Common Pediatric Emergencies in OPD

1. Introduction

Pediatric emergencies in an OPD setting often present subtly and progress rapidly. These situations demand quick assessment, accurate diagnosis, and prompt intervention. Common emergencies such as febrile seizures, respiratory distress, dehydration, and allergic reactions can be effectively managed in outpatient settings if recognized early.

This ebook aims to provide a practical guide for clinicians to approach and manage frequently encountered pediatric emergencies. A blend of modern medical insights and Ayurvedic principles offers a holistic approach tailored to local practice patterns.

2. Approach to a Sick Child in OPD

A structured approach ensures no critical signs are missed during evaluation:

A. Initial Assessment (ABCD Approach)

Airway: Look for obstruction, stridor, or noisy breathing.

Breathing: Assess respiratory rate, chest indrawing, nasal flaring, grunting.

Circulation: Check heart rate, capillary refill, pulse quality, and skin color.

Disability: Evaluate consciousness (AVPU scale), pupils, tone, seizure activity.

B. Vital Signs and Growth Parameters

Record temperature, pulse, respiratory rate, BP (if feasible), SpO_2.

Check weight-for-age and assess hydration status.

C. Focused History

Onset and duration of symptoms

Feeding pattern, urine output, activity level

Immunization status and recent exposure to illness

D. Quick Physical Examination

General appearance (active/drowsy/irritable)

Skin color, rash, pallor, cyanosis

System-wise examination to localize the problem

E. Red Flag Signs

Altered sensorium

Rapid breathing with chest retractions

Persistent vomiting or diarrhea with signs of dehydration

Seizures

Inability to feed or lethargy

3. Fever with Convulsions

Overview:

Fever with convulsions is a common pediatric emergency. Febrile seizures typically occur in children aged 6 months to 5 years and can be alarming for caregivers. Most are benign but require careful evaluation to rule out serious underlying causes such as CNS infections.

Types of Febrile Seizures:

Simple Febrile Seizure:

Generalized tonic-clonic

Duration <15 minutes

Occurs once in 24 hours

No postictal neurological deficit

Complex Febrile Seizure:

Focal features

Duration >15 minutes

Multiple episodes in 24 hours

May have postictal weakness or drowsiness

Clinical Assessment:

Confirm presence of fever and seizure history

Check for signs of CNS infection: neck rigidity, bulging fontanelle, irritability

Evaluate hydration and sensorium

Record temperature and vitals

Management in OPD:

Ensure airway is clear, position child laterally

If seizure is ongoing (>5 minutes):

Administer Midazolam intranasally or Diazepam rectally (if trained and equipped)

Emergency Anticonvulsant Doses in Children

1. Nasal Midazolam (Midazolam Hydrochloride)

Dose: 0.2 mg/kg per dose

Maximum single dose: 10 mg

Administration: Divide the dose equally between both nostrils using a nasal spray or mucosal atomizer.

Example Doses:

10–15 kg child → 2 mg

15–30 kg child → 5 mg

30–50 kg child → 7.5–10 mg

2. Rectal Diazepam (Diazepam Rectal Gel)

Dose: 0.5 mg/kg per dose

Maximum single dose: 10–20 mg depending on age and weight

Common Pre-filled Doses: 2.5 mg, 5 mg, 7.5 mg, 10 mg, 12.5 mg, 15 mg, 17.5 mg, 20 mg

Example Doses (approximate):

Infant (6–11 months): 5 mg

1–4 years: 5–7.5 mg

5–10 years: 10 mg

11 years and above: 15–20 mg

After seizure stops:

Sponge for fever, give antipyretics (Paracetamol)

Encourage oral fluids once alert

Educate parents on febrile seizure first-aid

Refer immediately if:

Seizure >5 minutes, persistent altered consciousness

Suspicion of meningitis, focal seizures, recurrent episodes

Parental Counseling:

Febrile seizures are often self-limiting

Do not panic; position the child safely during episodes

Use paracetamol at onset of fever in future episodes

Keep emergency contact ready and know when to seek help

4. Acute Diarrhea and Dehydration

Overview:

Acute diarrhea is one of the most common pediatric emergencies. It leads to rapid fluid loss and, if not managed properly, can result in dehydration, electrolyte imbalance, and shock.

