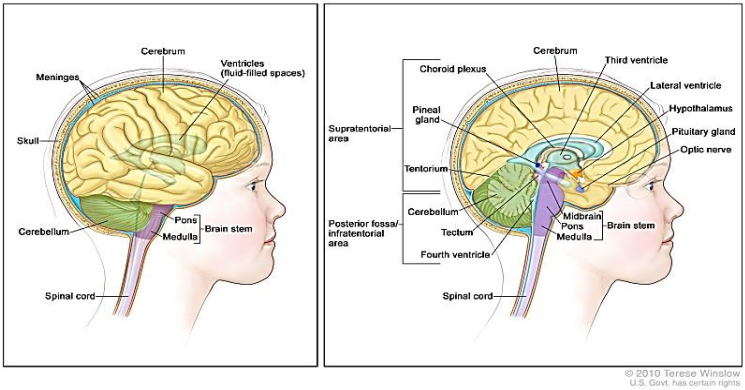
Sii : Give

- Methotrexate PO, 0.3 mg/kg/week as a single dose on an empty stomach, increase at monthly intervals up to 1 mg/kg/week until there is satisfactory response, maximum dose is 25 mg/week + folic acid 5mg daily for methotrexate treatment.

**Talooyinka : Recommendation**

- U dir bukaanka la-talin takhasus ah (Refer patient for rheumatology specialist)

# 9.0 Central Nervous System




## 9.1. Epilepsy : qalal

Qeexid : Waa xaalad la xariirta dareemayaasha taasoo keenta qalal soo noqnoqda.

Miyir- beelku waa isbadal kudhaca dareenka, ogaashada, ama dabeecada waxaana sabab u ah faragalin gaaban oo ku timaada koronta madaxa.

Qofka waxaa lagu sheegaa in uu qabo qalal kadib marka ay ku dhacdo labo miyir-beel ama kabadan

Miyir-beelku wuxuu yeelan karaa qabab kala duwan lagabilaabo indho taagan ilaa gariirka qalalka wuxuu waxyeelo gaarsiin karaa qof kasta iyo da,kasta qalalka ma ahan wax laysku daarto

**Miyir beelka gariirka leh**

Waxaa kamid ahaan kara :

- Luminta garaadka
- Adkaanta jirka sida muruqyada
- Neefsiga gaaban
- Luminta kontoroolka caloosha iyo kaadi haynta

Badanaa qalalka nuucaan ah wuxuu gaaraa 1-3 daqiiqo. Kadib qofku wuu wareeri karaa ama

waxaa ku dhici kara jaha wereer.

**Sida aad u kaalmeyn kartid**

1. U dhaaf miyir beelka in uu qaato waqtigiisa hana celcelin qofka
2. Lasoco inta waqti uu qaatay miyir beelka.
3. Qofka ka ilaali in uu san dhaawac soogaarin
4. Si tartiib ah qofka u gaddi dhinaca si uu neefsado si sahlan.

**Miyir -beelka aan gariirka lahayn**

Waxaa kamid ahaan kara:

- Luminta ogaalka indha taaga
- Dhaqqaaqa faruuryaha

- Socod aan kala sooc lahayn iyo jahwereer

Badanaa wuxuu gaaraa 1-3 daqiiqo kadibna waxaa dhici karto in uu jahwareero.

**Sida aad u kaalmeyn kartio:**

- Lajoog qofka ha isku dayin aad joojiso miyir –beelka oo u dhaaf in uu qaato miyir-beelka
- ka qaad wax yaabaha halista ee hortiisa yaala
- ha celcelin canuga

**Sababaha : Causes**

Lama garanayo waxa sababa cudurkaan lakiin waxaa jira wax yaabo lala xariiriyo : Idiopathic (70-80%)

Secondary causes:

- Cilad maskaxda : Cerebral dysgenesis or malformation
- Xiritaanka xididada maskaxda : Cerebral vascular occlusion
- Dhaawaca maskaxda gaara : Cerebral damage like Hypoxic Ischemic
- head injury, infections
- Burooyin maskaxda : Cerebral tumors
- Xanuunada neerfa yaasha : Neuro-degenerative disorders

**Calaamadaha iyo astaamaha : Signs and Symptoms**

- ❖ Dawaqaad kooban
- ❖ Indho taag
- ❖ Jareys aan xad laheyn oo lagu arko lugaha iyo gacmaha
- ❖ Ubur afka lagu arko
- ❖ Dhidid fara badan oo lagu arko qofka marka uu dhameysto xaalada qalalka.

