

African Palliative Care Association



Use of controlled medicines in clinical practice in Africa: Model guidelines and reference tool.

Developed as part of the UNODC/Belgian Government supported project in the DRC



SOME QUOTES ABOUT EDUCATION

Martin Luther King Jnr described education as a process of thinking intensively and critically. He said intelligence and character are together equal to true education.

Nelson Mandela: “Education is the most powerful weapon to change the world.”

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This model guidelines and reference tool provides guidelines for the use of controlled medicines in clinical practice in Africa. The guideline can be adapted to the context of each country and each institution.

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GUIDANCE ON THE USE OF THE GUIDELINES

This document has been developed as part of the UNODC facilitated project funded by the government of the Kingdom of Belgium and implemented by the African Palliative Care Association to improve access to internationally controlled medicines for medical and scientific use initially in the Democratic Republic of Congo but now being made available for the rest of Africa. Clinical guidelines from Uganda, South Africa, WHO and several other source documents have been consulted and stated in the reference section at the end of this document. It forms the core reference guide for the training of health workers in hospitals on the use of controlled medicines for the following fields:

1. Mental, Neurological and Substance Use Disorders
2. Palliative Care
3. Anaesthesia
4. The supply chain for controlled medicines
5. Other disciplines

In addition, before adoption by each country the content should be reviewed by technical and focal persons in-country to adapt and then adopt new clinical guidelines on the use of controlled medicines in clinical practice in the country.

The guidelines have been drafted by the team at APCA led by Dr Emmanuel Luyirika, Dr Eve Namisango, Wedzerai Chiyoka, Patricia Batanda, Mable Namuddu and reviewed by Professor Seggane Musisi (Psychiatry) and Christopher Ntege (Pharmacist).

CHAPTER I

INTRODUCTION

INTRODUCTION

This document is drafted by the African Palliative Care Association to act as a training guide for the training of health workers on the conditions for which controlled medicines are needed.

Secondly it is the source document for review, adaptation and adoption by the Ministries of Health in Africa as the clinical guidelines for use of controlled medicines in mental, neurological, substance use disorders, anaesthesia and palliative care within the country.

This model document is part of the UNODC supported and Belgian Government funded project on improving access to controlled medicines in the DRC and is now being availed for all other African countries.

The document was reviewed by a team of technical experts in the fields of Pharmacy, Psychiatry, Internal Medicine, Neurology, Anaesthesia, Harm Reduction/treatment of drug dependence, and Palliative Care, Pain and Symptom Control to eventually adapt and adopt national clinical guidelines on the use of controlled medicines.

CHAPTER 2

BACKGROUND AND COMMUNICATION

BACKGROUND AND COMMUNICATION

There is limited access to controlled medicines in many countries as evidenced by consumption data from health facilities and countries and this is due to the stringent laws whose focus is more on control against illicit use, limited financing from governments, inadequately prepared and trained prescribers and lack of awareness for policy makers, health workers and patients.

For successful use of controlled medicines, it is recommended that clear guidelines on use and communication are developed. Health workers in all disciplines that interact with patients who need controlled medicines must pay special attention to communication and packaging of information to patients about their illnesses, the medicines prescribed, their side effects and how they are prevented and managed.

In addition, with clear evidence-based information, health workers need to help the patients and their families to dispel the myths and misinformation about the use of controlled medicines. The patients need to be empowered to appropriate use and secure their medicines to avoid diversion and misuse.

CHAPTER 3

MENTAL, NEUROLOGICAL AND SUBSTANCE USE DISORDERS

MENTAL, NEUROLOGICAL AND SUBSTANCE USE DISORDERS

3.1 Epilepsy ICD10 CODE: G40

A chronic condition characterised by recurrent unprovoked seizures. Seizures are caused by abnormal discharges in the brain and present in two different forms: convulsive and non-convulsive forms. Convulsive epilepsy has features such as sudden muscle contraction, causing the person to fall and lie rigidly, followed by the muscles alternating between relaxation and rigidity with or without loss of bowel or bladder control. Non-convulsive epilepsy has features such as change in awareness, behaviour, emotions or senses (taste, smell, vision or hearing) similar to some mental health conditions and as such, may be confused with them. Consider a diagnosis of epilepsy if person has had at least 2 convulsive seizures in the last calendar year on two different days. Seizures during an acute event (e.g. meningitis, acute traumatic brain injury) are not epilepsy.

CAUSES

- Genetic, congenital malformation, birth asphyxia, brain tumour
- Brain infections, cysticercosis, trauma (acute or in the past), cerebral malaria
- Metabolic disorders
- Drug and alcohol abuse

In some cases, no specific causes can be identified.