Common Causes:

Viral (e.g., Rotavirus – most common)

Bacterial (e.g., E. coli, Shigella)

Parasitic (e.g., Giardia)

Dietary causes, antibiotic-associated diarrhea

Clinical Assessment:

Evaluate Dehydration Severity (WHO Classification):

Signs	Some Dehydration	Severe Dehydration
General condition	Restless, irritable	Lethargic, un conscious
Eyes	Sunken	Very sunken and dry
Thirst	Drinks eagerly, thirsty	Unable to drink or drinks poorly
Skin pinch	Goes back slowly	Goes back very slowly

Management in OPD:

Rehydration Therapy:

No dehydration: Continue breastfeeding + ORS

Some dehydration: ORS 75 mL/kg over 4 hours

Severe dehydration: Refer for IV fluids immediately

Indication s for Antibiotics use in diarrhea:

1. Blood mucus diarrhea

2.Malnourisshed child

3.Stool routine shows pus cells more than 10 per hpf

4. Cholera

Zinc Supplementation:

Zinc sulfate 20 mg daily for 14 days (10 mg for <6 months)

Feeding:

Continue breastfeeding and normal diet after rehydration

Antibiotics only if indicated (e.g., dysentery or confirmed cholera)

Warning Signs for Referral:

Persistent vomiting

Blood in stool

Lethargy or altered consciousness

Inability to drink or breastfeed

Signs of shock (cold extremities, weak pulse, prolonged capillary refill)

Parental Advice:

Start ORS at home at the first sign of loose stools

Give small, frequent sips

Watch for signs of worsening dehydration

Do not stop feeding or breastfeeding

5. Acute Respiratory Distress

(Includes Bronchiolitis, Asthma, Croup)

Overview:

Respiratory distress is a frequent and potentially life-threatening emergency in pediatric OPDs. Prompt recognition and differentiation between conditions like bronchiolitis, asthma, and croup are vital.

Common Presentations:

Bronchiolitis:

Age: <2 years

Viral cause (often RSV)

Symptoms: Cough, wheeze, nasal congestion, fast breathing

Asthma:

Recurrent wheeze, breathlessness, often with a family history of atopy

Croup (Laryngotracheobronchitis):

Barking cough, stridor, hoarseness

Viral etiology (often parainfluenza)

Worsens at night

Clinical Assessment:

Signs of Respiratory Distress:

Increased respiratory rate

Chest retractions (subcostal/intercostal)

Nasal flaring

Grunting (in infants)

Cyanosis

SpO_2 < 92% on room air

Management in OPD:

A. General Measures:

Keep child calm and upright

Ensure airway patency (clear nasal passages in infants)

Monitor SpO_2 continuously if available

B. Condition-specific Management:

1. Bronchiolitis:

Usually viral and self-limiting

Suction nasal secretions

Give humidified oxygen if $SpO_2 < 92\%$

Nebulised saline may help in some cases

Hypertonic 3% saline ,

Adrenaline,

Salbutamol Nebulization

Dose of adrenalin is 0.5ml /kg in 3ml normal saline ,

Maximum dose

< 4 yrs 2.5ml

>4 yas 5ml

Avoid unnecessary antibiotics and bronchodilators

2. Asthma/Wheeze-associated Illness:

Inhaled/nebulised Salbutamol (0.15 mg/kg/dose)

Add Ipratropium for moderate to severe cases

Oral Prednisolone (1-2 mg/kg) for moderate/severe exacerbations

Observe response for at least 1–2 hours

Educate on use of inhalers with spacers

3. Croup:

Mild: Humidified air, calm environment

Moderate/severe:

Nebulised Epinephrine (0.5 mL/kg of 1:1000 dilution, max 5 mL)

Oral or IM Dexamethasone (0.6 mg/kg)

Warning Signs for Immediate Referral:

Inability to speak or feed

Cyanosis

SpO_2 persistently <90%

Exhaustion, altered consciousness

Stridor at rest (in croup)

Parental Guidance:

Teach signs of worsening breathing

Encourage regular follow-up in recurrent wheeze

Avoid smoke, allergens, and dust exposure at home

Use steam inhalation under supervision

6. Vomiting and Abdominal Pain

Overview:

Vomiting and abdominal pain are frequent pediatric complaints. Though often benign, they may be early signs of serious surgical or systemic illness. A focused evaluation helps differentiate self-limiting issues from emergencies.

