



SOP 5: Emergency Services



CHC Kanas, Puri

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Document No. – KN/EMR/SOP/05

Reviewed by:	Approved by
Superintendent, CHC Kanas	Superintendent, CHC Kanas

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SOP 5: Emergency

1. Purpose:

To provide guideline instructions for the provision of immediate relief to and management of the patients arriving at the hospital with acute medical and surgical emergencies with any injuries by accidents, sudden attacks of illness, head injury/trauma, Physical abuse, poisoning, burns and rape cases etc. without any discrimination.

2. Scope:

It covers:

- Primary management of wounds, first aid, trauma and bone injuries, poisoning, snake bite and dog bite cases
- Emergency management of life threatening conditions

3. Responsibility:

Medical officer, Staff Nurse

4. Procedures:

In case of BURNS

Treatment

- 1) Staff Nurse records the vitals and informs the doctor on duty.
- 2) In case of emergency the Medical Officer on duty identifies if the patient can be treated at the CHC
- 3) If the patient cannot be treated the patient is referred to the nearest health facility/ higher centre after giving necessary first aid treatment.
- 4) An Emergency Medical Technician/Pharmacist accompanies the patient in the ambulance.
- 5) In case the patient can be treated at the CHC Medical Officer writes the chief complaints, medical history and necessary treatment/ investigations is prescribed which is recorded in the OPD card
- 6) In case the patient requires admission IPD procedure is followed

The Pharmacist/ Staff Nurse manages the patient before the arrival of the doctor (In case the doctor is not available):

1. Clean the burns with running water except for the chemical burns.
2. Do not prick the burn.
3. Dressing: Aims to minimize pain, absorb exudates and debris, shield the burns from secondary infection and provide protection during transport.

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4. Application of cream—Silver sulphadiazine 1% or Silver nitrate or Framycetin 1%.

In the Emergency the Medical Officer:

Assesses the patient:

In case of Minor burns, as well as second-degree burns that is

1. Cool the burn. This is done by holding the burn under cold running water for around 5 minutes or until the pain subsides, or immersing the burned area in cold water or cooling it with cold compresses. Never put ice on the burn.
2. Cover the burned area with a sterile gauze bandage or clear moist towels: Don't use fluffy cotton, as it may irritate the skin. Wrap the gauze loosely to avoid putting pressure on the wound. Bandaging the burned skin keeps air away from the injury.
3. Don't break or prick blisters. For major burns, refer the patient to higher facility.
4. Don't remove burnt clothing. However, do ensure that the victim is no longer in contact with burning materials or exposed to smoke or heat.
5. Don't immerse victims with critical large burns in cold water. Doing so may cause shock.
6. Cover the area of the burn with a moist, cool, sterilized bandage or clean, moist cloth or moist towels.

In case the patient is admitted the following is to be done if the patient can be managed at the CHC level:

General Management

1. Fluid resuscitation

Intravenous fluids to be infused through a wide bore cannula (Ringer's lactate solution) at the rate of 4 ml/kg/% burns area. If not available then normal saline can be used.

Adequacy of the fluid therapy is best assessed by measuring hourly urine output, which should be maintained at 30-50 ml per hour in adults and 0.5-1 ml/kg body weight in children. Infusion rate should be increased or decreased accordingly.

Other features to be assessed are pulse rate, respiratory rate, blood pressure and level of consciousness.

2. Pain relief is provided to the patient

Patient education

- Provide psychological support to the patient and relatives about the extent of burns, possible outcome and complications.
- Educate parents about prevention of accidents and burns in future by taking necessary preventive steps at home.
- Transport of patient to healthcare centre should be done at the earliest.
- Inform the relatives about the medico-legal aspects of the injury and importance of

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evidence and dying declaration by the patient in case of homicidal burns or suspected dowry deaths.