CLINICAL FEATURES

These depend on the type of epilepsy:

a) **Generalized epilepsy: Seizure involves whole brain, consciousness is lost at the onset**

i. **Generalized Tonic Clonic or convulsive epilepsy (grand-mal):**

- May commence with a warning sensation in the form of sound, light or abdominal pain (aura)
- There may be a sharp cry followed by loss of consciousness and falling
- Tonic contraction (rigidity) of muscles occurs followed by jerking movements
- (Clonic phase)
- There may be incontinence of urine or faeces, frothing, and tongue or lip biting
- A period of deep sleep follows

ii. **Absence seizures (petit mal)**

Mainly a disorder more common in children than in adults

- The attack is characterized by a brief loss of consciousness (5-10 seconds) in which posture is retained but other activities cease
- The child has a vacant stare
- Previous activities are resumed at the end of the attack
- Several attacks may occur in a single day

iii. Atonic or tonic seizures (drop attacks)

- Sudden loss of muscular tone, of brief duration (15 seconds), with consciousness maintained or
- Sudden stiffening of muscle

iv. Myoclonus epilepsy

- Abnormal jerking movements occurring usually in the limbs but may involve the whole body

b) Focal Epilepsy: Seizure activity starts in one area of the brain (Partial Seizures)

i. Simple

Patient remains alert but has abnormal sensory, motor, psychic or autonomic manifestation e.g. jerking of a limb, déjà vu, nausea, strange taste or smell, signs of autonomic nerve dysfunction i.e. sweating, flushing, and gastric sensation, motor contraction or sensory change in a particular point of the body.

ii. Complex

Altered awareness and behaviour e.g. confusion, repetitive movements

c) Status epilepticus

A convulsive state in which the convulsions last >30 minutes or several epileptic convulsions occur in succession without recovery of consciousness in between or convulsions not responsive to 2 doses of diazepam. It is a medical emergency.

DIFFERENTIAL DIAGNOSIS

- Syncope, hypoglycaemia, stroke
- Hypocalcaemia
- Psychogenic seizures - Conversion disorder, hyperventilation and panic attacks

INVESTIGATIONS

- A complete medical assessment including psychiatric history
- Electroencephalogram (EEG)
 - Useful in petit mal and temporal lobe epilepsy
 - To be done at specialist level (Regional Referral and National Referral Hospitals)

Other investigations are guided by suspected cause, e.g. brain scans, video recordings when not under direct observation, serum prolactin levels. These latter two help in excluding of psychogenic seizures

MANAGEMENT

i. General principles

- All suspected cases of non-convulsive epilepsy should be confirmed and treated by a specialist
- Convulsive epilepsy can be diagnosed at hospital level but medicine refills should be available

at lower levels

- One brief isolated seizure does not need further treatment but review at 3 months and re-assess. Treat patients with repeated episodes as per definition
- Treatment can effectively control epilepsy in most cases
- Psychogenic seizures should never be treated with anticonvulsant medications

ii. Commonly used anti-epileptics include:

Generalized tonic-clonic seizures

- Children <2 years: *phenobarbital* or *carbamazepine*
- Children >2 years: *carbamazepine* or sodium *valproate*
- Avoid *phenobarbital* and *phenytoin* in children with intellectual disability and/or behavioural problems
- **Absence seizures:**
- Use Sodium *Valproate* or *ethosuximide*

iii. First aid for acute seizure

- Do not restrain or put anything in the mouth
- Protect person from injury: make sure they are in a safe place away from fire or other things that might injure them
- Do not leave patient alone. Seek help if possible
- After the crisis, check airway, breathing and circulation and, while unconscious, put the person in recovery position (on their side)
- Most seizures resolve spontaneously. If lasting >3 minutes, give *diazepam 10 mg* IV or rectal
— Child: *0.05 mg/kg rectally, 0.02 mg/kg IV*

iv. Status epilepticus

- Dextrose 50% 1 mL/kg adults and Dextrose 10% 5 mL/kg children
- *Diazepam* as above, repeated after 5-10 min
- *Clonazepam 1 to 2mg orally or parenteral. May repeat 8 hourly if seizures do not stop.*
- If not responsive, consider
- *Phenobarbital 10-15 mg/kg* slowly IV. Dilute the solution with 10 times its volume of water for injection and give VERY SLOWLY (at a rate ≤ 0.1 mg/minute)
- Monitor BP and respiration, be ready to administer IV fluids if hypotension develops and ventilate with Ambu bag in case of respiratory depression
- Or phenytoin 15-18 mg/kg over 1 hour
- It is very caustic so use a good IV line. Extravasation will cause tissue damage
- If not responsive
- Give another drug (if available) or add *phenytoin 10 mg/kg* in 30 minutes
- Monitor for respiratory depression
- If still no response, consider intubation and give general anaesthesia (total muscle relaxation)