**Dhibaatooyinka : Complications**

- o Xaalada qalalka : Status Epilepticus
- o Dhaawaca labaad ee miyir beelka inta lagu jiro qalalka (Trauma secondary to loss of consciousness during seizures )
- o Dib udhaca maskaxda : Mental retardation

**Baaritaanada : Investigations**

- ▪ EEG
- ▪ MRI of the brain
- ▪ CT scan of the brain

**Maareenta : Management**

Non Pharmaceutical

• Acute management

→ Manage Airway-Breathing-Circulation-disability and continue to monitor throughout seizures → Place patient on side at 20 – 30° head up to prevent aspiration

→ Monitor heart rate, respiratory rate, blood pressure, oxygen saturation (SaO2), neurological status, fluid balance

→ Monitor laboratory values including blood glucose, electrolytes, blood gases, toxicology screen and if indicated anticonvulsant blood levels

→ Control fever with tepid sponging

→ Administer oxygen to maintain SaO2 of ≥ 95%

→ If unable to protect airway or poor ventilation, consider use of an oral airway, bag-mask ventilation and/or intubation

→ Admit to pediatric ward or to Intensive Care Unit if indicated • Long-term management

→ Minimize the impact of the epilepsy by obtaining complete seizure control to maximize child's full potential

→ Educate the patient and parent or caregiver about epilepsy and associated complications (i.e. learning difficulties)

**Daawada : Trearment**

• Children <1 month of age

→ Refer to neonatology protocols for management of convulsions

• Children >1 month of age

→ Monotherapy is preferred but combination therapy may be necessary. Combination therapy should be initiated by or in close consultation with a pediatric specialist or neurologist. drug levels are rarely indicated unless there is concern about toxicity or compliance

→ For acute generalized tonic clonic seizures

- Diazepam rectal 0.5 mg/kg once OR IV 0.20.3mg/kg once May be repeated every 5 minutes for a total of 3 doses, monitor airway and breathing closely with repeat dosing
- Alternative Medication (in the absence of diazepam)
- Lorazepam IV 0.05- 0.1 mg/kg once, may be repeated in 5 minutes for a total of 3 doses

Or

- Clonazepam IV 0.1 -0.15 mg/kg loading dose by slow IV injection

→ For refractory status epilepticus

- Midazolam IV 0.1-0.3 mg/kg bolus followed by a continuous infusion starting at 1 ug/kg/minute.

The infusion can be titrated upwards every 5 minutes as needed.

→ If persistent seizure activity after benzodiazepines

- Phenobarbital 15 mg/kg IV or by NG tube loading dose over 15minutes, may use a dextrose containing solution. If no response after 30 minutes, may repeat a 7.5 -10 mg/kg IV loading dose.

Or

- Phenytoin 15-20 mg/kg IV infused over 30 minutes in a dextrose-free solution

→ If seizures persist after loading dose of either Phenobarbital or Phenytoin

- Please consult a specialist physician regarding combination therapy and referral for specialized care. Phenytoin and Phenobarbital may be used together but vital signs must be monitored closely and patient should be referred as soon as possible.

- Monitor for bradycardia, arrhythmias, and hypotension and pause the infusion if these signs occur and restart at 2/3 of the initial loading dose.

**Talooyinka : Recommendations**

Xanuunada qaar waxay ubaahan yihiin in la siiyo adeegyada gaarka ah sida kiisaska looga shakisan yahay xanuujinta dhalaanka ama suuxdinta (myoclonic.)