In case of POISONING

Treatment

- 1) Staff Nurse records the vitals and informs the doctor on duty.
- 2) In case of emergency the Medical Officer on duty identifies if the patient can be treated at the CHC
- 3) If the patient cannot be treated the patient is referred to the nearest health facility/ higher centre after giving necessary first aid treatment.
- 4) An Emergency Medical Technician accompanies the patient in the ambulance.
- 5) In case the patient can be treated at the CHC Medical Officer writes the chief complaints, medical history and necessary treatment/ investigations is prescribed which is recorded in the OPD card
- 6) In case the patient requires admission IPD procedure is followed

Stepwise approach in case of poisoning is suspected:

1. Suspicion of poisoning should be aroused by sudden onset of symptoms, uniform and increasing severity of symptoms in a group,
2. Identification of the substance should not take precedence over the first step, since the process is slow and unreliable and further lack of proper history might add to confusion.

A. Induce emesis

(**Caution:** Contraindicated in cases of corrosive poisoning, unconscious patients and in those who have swallowed petroleum products.)

Mechanical tickling of the throat with fingers, spatula or tongue depressor will induce vomiting.

Or

Two to four teaspoonfuls (10-20 ml) of syrup **ipecac** followed by half a glass of water.

B. Antidotes

The absorption of the ingested poison can be reduced by using commonly available specific antidotes as per the poison.

C. Asymptomatic therapy

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Give symptomatic therapy for pain, vomiting, diarrhoea, abdominal distension, convulsions,etc.

Medical Management Protocols for Snake Bite

Introduction:

There are more than 250 species of snakes in India, 52 of which are venomous (Poisonous). There are 4 Families of Venomous snakes:

- Elapidae - Kraits, cobras (neurotoxic)
- Viperidae - Russell's viper, saw-scaled viper, other vipers (Hemotoxic)
- Hydrophiidae - Sea snakes (neurotoxic; extremely rare bites reported)
- Colabridae – Rear-fanged snakes (mostly harmless due to low toxicity)

Of these, there are only 4 medically important species in Odisha namely;

1. Cobra (Najanaja)
2. Common krait (Bungaruscaeruleus)
3. Russell's viper (Daboiarussellii)
4. Saw-scaled viper (Echiscarinatus)

These four species are referred to as the **Big Four** snakes of India as they are collectively responsible for most snake-bite deaths in India. The estimated total of 46,000 national annual snake-bite deaths constitutes about 5% of all injury deaths and nearly 0.5% of all deaths in India.

Snake-bite preventive strategies by rural communities and effective post bite clinical management are key mitigation measures.

Clinical Features in patient bitten by common venomous snake:

Species	Clinical Features
Viperidae (all)	Local Swelling plus bleeding tendencies
Russell's viper	Ptosis, Opthalmoplegia, facial paralysis with dark coloured urine
Cobra	Local swelling with Paralysis
Krait	Paralysis without local swelling bitten while sleeping on ground

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Community Health centre:

How to treat:

Do's:

1. Reassure the Patient that all the snakes are not venomous and even if venomous, treatment is available.
2. Immobilize the affected part with splint or bandage.
3. Make the victim lie flat with affected limb below heart level.
4. Remove shoes, tight clothes, rings, jewellery or watches.
5. Be prepared for cardiorespiratory resuscitation. (CPR)
6. Maintain airway, breathing and circulation. (ABC)
7. Administer Inj. Tetanus toxoid IM
8. Give Antibiotics if skin is breached or localized necrosis.
9. Try to identify the snake if available or ask the relatives who have seen that.
10. Monitor the patient for 24 hours for late symptoms.

Don'ts:

1. Do not apply tourniquet.
2. Do not wash the site with soap or water to remove poison.
3. Do not make cuts or incision on or near the bitten area.
4. Do not give electrical shock or apply extreme cold to the bitten area.
5. Do not suck out the venom with mouth.
6. Do not apply any herbal or folk remedies to the bitten area.
7. Do not give any drinks or alcohol to the patient.

When to transfer/refer:

1. If the snake is identified as venomous, do not wait for symptoms to develop. Immediately transfer to higher level.
2. If during observation following symptoms develop, transfer the patient to DHH
 - Bleeding from any site
 - Decrease urine output
 - Localized excessive swelling or cellulitis

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- Respiratory distress
- Chest pain with tightness
- Paralysis
- Any other Deteriorating condition.