d) Chronic epilepsy

GENERAL PRINCIPLES

- Start with monotherapy. The effective dose must be reached progressively and patient monitored for tolerance and side effects. Aim at the lowest dose able to control (prevent) the seizures
- If treatment is ineffective (less than 50% reduction in crisis) try another monotherapy (slowly reduce the current antiepileptic and introduce the new one)
- If high doses with side effects are required and seizures are anyway infrequent, less than complete control can be the goal
- Follow up monthly until stable, then every 3 months
- Warn patient that treatment interruptions can trigger seizures or even status epilepticus
- If no seizure for 2 years and no known cause like head trauma or infection, consider possibility of stopping treatment (over 2 months). Discuss with the patient
- If 2 monotherapy trials fail, refer to specialist
- Monitor blood levels where available and after steady state has been obtained in 1-2 weeks

Carbamazepine

It is effective in all generalized tonic-clonic seizures, focal seizures:

- Given twice daily, steady state reached in 8 days
- Adult: starting dose of 100-200 mg daily and increased in 100 mg increments every 1-2 weeks to a maintenance dose of 400 to 1400 mg daily
- Child: starting dose of 5 mg/kg/day and maintenance dose of 10-30 mg/kg/day in divided doses

Side effects: skin rash, diplopia, blurred vision, ataxia (staggering gait), nausea, blood abnormalities (agranulocytopenia), and Steven-Johnson syndrome. If skin rash appears, stop the drug. Teratogenicity – avoid in pregnancy

Phenobarbital

Effective for tonic-clonic seizures and focal seizures but is sedative in adults and may cause behavioural disturbances and hyperkinesia in children. It may be tried for atypical absences, atonic and tonic seizures

- Given once a day in the evening to reduce drowsiness
- Adult: starting dose of 1 mg/kg (60 mg) daily for 2 weeks, if not controlled increase to 2 mg/kg (120 mg) for 2 months, if not controlled increase to 3 mg/kg (180 mg)
- Child: starting dose of 2 mg/kg/day for 2 weeks, if not controlled increase to 3 mg/kg for 2 months, if not controlled increase until maximum of 6 mg/kg/day
- It takes 2-3 weeks for the drug to achieve steady blood levels so assess effect only after this period

Side effects: drowsiness, lethargy, hyperactivity and irritability in children, skin rash, confusion in elderly, depression

Phenytoin

Effective in all forms of epilepsy except absences.

- Adult: starting dose of 150-200 mg daily as single dose or 2 divided doses and maintenance dose of 200-400 mg daily
- Child: starting dose of 3-4 mg/kg and maintenance dose of 3-8 mg/kg/day (max 300 mg daily)
- Increase slowly by 25-30 mg every 2 weeks
- Add Folic Acid 5-10 mg daily to avoid gum hyperplasia & megaloblastic anaemia

Side effects: drowsiness, ataxia, slurred speech, blurred vision, twitching, confusion, gum hyperplasia, blood abnormalities, rash, hepatitis

Sodium valproate

Effective in tonic clonic seizures, absences and myoclonic seizures. It may be tried for atypical absences, atonic and tonic seizures.

- Given 2 times daily
- Adult: starting dose of 500 mg daily and maintenance dose of 400-2000 mg daily
- Increase by 200 mg every 3 days until control is achieved
- Child: starting dose of 15-20 mg/kg/day and a maintenance dose of 15-30 mg/kg/day
- Increase by $\frac{1}{4}$ to $\frac{1}{2}$ of initial dose every 3 days until control is achieved

Side effects: liver toxicity, blood disorders, gastrointestinal disorders, weight gain, transient hair loss. Monitor liver function and full blood count. Steven-Johnson syndrome. If skin rash appears, stop the drug. Teratogenicity – avoid in pregnancy

Ethosuximide

Effective in absence seizures.

- Child >6 years: initially 500 mg daily in 2 divided doses, increase if necessary by 250 mg every 5-7 days up to a usual daily dose of 1-1.5 g in 2 divided doses
- Child 1 month to 6 years: Initially 250 mg single dose at night increased gradually every 5-7 days as required to usual dose of 20 to 40 mg/kg daily in 2 divided doses

Side effects: gastrointestinal disorders, blood disorders, gum hyperplasia, drowsiness

NOTE:

- In children, look for presence of associated intellectual disability or behavioural problems. If present, consider carbamazepine or valproate. (avoid **phenobarbital and phenytoin**) and manage associated intellectual disability or behavioural problem
- All pregnant women with epilepsy should be referred to specialist for appropriate management (most antiepileptic drugs have an increased risk of congenital malformations)
- Combination therapies and use of other antiepileptic medications should only be attempted by specialists. These may include lamotrigine, gabapentin, levetiracetam etc.