Hadii uu jiro walaac laga qabo sababta labaad ee suuxdinta ubaahan qiimayn dheeraad ah (tusaale ahaan waxaa kamid ah burooyinka maskaxda , (tuberous sclerosis, nabar maskaxda ah (cysticercosis) iwm

### 9.1.1. Convulsive Status Epilepticus

Qeexid : xaladaan suuxdintu waa gariir uu qofku ku siijiri karo muddo 30 daqiiqo xaalada noocaan ah waxay sababi kartaa dhimasho (tatus epilepticus is a convulsion that persists for > 30 minutes )

**Sababaha : Causes**

- Caabuqa neerfaha : CNS infection
- Maskaxda oo waydo ogsijiin kufilan : Hypoxic ischemic insult
- Dhaawac maskaxda : Traumatic brain injury
- Shilka maskaxda : Cerebrovascular accidents
- Cudurada kudhaca dheefshiidka : Metabolic disease
- Sokonkorta oo hoos udhacdo : hypoglycemia
- Isku dheeli tir la'aanta korontada : Electrolyte imbalance
- Maandooriyaha : Intoxication
- Kansarka : Cancer

**Calaamada iyo astaamaha : Signs and Symptoms**

- ❖ Suuxdin jogta ah ilaa 30 daqiiqo : Seizure lasting > 30 minutes

**Dhibaatooyinka : Complications**

- Dhimasho : death
- Xanuunka neerfaha oo ay kujiraan suxdin jogta ah : Neurologic morbidity including persistent seizures or encephalopathy
- Niyadjab neef sashada ah ama cilad : Respiratory depression or failure due to neurologic status or aspiration
- Dhiigkar : hypotension or severe hypertension
- Kiliyaha oo xumaada : Renal failure

**Baaritaanada : Investigations**

- o EEG
- o CT scan of the brain
- o MRI of the brain

Pharmacological

A flowchart showing medical management of Status Epilepticus:

Manage the ABCs (Airway, Breathing, Circulation). Administer oxygen. Check blood glucose

If seizure ≥ minutes

First AED:

If no IV: Diazepam 0.5 mg/kg/dose PR (maximum mg/dose)

If IV: Lorazepam 0.5 -1 mg /kg IV (maximum 5 mg IV over 1-4 minutes) May repeat benzodiazepine dosing every 5 minutes x2 if persistent seizure activity.

If no response after 10 minutes

Second AED:

- Phenytoin 15-20 mg/kg IV infused over 30 minutes in a dextrose free solution.
- If phenytoin unavailable, give: Phenobarbital 20 mg/kg IV over 15 minutes. Monitor for arrhythmias including bradycardia and hypotension. If they occur, stop infusion, stabilize patient, then re-start at 2/3 the initial rate.

If no response after infusion:

Repeat dose of the second AED:

- Phenytoin 5-10 mg//kg IV over 30 minutes in dextrose free solution
- Phenobarbital 15-20 mg/kg IV infused over 15 minutes.

If no response after infusion

Third AED:

- If Phenobarbital not yet given: Phenobarbital 20 mg/kg IV over 15 minutes
- If previously given Phenobarbital, start: Levetiracetam or Valproic Acid. If not available, pass to next step.

If no response after infusion

Fourth AED:

- Midazolam 0.1-0.3 mg/kg bolus followed by infusion of 1 meg/kg/minute.
- Phenobarbital 3-15 mg/kg bolus followed by continuous infusion of 1-5 mg/kg/hour Alternatives include general anesthetics such as thiopental or propofol. * This will require intubation and intensive care unit management

While following medication flow chart above, it is important to continue to address and manage the following:

- ABCs
- Hypoxia: Administer oxygen, oral airway, bag-mask ventilation or intubation.
- Hemodynamic: Assess for shock or hypertension and manage accordingly.
- Hyperthermia: Treat with Paracetamol 10-15

mg/kg orally or rectally every 4-6 hours as required.

- Hypoglycemia: Treat with IV dextrose solution.
- Hyponatremia: Assess etiology and manage accordingly
- If cerebral edema and normal renal function, consider Mannitol IV 0.5-1 gram/kg administered over 30–60 minutes.
- If there is a known space-occupying lesion, consider Dexamethasone IV 1-2 mg/kg IV as a single dose then 1-1.5 mg/kg/day divided into 4 doses.