ACUTE DIARRHOEA/ GASTROENTERITIS

It is a self-limiting illness characterized by diarrhoea, abdominal cramps, nausea and vomiting, usually caused by viruses or bacteria (E. coli, V. cholerae, Staph. aureus, Bacillus cereus, etc.). Most of these are non-invasive or toxic diarrhoea. Less commonly, patients present mainly with diarrhoea with passage of mucous and/or blood in stools. This may be associated with significant systemic symptoms like fever, malaise, etc. These patients are more likely to have invasive diarrhoea caused by the bacteria (E. coli, Shigella, Salmonella, Campylobacter, etc.) or parasite (Amoeba).

Treatment

In acute gastroenteritis, dehydration and electrolyte imbalance is the main problem which needs attention and there is no need to go for aetiological diagnosis. Investigations are indicated, if there is bloody diarrhoea, clinical evidence of toxicity or prolonged diarrhoea.

Non pharmacological

Mainstay of treatment is adequate fluid replacement in any form. To prevent vomiting, patient should be asked to take only sips of fluid. Fluids used at home can be juices, soups and glucose/electrolyte drinks (oral rehydration solution). Milk and its products should be avoided initially because of secondary lactase deficiency. High fibre diet should be avoided. (For details of management of moderate to severe dehydration and electrolyte imbalance see section in Chapters 2 and 19).

Pharmacological

1. **Indicated only in very ill patients with systemic symptoms** associated with bloody diarrhoea, traveller's diarrhoea or in cholera infection
Tab. Ciprofloxacin
500 mg 2 times a day for 3-5 days.

2. **In amoebic dysentery**

Tab. Metronidazole 800 mg 3 times a day for 7 days.

Or

Tab. Tinidazole 2 g orally as single dose with food.

3. **In acute *Giardia* infection**

Tab. Tinidazole 2 g orally as single dose with food

Or

Tab. Metronidazole 400 mg 3 times a day for 3 days.

Indications for hospitalization

Patients with clinical signs of dehydration especially young children or elderly, suspected cholera, immunosuppressed patients and those with severe systemic symptoms.

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Patient education

- Patients should be instructed to continue taking adequate fluids even if it initially causes slight increase in frequency of stools due to increased gastro-colic reflex.
- They should report to the physician, if they are not able to retain any fluid taken orally and develop significant decrease in urine output.

MYOCARDIAL INFARCTION (MI)

The term myocardial infarction is used when there is evidence of myocardial necrosis in a clinical setting consistent with myocardial ischaemia.

SALIENT FEATURES

Any one of the following criteria meets the diagnosis:

- ⌘ Detection of rise and/or fall of cardiac biomarkers (preferably troponin) with at least one value above the 99th percentile of the upper reference limit-together with evidence of myocardial ischaemia with at least one of the following.

Symptoms of ischaemia:

- ⌘ Chest pain similar to angina pain is the commonest symptom, usually begins at rest, no response to nitrates, lasts>20 minutes and patient may have associated dyspnoea, hypotension, sweating, altered sensorium and cyanosis. Diagnosed by typical ECG changes.

ECG changes indicative of new ischaemia (new ST-T changes (STEMI) or new left bundle branch block (LBBB).

- ⌘ Development of pathological Q waves in the ECG.
- ⌘ Imaging evidence of new loss of viable myocardium or new regional wall motion abnormality.

Sudden unexpected cardiac death:

- ⌘ Sudden death is 1st manifestation in significant number of patients. Some patients may be asymptomatic and detected on routine ECG.

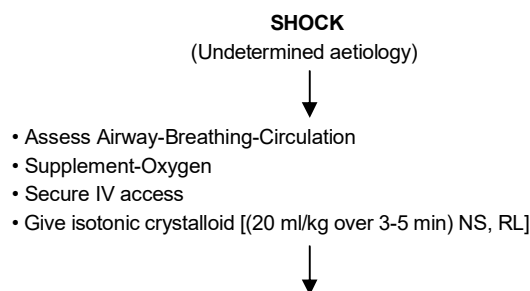
Treatment

Administer 162 to 325 mg of aspirin (chewed) to chest pain patients suspect of having STEMI unless contraindicated or already taken by the patient.