Health education

- Health education to patients, teachers, carers and community
- Advice on management of seizures and safety precautions
- In children, look for and manage presence of associated intellectual disability or behavioural problems

Prevention

- Good antenatal care and delivery
- Avoid causative factors
- Avoid drug and alcohol abuse
- Reduce instances of head trauma including Road Traffic Accidents and certain sports in children.

3.2 Dementia ICD10 CODE: F01, F03

A chronic slowly progressive organic mental disorder characterised by progressive loss of memory and cognitive function, with difficulty in carrying out every day activities.

CAUSES

- Primary degeneration of the brain
- Vascular disorders
- Infections e.g. syphilis, TB, HIV/AIDS, meningitis
- Metabolic disorders e.g. hypothyroidism
- Deficiencies of vitamin B12 and B1
- Brain trauma (chronic subdural haematoma, hydrocephalus)
- Toxic agents e.g. carbon monoxide, alcohol, drugs of abuse

CLINICAL FEATURES

- **Occurs mostly in older people above 60 years. Prevalence increases with advancing age**
- Impairment of short and long term memory (progressive forgetfulness)
- Impaired judgment, poor abstract thinking
- Language disturbances (aphasia)
- Personality changes: may become apathetic or withdrawn, may have associated anxiety or depression because of failing memory, and may become aggressive. Neuropsychiatric behavioural and psychological symptoms – Delusions and hallucinations, sleep and feeding problems
- Wandering and incontinence in later stages
- Inability to take care of Activities of Daily Living (ADLs) e.g. dressing, bathing, hygiene, meals, shopping, finances, driving etc.,

DIFFERENTIAL DIAGNOSIS

- Normal aging
- Delirium, chronic psychosis, depression

INVESTIGATIONS

- Guided by history and clinical picture to establish cause
- Thorough physical, neurologic and mental state examination
- Laboratory: thyroid hormones, RPR and vitamin B-12 levels, other tests as indicated
- Brain scan

MANAGEMENT

- Where possible, identify and treat the cause
- Psychosocial interventions:
 - education of family members about the illness and about following a regular routine programme. Home care is best but it has a high burden of care.
 - provision of regular orientation information
 - creation of an environment to support activities of daily living
- Assess for and treat other co-occurring health problems e.g. depression, HIV, HT, DM
- **If restless and agitated:** *Haloperidol 0.5-5 mg or Risperidone 1-2 mg* every 12 hours with higher dose at night if required. Adjust dose according to response and review regularly, monitor for and treat extrapyramidal side effects with *Benzhexol 2 mg* every 12 hours if necessary
- *Anti-dementia medications (Central Cholinesterase inhibitors) – Donepezil, Memantine*

CAUTION:

Avoid *Diazepam (or any benzodiazepines) in Dementia* as these can lead to falls and are not effective.

Avoid polypharmacy and unnecessary medication overload in the elderly.

PREVENTION OF DEMENTIA:

- Avoid and treat preventable causes or associations such as HT, DM, Obesity, Alcohol, HIV

3.3 Parkinsonism ICD10 CODE: G20, G21

A syndrome characterized by tremor, rigidity, bradykinesia (slow movement) and postural disturbances, due to primary degeneration or damage to particular areas of the brain (basal ganglia).

CAUSES

Primary Parkinsonism:

- Cause is unknown

Secondary Parkinsonism:

- Infections e.g. sleeping sickness, syphilis
- Poisoning e.g. manganese, carbon monoxide
- Drugs e.g. antipsychotics - chlorpromazine, haloperidol -I as extrapyramidal side effects
- Vascular disorders, intracranial tumour, trauma

CLINICAL FEATURES

- Non intentional tremor (peel-rolling tremor at rest)
- Muscle rigidity
- Slowness of voluntary movement
- Walking with short quick steps (shuffling gait)
- Vacant facial expression (mask face)
- Excessive salivation
- Urinary incontinence (sometimes occurs)
- Variable cognitive impairment

DIFFERENTIAL DIAGNOSIS

- Essential tremor (isolated intentional tremor, benign)
- Thyrotoxicosis
- Dementia, depression

INVESTIGATIONS

- Good history and clinical examination

MANAGEMENT

- **Levodopa-carbidopa 100/25 mg**
- Start with 1 tablet every 8 hours (specialist only management)

Only for drug-induced Parkinsonism

- **Benzhexol 2-15 mg daily** in 1-3 divided doses; Initially: 1 mg/day; increase by 2 mg increments at intervals of 3 to 5 days; — Usual dose: 6 to 10 mg/day in 3 to 4 divided doses; doses of 12 to 15 mg/day may be required

CAUTION:

- **Benzhexol side effects:** dry mouth, constipation, palpitations, urinary retention, confusion and agitation (especially in the elderly)
- Do not give **Benzhexol** routinely to patients on **antipsychotic medicines** in the absence of Parkinson-like side effects
- Use lower doses in elderly

3.4 Delirium (Acute Confusional State) ICD10 CODE: F05

A clinical syndrome usually with acute onset, rapid progression which involves abnormalities in orientation, thought and perception and fluctuating level of consciousness. It is caused by impaired brain function resulting from diffuse physiological change.