**Talooyinka : Recommendations**

- ✓ Marka la xaliyo xaalada qalalka waa in lasiiyaa tixgalin dawooyinka ka hortaga suuxdinta
- ✓ Waxaa haboon had iyo jeer in loo diro bukaan dhaqtar taqasus ah(Referral to a specialist)

## 9.2. Cerebral Palsy

Qeexid : Cereparal palsy (CP) waa koox cudurro oo sameeya awooda qofka si uu u dhaqaaqo oo uu ilaaliyo dhalitirka iyo booska. CP waa naafonimada dhaqdhaqaaqa ee ugu caansan caruurnimada

Cerebaral .macnaheedu waa in maskaxda lagu sameeyo. cuuriyaan macnaheedu waa daciifnimo ama dhibaatooyin xaga murqaha ah

**Sababaha : Causes**

Ciladaan waxa sababa lama yaqaan balse waxaa jira waxyaabo lala xariiriyo : The etiology of the disorder is unknown in 70% of cases

- Infekshanka lagu dhasho : Congenital infections (TORCH)
- Dhibaatooyinka uur –kujirta : Obstetric complications (toxemia, placenta previa, abruptio placentae, etc.)
- Cilada lagudhasho ee maskaxda oo ay kujiraan dhaxalka : Congenital abnormalities including brain malformations and hereditary disorders
- Dhicisnimada : Prematurity
- Dhiigbaxa gudaha : Intracranial hemorrhage
- Dhaawaca maskaxda : Cerebral trauma

- Caabuqa manajeeytis-ka : Infections (Bacterial sepsis, meningitis, herpes)
- Sokorta aadka udaran : severe prolonged hypoglycemia.

**Calaamadaha : Signs and Symptoms**

- Spastic syndromes :
  - Dhaqdhaqaaq la,aanta murqaha : diplegia,
  - Xaalada kadhalata dhawaaca maskaxda : hemiplegia, or quadriplegia
  - Dhaqdhaqaaq aan iqtiyaar la hayn : dyskinetic syndromes :

**Dhibaatoyinka kadhasha : Complications**

- Inuu qofka ka naafoobo maskaxda : Intellectual disability
- Xanuunada dhimirka : Psychiatric disorders :
- qalal : Epilepsy:
- Dhibaato xaga hadalka, liqida, aragga, iyo maqalka : Speech, swallowing, vision and hearing problems
- Cudur lafaha ah : Orthopedic disease:

**Baaritaanada : Investigations**

- CT or MRI
- Lumbar puncture if indicated

- liver and renal function tests
- Genetic screening depending on clinical and family history
- Metabolic screening
- ECG
- X-rays if indicated

**Daawada : Treatment ( Management )**

Pharmacologic management of spasticity:

- Botulinum toxin injections: Must be done by trained provider.
- Dantrolene oral 0.5 mg/kg/dose once daily for 7 days, then increase to 1.5 mg/kg divided 3 times/day for 7 days, then increase to 3 mg/kg/day divided 3 times/day for 7 days, then increase to 6 mg/kg/day divided 3 times/day. do not exceed 400 mg/day
- Benzodiazepines: dose varies based on medication. Diazepam may be used: If 5 years: <8.5 kg: 0.5-1 mg at bedtime; 8.5-15 kg: 1-2 mg at bedtime; >5 years: 1.25 mg given 3 times per day up to 5 mg given 4 times per day.
- Baclofen oral: <2 years: 10-20 mg divided every 3 times perday, titrate dose every 3 days in increments of 5-15 mg/ day to a maximum of 40 mg daily; 2-7 years: 20-30 mg/ day divided 3 times per day, titrate dose every 3 days in

increments of 5-15 mg/day to a maximum of 60 mg/day, >8 years: 30-40 mg/day divided every 8 hours, titrate dose every 3 days in increments of 5-15 mg/day to a maximum of 120 mg/day

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