Common Causes in OPD:

Vomiting	**Abdominal Pain**
Gastro- enteritis	Constipation
Over feeding/ food intolerance	Worm infestation
UTI	Gastro -enteritis
Motion sickness	Mesenteric lymphadenitis
Raised intracranial pressure	Appendicitis (Acute)

Clinical Assessment:

Duration, frequency, content of vomitus (bilious, bloody, projectile?)

Pain location, nature (colicky, dull, sudden), radiation

Associated symptoms: fever, diarrhea, urinary issues

Hydration and nutritional status

Palpate abdomen for tenderness, guarding, rigidity

Look for red flags:

Persistent bilious vomiting

Severe tenderness or rebound pain

Distension, absence of stools

Lethargy, shock, high fever

Management in OPD:

1. Mild vomiting:

Oral rehydration (ORS, small sips frequently)

Light diet (rice gruel, coconut water, khichdi)

Antiemetic (Ondansetron 0.15 mg/kg) if needed

2. Abdominal Pain:

Deworming if worm infestation suspected (Albendazole 400 mg stat if >2 yrs)

Avoid analgesics before clear diagnosis in acute abdomen

Give antispasmodic cautiously in functional abdominal pain

When to Refer:

Persistent vomiting or signs of dehydration

Severe or localized abdominal pain

Suspicion of appendicitis or obstruction

Hematemesis or blood in stools

Associated CNS symptoms (headache, altered sensorium)

Parental Advice:

Encourage oral fluids, monitor urine output

Avoid junk food or fried items

Do not delay medical consultation in persistent pain or vomiting

Maintain hygiene and deworm children every 6 months

7. Allergic Reactions and Anaphylaxis

Overview:

Allergic reactions in children may present as mild skin rashes or rapidly progress to life-threatening anaphylaxis. Early recognition and prompt treatment are crucial, especially in outpatient settings where rapid access to emergency care may be limited.

Common Triggers:

Foods: peanuts, milk, eggs, seafood

Insect bites or stings

Medications (antibiotics, NSAIDs)

Environmental allergens (dust, pollen)

Clinical Spectrum:

Mild to moderate	**Severe (Anaphylaxis)**
Urticaria, itching	Airway obstruction (stridor, hoarseness)
Localized swelling (Eye lids)	Dyspnoea, Sneezing, chest tightness
Sneezing, nasal congestion	Hypotension, dizziness, syncope
Mild abdominal pain, nausea	Collapsed, altered consciousness

Management in OPD:

Mild Reactions:

Oral antihistamines (Cetirizine 0.25–0.5 mg/kg)

Cool compress for local swelling

Avoid trigger, monitor for progression

Moderate to Severe Reactions (Anaphylaxis):

Adrenaline IM (0.01 mL/kg of 1:1000) into the anterolateral thigh

Repeat every 5–15 min if no improvement

Lay child flat, elevate legs if hypotensive

Give oxygen, monitor vitals

Antihistamines and corticosteroids as adjuncts (not primary treatment)

Immediate referral to hospital post-stabilization

Emergency Kit (for OPD use):

Adrenaline 1:1000

Syringes and needles

Antihistamines (oral and injectable)

Steroids (Hydrocortisone/Prednisolone)

Oxygen supply if available

Parental Advice:

Identify and avoid known allergens

Carry Adrenaline auto-injector if prescribed

Seek immediate care for breathing difficulty, fainting, or rapid swelling

Inform schools/caregivers about allergy status

8. Trauma and Head Injury

Overview:

Children are prone to minor and major injuries due to their active nature. Head injury is a critical emergency that may present subtly but requires careful evaluation. In OPD, early identification of red flags is essential to prevent complications.

Common Scenarios:

Falls (from bed, stairs, playground)

Road traffic accidents

Sports injuries

Assault (in older children or concerning contexts)

Initial Assessment (ABCDE):

Airway: Ensure patency, cervical spine protection if trauma suspected

Breathing: Check rate, rhythm, SpO_2

Circulation: Pulse, BP, signs of shock

Disability: AVPU scale, GCS score

Exposure: Look for bruises, lacerations, bleeding

Red Flags in Head Injury (Immediate Referral Needed):

Loss of consciousness >5 minutes

Vomiting >2 episodes

Seizures after trauma

Confusion or drowsiness

Bleeding from nose/ear, CSF leak

Unequal pupils, focal neurological signs

Scalp swelling >5 cm or boggy hematoma in infants

Management in OPD:

Mild Head Injury (no red flags):

Observation for 6–12 hours at home

Ice pack on local swelling

Paracetamol for pain (no NSAIDs)