Refer the patient to higher centre.

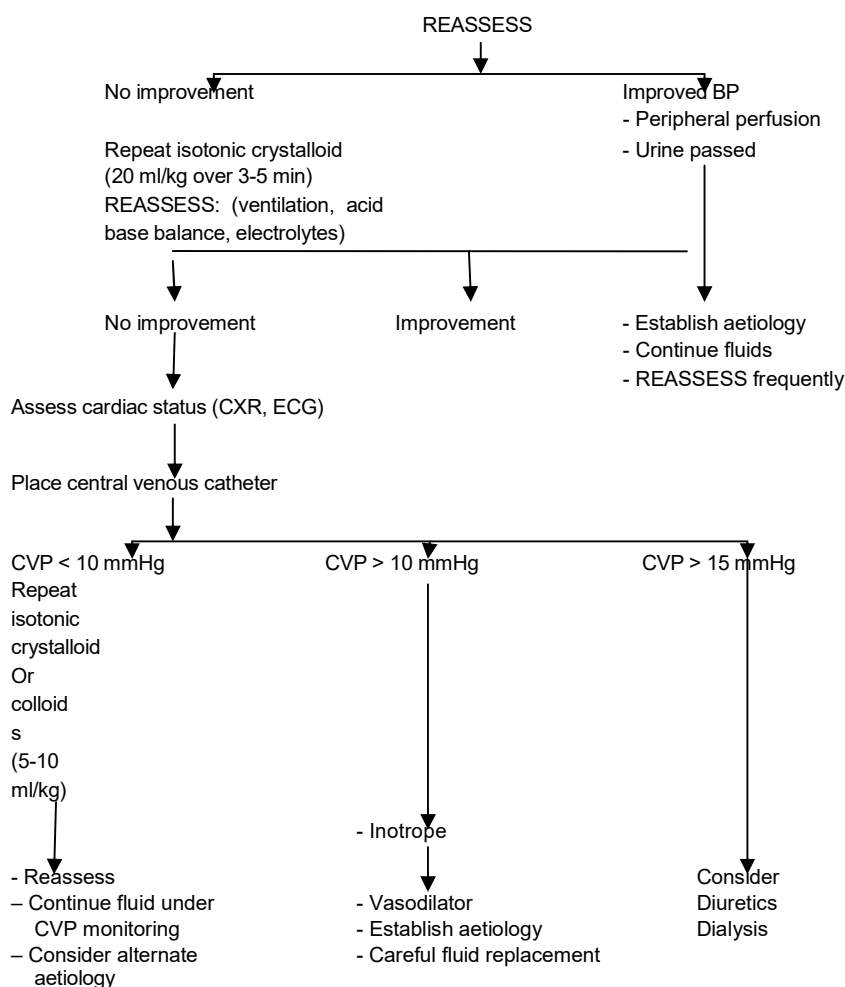
SHOCK

Shock is a state of acute circulatory failure that leads to tissue hypoxaemia.



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Schematic outline of initial resuscitation of shock.

FRACTURES

A fracture is a break in the structural continuity of a bone. It is termed as an open (compound) fracture, if there is a concomitant wound through which the fracture site communicates to the environment. If the fracture does not communicate to the environment, it is called as close fracture.

SALIENT FEATURES

⌘ Pain, swelling, tenderness, loss of function, deformity, shortening, crepitus, abnormal mobility and loss of transmitted movement, singularly or in combination.

Treatment

Only observe but do not elicit these signs by purposefully manipulating the limb at the site of accident or injury.

Emergency care of fractures at the site of accident (first aid)

⌘ All trauma patients with a cervical spinal column injury or with a mechanism of injury having the potential to cause cervical spinal injury should be immobilized at the scene and expeditiously

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transported to nearest hospital using one of several available methods - a combination of a rigid cervical collar and supportive blocks on a backboard with straps.