CAUSES

- Infections – viral, bacterial, parasitic & fungal e.g. malaria, trypanosomiasis, syphilis, TB, meningitis, encephalitis, rabies, typhoid, HIV/AIDS, septicaemia
- Pneumonia and urinary tract infections in elderly
- Intoxication with or withdrawal from alcohol or other substances of dependence
- Overmedication - Toxicity e.g. anticonvulsants, psychotropic medications. Polypharmacy.
- Cerebral pathology e.g. head trauma, tumour
- Severe anaemia, dehydration
- Electrolyte imbalances, hyperglycaemia
- Metabolic disorders

CLINICAL FEATURES

- Acute onset of mental confusion with associated disorientation, developing within hours or a few days. Attention, concentration and memory for recent events is impaired
- Reduced ability to think coherently: reasoning and problem solving are difficult or impossible
- Illusions and hallucinations are common, especially visual and tactile hallucinations
- Symptoms tend to fluctuate: patients feel better in the day and worse at night
- May present as hyperactive delirium (increased activity or restlessness) or as hypoactive delirium (reduced activity and/or movements, lethargy)

DIFFERENTIAL DIAGNOSIS

- Acute psychosis
- Intoxications
- Hypoxia
- High Pyrexia (PUO)
- Epilepsy
- Panic attacks

INVESTIGATIONS

- Guided by history and physical examination: aim at identifying the cause

NB: DRUG HISTORY IS VERY IMPORTANT!

- Complete Blood Count, blood glucose, renal function and electrolytes, Blood gases
- Vital signs: BP, Pulse, RR, Temperature, Airway

MANAGEMENT

Delirium is a medical emergency, with a 40% case fatality rate

Due to the complexity of underlying conditions, patients with **delirium** (acute confusional state) should be referred to hospital for appropriate management and investigation e.g. in ICU to reduce external stimuli, in a quiet room with clear lighting, constant observation, regular monitoring of vital signs and psychiatric NOBS (Nursing Observation Sheet).

Treatment of Delirium

Supportive treatment: Ensure patient safety as they are confused and often fall and may injure themselves or others.

Identify and treat the underlying cause such as substance and alcohol use disorders, diabetes, head injury, hypoxemia, septicemia, anaemia, metabolic and electrolyte imbalances, intoxications, medications, alcohol and drug intoxications or their withdrawal; or infections e.g. malaria, UTI, pneumonia especially in older people

- Ensure hydration and electrolytes balance, control of fever, safe and quiet environment, constant monitoring
- Withhold any unnecessary medicines, keep the use of sedatives and antipsychotics to the minimum necessary

If patient is agitated and acutely disturbed

- **Haloperidol 5 mg IM**: repeat after 60 min if necessary
- Continue with **haloperidol 1.25-5 mg** every 8 to 12 hours
- **Trifluoperazine 5-10 mg** every 12 hours

If patient is extremely agitated:

- **Diazepam 5-10 mg slow IV or rectal**, repeat after 10-15 minutes if necessary, then oral **diazepam 5-15 mg** at night

PREVENTION

- Early diagnosis and treatment of underlying cause. Avoid polypharmacy especially in the elderly and/or those with dementia

3.5 Anxiety ICD10 CODE: F40-F48

Anxiety is a normal physiological response, which enables a person to take steps to deal with a threat. When anxiety is prolonged or interferes with normal functions of the individual, it constitutes the clinical condition of an anxiety disorder.

CAUSES

- Not fully understood: possibly external or past traumatic events may trigger anxiety in predisposed people
- Association with other mental conditions e.g. depression, alcohol and substance abuse

TYPES AND CLINICAL FEATURES

- Generalized anxiety: Unrealistic and excessive worry about almost everything
- Panic attacks: Episodes of sudden onset of intense apprehension or fear; anxiety symptoms usually peak within 10-15 minutes and resolve in a few minutes to one hour
- Phobia: An excessive fear of a known stimulus (object or situation) e.g. animals, water, confined space) causing the person to consciously avoid the object or situation
- Obsessive-compulsive disorder: Repeated disturbing thoughts associated with time-consuming actions to reduce the anxiety
- Post-traumatic stress disorder: Where a person who experienced a major life-threatening event begins to re-experience the same, either in dreams or in clear consciousness later in life and tries to avoid being reminded of it and have anxious feelings so intense that their lives are disrupted.