Educate parents on signs needing urgent attention

No screen time or rough play for 48 hours

Soft Tissue Injury / Minor Cuts:

Clean with antiseptic

Soft Tissue Injury / Minor Cuts:

Clean wound with antiseptic solution

Apply pressure for bleeding control

Close superficial wounds with sterile dressing or steri-strips

Tetanus prophylaxis if indicated

Refer if deep wound, suspected fracture, or cosmetic concern (e.g., facial laceration)

Fractures or Limb Injuries:

Assess for pain, swelling, deformity, loss of function

Immobilize limb with splint or sling

Elevate limb to reduce swelling

Refer for X-ray and orthopedic evaluation if fracture suspected

Parental Advice:

Ensure safe play environment (padded corners, safety gates)

Always supervise young children, especially near stairs or balconies

Use helmets, seatbelts, and child restraints when travelling

Observe for at least 24–48 hours post head injury even if symptoms seem minor

9. Urinary Tract Infections (UTI) and Acute Urinary Retention

Overview:

UTIs are common in children and may present with nonspecific symptoms, especially in infants. Acute urinary retention is rare but needs urgent evaluation and care. Early diagnosis prevents complications like renal scarring.

Common Presentations:

Infants	**Older Children**
Fever without focus	Dysuria, frequency, urgency
Vomiting , irritability	Lower abdominal pain
Poor feeding, failure to thrive	Foul-smelling urine
Jaundice (in neonates)	Enuresis, sometimes fever

Causes of Acute Urinary Retention:

Severe UTI

Meatal stenosis, posterior urethral valves

Constipation

Neurological disorders (e.g., spina bifida)

Trauma, urethral calculus

Clinical Assessment:

Fever, abdominal/pelvic tenderness

Palpate bladder – distension suggests retention

Observe urinary stream if possible

Rule out constipation, genital abnormalities

Urine dipstick or microscopy: look for pus cells, nitrites, bacteria

Management in OPD:

For Suspected UTI:

Collect midstream or catheter sample (avoid contamination)

Start empirical antibiotic (e.g., Cefixime 8–10 mg/kg/day)

Ensure hydration

Antipyretics for fever

Refer for culture and renal ultrasound in:

<2 years

Recurrent UTIs

Poor response to treatment

For Urinary Retention:

Immediate referral if bladder palpable or child in pain

Gentle catheterization only if trained and necessary

Treat constipation if evident

Rule out structural anomalies

Parental Advice:

Encourage regular hydration

Ensure toilet hygiene, especially in girls

Avoid withholding urination or overuse of diapers

Complete full course of antibiotics if prescribed

Watch for recurrence and consult for follow-up investigations

10. Poisoning and Accidental Ingestions

Overview:

Poisoning is a pediatric emergency that typically occurs due to accidental ingestion of household items, medicines, or chemicals. Rapid assessment and early supportive care in OPD can be lifesaving.

Common Agents:

Household chemicals (phenyl, kerosene, toilet cleaners)

Medications (paracetamol, iron, antihistamines)

Plant toxins (castor, oleander)

Insecticides and pesticides

Cosmetics, alcohol-based products

Common Presenting Symptoms:

Vomiting, drooling, abdominal pain

Altered sensorium, seizures

Respiratory distress or wheeze (especially with kerosene)

Cyanosis, pallor, shock

Burns around mouth (corrosives)

Initial Management in OPD:

Do's:

Ensure airway, breathing, circulation (ABC)

Identify the substance and amount ingested

Decontaminate (remove soiled clothing, wash exposed skin)

Give activated charcoal (1g/kg) within 1 hour if safe and indicated

Refer to hospital immediately if:

Suspected corrosive, hydrocarbon ingestion

Altered consciousness, convulsions, or shock

Ingestion of iron, paracetamol, or unknown substances

Don'ts:

Do not induce vomiting

Do not give milk or water forcibly

Do not delay referral while trying home remedies

Specific Antidotes (Examples):

Toxin	Antidote
Paracetamol	N-acetylcysteine (NAC)
Iron overdose	Deferoxamine
Organophosphates	Atropine + Pralidoxime
Benzodiazepines	Flumazenil

Parental Advice:

Store medicines and chemicals out of children's reach

Use child-resistant containers

Educate caregivers and older siblings

Keep emergency contact numbers handy

Never label poisons as “medicine” or store in food containers