For major injury refer to higher centre.

Patient education

- ⌘ Following points should be explained to the patient after application of a plaster:
- The plaster immediately after application feels warm/hot during setting. Don't cover the plastered limb with clothing or bed sheet to allow the plaster to dry and to permit direct observation of the limb.
- Keep the limb elevated and keep on moving toes/fingers frequently.
- In children to cover the edges of the plaster with waterproof material like polythene or plastic adhesive tape to avoid soiling of a hip spica or GT cast with urine or faeces.
- Not to bear weight on plaster unless permitted by the doctor, otherwise it gets spoiled/cracked.
- Avoid resting the plaster over any edge or hard surface to avoid dents and plaster sore.
- ⌘ Explain a home exercise programme to the individual to complement supervised rehabilitation.

ACUTE FEVER

The overall mean oral temperature for healthy adult individuals is $36.8 \pm 0.4^{\circ}\text{C}$, with a nadir at 6 AM and a peak at 4-6 PM. A morning temperature of greater than 37.2°C and an evening temperature of greater than 37.7°C is often considered as fever. Fever may be continuous, intermittent or remittent. However, with frequent self-medication with antipyretics, classic patterns are not generally seen.

Diagnosis

It is important to work towards finding the cause of fever. A meticulous history of chronology of symptoms, any associated focal symptom(s), exposure to infectious agents and occupational history may be useful.

A thorough physical examination repeated on a regular basis may provide potentially diagnostic clues such as rash, lymphadenopathy, hepatomegaly, splenomegaly, abdominal tenderness, altered sensorium, neck stiffness, lung crepts, etc. Drug fever should be considered when the cause of fever is elusive.

Diagnostic tests

A large range of diagnoses may possibly be the cause of fever. If the history and physical examination suggest that it is likely to be more than a simple URI or viral fever, investigations are indicated. The extent and focus of diagnostic work-up will depend upon the extent and pace of illness, diagnostic possibilities and the immune status of the host.

If there are no clinical clues, the work-up should include a complete haemogram with ESR, smear for malarial parasite, blood culture, WIDAL test, urine analysis including urine culture. If the febrile illness is prolonged beyond 2 weeks, an X-ray chest is indicated even in the absence of respiratory symptoms. Any abnormal fluid collection should be sampled. Ultrasonography is needed in some cases of acute fever such as in amoebic liver abscess.

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Treatment

Routine use of antipyretics in low-grade fever is not justified. This may mask important clinical indications. However, in acute febrile illnesses suggestive of viral or bacterial cause, fever should be symptomatically treated.

No pharmacological

Hydrotherapy with tepid water, rest and plenty of oral fluids.

Pharmacological

Non-specific.

Tab. Paracetamol 500-1000 mg (max 4 g in 24 hours) 6-8 hourly.

(**Caution:** Reduce dose in frail elderly, adults weighing <50 kg and those at risk of hepatotoxicity)

Or

Tab. Ibuprofen 400-600 mg 8 hourly.

Specific. Antibiotics/ antimalarial depending upon the cause suggested by clinical and laboratory evaluation.

Outcome

In most cases of fever, patient may either recover spontaneously or a diagnosis is reached after repeated clinical evaluation and investigations. If no diagnosis is reached in up to 3 weeks, patient is said to be having fever of unknown origin (FUO) and should be managed accordingly.

Patient education

- ⌘ Self-medication and over-medication should be avoided.
- ⌘ Avoid injectable paracetamol/NSAIDs.
- ⌘ Antibiotics should be taken only on advice of a physician.
- ⌘ Avoid covering the patient having high fever with blanket, etc.
- ⌘ Plenty of fluids should be taken. Stay in cool environment. Washing/sponging of face and limbs should be done repeatedly.

Records

S No	Name of Record	Record No	Minimum Retention period
1	Emergency cum Procedure (minor) Register	KN /EMER./RC/01	1Year

****End of SoP****

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