Each of the above clinical types will have one or more of the following manifestations:

- Sleep, mood and concentration problems
- Palpitations, dizziness, shortness of breath
- Shakiness or tremors, excessive sweatiness
- Easily frightened, startle response
- Other (autonomic) symptoms: urinary frequency, hesitancy, or urgency, diarrhoea

DIFFERENTIAL DIAGNOSIS

- Consider organic conditions e.g. hyperthyroidism, hypoglycaemia, pheochromocytoma

MANAGEMENT

- Psychosocial interventions: counselling, psychotherapy

For an acute episode or intense prolonged anxiety:

- Benzodiazepines e.g. **diazepam 5 mg 1-2** times daily' Increase if necessary to 15-30 mg daily in divided doses
- For the elderly: Give half the above dose; Duration of therapy 1-2 weeks, tapering off to zero within 6 weeks
- Avoid short acting benzodiazepines especially in the elderly
- **Fluoxetine 20 mg** once a day **OR** Imipramine 50 mg nightly for long term management of the anxiety disorder
- Continue antidepressant for 4 to 6 weeks then evaluate the response. If poor response: refer to specialist

NOTES

- **Diazepam** is NOT appropriate for treating depression, phobic or obsessional states, or chronic psychoses (see relevant sections for more information)
- Antidepressants: May be useful in managing panic disorders and other anxiety disorders which require long term treatment

CAUTION

- **Diazepam** and benzodiazepines in general are addictive and abrupt cessation can cause withdrawal symptoms including seizures. Use for short periods of not more than two weeks and gradually reduce the dose.
- Avoid alcohol or operating machinery including driving

PREVENTION

- Good personality development
- Secure parenting and family harmony.
- Good stress management
- Avoid situations of psychological traumatizing events

3.6 Depression ICD10 CODE: F32, F33

A common disorder characterised by low mood, loss of interest and enjoyment and reduced energy leading to diminished activity and in severe forms, difficult day-to-day functioning and/or psychosis.

CAUSES

- Biological, genetic, psychological and environmental factors

CLINICAL FEATURES

For at least two weeks, the person had at least two of the symptoms below:

- Low mood (most of the day, almost every day)
- Loss of interest or pleasure in activities that are normally pleasurable
- During the 2 weeks, the person also has some of the symptoms below:
 - Lack of energy, body weakness or easily fatigued
 - Difficulty in concentrating, reduced attention
 - Reduced self-esteem and self confidence
 - Poor sleep, poor appetite, reduced libido
 - Bleak and pessimistic view of the future
 - Feeling of guilt and unworthiness
 - Multiple body pains or other medically unexplained somatic symptoms
 - Ideas or acts of self-harm or suicide (occurs in up to 65% of patients)
 - Children and adolescents usually present with irritability, school phobia, truancy, poor academic performance, alcohol and drug abuse

DIFFERENTIAL DIAGNOSIS

- Thyroid dysfunction (hypothyroidism)
- Adrenal dysfunction (Addison's disease)
- Parkinson's disease, stroke, dementia
- Anxiety disorder

INVESTIGATIONS

- Medical, social, family and personal history
- Check for bereavement or other major personal loss
- Find out if person has had an episode of mania in the past: if so consider treatment for bipolar disorder and consult a specialist
- Find out if they have psychotic features e.g. hallucinations (refer to section on Psychosis)
- Assess for co-occurring health conditions (e.g. HIV/AIDS), substance or alcohol abuse
- Assess risk of self-harm/suicide

MANAGEMENT

First line:

- Psychological support may be adequate in mild cases:
 - Psychoeducation (counselling of patient and family) and Problem Solving Therapy, PST
 - Addressing current stressors (abuse, neglect...)
 - Re activating social networks
 - Structured physical activities
 - Regular follow up
 - Mindfulness
- Manage concurrent physical medical problems
- Address co-existing mental problems e.g. substance abuse
- If available, consider psychotherapy (cognitive behavioural therapy, interpersonal psychotherapy, behavioural activation etc.). If bereavement or another major personal loss
- Counselling and support
- Do not consider drugs or psychotherapy as first line

If not responding to all above:

- Consider antidepressants
 - DO NOT use in children <12 years
 - Adolescents: only under specialist supervision
- **Fluoxetine 20 mg** once daily in the morning
 - Start with 10 mg in elderly
 - If not better after 4-6 weeks, increase to 40 mg
- Or **Amitriptyline 50 mg** **OR** **Imipramine 50 mg** at bedtime
 - Increase by 25 mg every week aiming at 100-150 mg in divided doses or single bedtime dose by 4-6 weeks of treatment
 - Useful in case of associated anxiety
 - Avoid in adolescents, elderly, heart diseases, suicide risks

If patient is responding to medication:

- Continue for at least 9-12 months
- Consider stopping if patient has been without depressive symptoms and able to carry out normal activities for at least 9 months
 - Counsel the patient about withdrawal symptoms (dizziness, tingling, anxiety, irritability, nausea, headache, sleep problems)
 - Counsel the patient about possibility of relapse and when to come back
 - Reduce slowly over at least 4 weeks even slower if withdrawal symptoms are significant
 - Monitor periodically for re-emergence of symptoms

Refer for specialist management: In case of pregnant woman, child, adolescent, patients not responding to treatment with antidepressant, psychotic features, history of mania

CAUTION

- Selective serotonin reuptake inhibitors (SSRIs) in bipolar depression can trigger a manic episode.
- If history of mania refer to specialist

PREVENTION

- Stress management skills
- Promotion of useful social support networks
- Avoid overwork/stress. Make time for family , friends, leisure, play, recreation and holidays

3.7 Postnatal Depression/ Post-partum Depression ICD10 CODE: F53

Condition characterized by persistent low mood developing during the puerperium period, usually 1 or 2 weeks following delivery. It needs specialized assessment and treatment.

Mild depressive symptoms (sadness, tearfulness, irritability, anxiety) develop commonly (80%) during the first week after the delivery but resolve within 2 weeks (“baby blues”): it usually needs ONLY counselling and support.

RISK FACTORS

- Previous psychiatric history
- Recent stressful events
- Young age, first baby (primigravida) and associated fear of the responsibility for the new baby
- Poor marital relationship, poor social support
- Bad obstetric history

CLINICAL FEATURES

- Starts soon after delivery and may continue for a year or more if untreated
- Feelings of sadness with episodes of crying, anxiety, marked irritability, tension, confusion
- Guilty feeling of not loving baby enough

- Loss of positive feeling towards loved ones
- Refusal to breast feed baby
- Ideas to harm the baby or self

Postpartum psychosis

- Distortions of thinking and perception (delusions & hallucinations), as well as inappropriate or narrowed range of emotions.

MANAGEMENT

- Routine assessment for depressive symptoms during post-natal visits or at least once at 6 weeks
- Counselling and reassurance at first contact and review after 2 weeks
- If persisting, refer for specialized treatment; --- Psychotherapy and ---Antidepressant as stated under depression above. If Psychosis, give antipsychotics- Haloperidol, Chlorpromazine, Olanzapine etc.
- If suicidal thoughts, or any risk for mother and/or baby, refer urgently to hospital

PREVENTION

- Postpartum counselling, support, and follow up
- Identification of patients at risk
- Male involvement and support is crucial.

3.8 Suicidal Behaviour/Self-Harm ICD10 CODES: T14.91, Z91.5

Suicidal behaviour is an emergency and requires immediate attention. It is an attempted conscious act of self-destruction, which the individual concerned views as the best solution. It is usually associated with feelings of hopelessness, helplessness and conflicts between survival and death.

Self-harm is a broader term referring to intentional poisoning or self-inflicted harm, which may or may not have an intent of fatal outcome. It is clinically difficult to differentiate from real suicidal intent.

CAUSES/RISK FACTORS

- Physical illness e.g. HIV/AIDS, head injury, malignancies, body disfigurement, chronic pain
- Psychiatric disorders e.g. depression, bipolar disorder, chronic psychosis, dementia, alcohol and substance use disorders, personality disorders, epilepsy

Risk is high in the following cases:

- Patient >45 years old
- Alcohol and substance use
- History of suicide attempts
- Family history of suicide
- History of recent loss or disappointment
- Current mental illness e.g. depression, psychosis
- Evidence of violent behaviour or previous psychiatric admission
- Living alone
- Unemployed/poverty

Risk may be low if patient is:

- <45 years old
- Married or in stable interpersonal relationships
- Employed
- In good physical health

CLINICAL FEATURES

Patients can present in one of the following situations:

- A current suicide attempt or self-harm
- A situation of imminent risk of suicidal attempt or self-harm; Current thoughts or plans of suicide/self-harm or history of thoughts or plans of suicide/self-harm in the last 1 month, or acts of self-harm/suicide attempts in the last 1 years plus — Person is agitated, violent, emotionally distressed or uncommunicative and socially isolated, hopeless
- A situation of no imminent risk but has thoughts or plans of suicide/self-harm in the last 1 month or acts of self/harm/suicide attempt in the last one year in person not acutely distressed

INVESTIGATIONS

- Complete medical, social and family history
- Ask the patient about suicidal or self-harm thoughts/plans/ acts and reasons for it. Asking about self-harm or suicide does not increase the risk of those acts. On the contrary, it may help the patient to feel understood and considered. First try to establish a good relationship with the patient before asking

- Always assess risk of suicide and self-harm in patient with any other mental illness (depression, mania, psychosis, alcohol and substance abuse, dementia, behavioural or development disorders), chronic pain, severe emotional distress
- May use **SAD PERSONS** scale scores to assess suicide risk as follows:

S – **Sex:** 1 if male; 0 if female; (more females attempt, more males succeed)

A – **Age:** 1 if < 20 or > 44

D – **Depression:** 1 if depression is present

P – **Previous attempt:** 1 if present

E – **Ethanol or drug abuse:** 1 if present

R – **Rational thinking loss:** 1 if present

S – **Social Supports Lacking:** 1 if present

O – **Organized Plan:** 1 if plan is made and lethal

N – **No Spouse:** 1 if divorced, widowed, separated, or single

S – **Sickness:** 1 if chronic, debilitating, and severe

Guidelines for action with the SAD PERSONS scale	
Total points	Proposed clinical action
0 to 2	Send home with follow-up
3 to 4	Close follow-up; consider hospitalization
5 to 6	Strongly consider hospitalization, depending on confidence in the follow-up arrangement
7 to 10	Hospitalize or commit

MANAGEMENT

If acute suicidal behaviour/act of self-harm or imminent risk

- Admit the patient and treat any medical complications (bleeding, poisoning etc.)
- Keep in a secure and supportive environment; do not leave patient alone. Remove any means of self-harm e.g. belts, sharps, medications, arms or intoxicants e.g. alcohol or drugs
- Continuous monitoring
- Offer/activate psychosocial support
- Consult mental health specialist
- Treat any medical and mental condition present

If no imminent risk:

- Offer/activate psychosocial support
- Refer to mental health specialist for further assessment
- Establish regular follow up

NOTE:

Suicide is less frequent in children and adolescents, but there is increased risk if there is disturbed family background (e.g. death of parents, divorce), use of alcohol and other drugs of abuse, physical illness, psychiatric disorder

PREVENTION

- Identify and manage risk factors
- Screening and early identification of patients at risk
- Ensure good psychosocial support
- Restrict access to means of self-harm
- Develop policies to reduce harmful use of alcohol and /or drugs.

3.9 Bipolar Disorder (Mania) ICD10 CODE: F30, F31

A disorder of mood control characterized by episodes in which the person's mood and activity level are significantly disturbed: in the **Manic Phase**, there is an elevation of mood and increased energy and activity (mania) and in the **Depressive Phase**, there is a lowering of mood and decreased energy and activity (depression).

Characteristically, recovery is complete in between the episodes/phases.

CAUSES/RISK FACTORS

- Biological, genetic, psychological, environmental factors

CLINICAL FEATURES

Patient can present in an acute manic episode, in a depressive episode or in between the episodes. The period in between episodes is unpredictable. Sometimes it is rapid cycling or mixed.

Mania

- Elevated, expansive or irritable moods, quarrelsomeness, argumentativeness,
- Speech is increased with flight of ideas (increased talkativeness)
- Increased self-image, restlessness, over-activity, increased libido, risky behaviour
- Decreased need for sleep, increased energy, aggressiveness, violence
- Delusions of grandeur, fantasy, overspending money
- Increased appetite but weight loss occurs due to over activity
- Auditory and visual hallucinations may be present

Depression

- As for depression described above, but with a history of manic episode

DIFFERENTIAL DIAGNOSIS

- Organic mental states e.g. drug or alcohol intoxication, delirium
- Chronic Psychosis

INVESTIGATIONS

- Good medical, social, personal, family and psychiatric history
- Assess for acute state of mania
- Past history of depressive or manic symptoms, suicide attempts,
- Assess for other medical or mental conditions (alcohol or substance abuse, dementia, suicide/self-harm)
- Usually there is a positive family history of affective disorder and/or suicide

MANAGEMENT

Patients with suspected bipolar disorder should be referred for specialist assessment.

Management of a Manic episode: Multiple symptoms as above for > 1 week and severe enough to interfere with work/social activities and/or requiring hospitalization:

- Discontinue antidepressant if any
- Provide counselling and education
- **Chlorpromazine initially 100-200 mg** every 8 hours, then adjust according to response; Daily doses of up to 300 mg may be given as a single dose at night or twice a day and gradually reduce the dose when symptoms of mania resolve and maintain on doses as indicated in section on Chronic psychosis
- Or **haloperidol initially 5-10 mg** every 12 hours then adjust according to response up to 30-40 mg daily may be required in severe or resistant cases
- Or **Olanzapine 5-10 mg** every 12 hours then adjust according to response up to 40 mg or more daily may be required in severe or resistant cases

If under specialist supervision: initiate a mood stabilizer:

- **Carbamazepine initial dose 400 mg** at night, increase slowly to 800-1000 mg/day in divided doses
- Or Sodium Valproate initial dose of 500 mg/day. Usual maintenance dose 1000-2000 mg

If agitation/restlessness, add a benzodiazepine for short period (until symptoms improve)

- **Diazepam 5-10 mg** every 12 hours **OR Clonazepam 1-2mg every 12 hours**

NOTE:

If extrapyramidal side-effects (muscle rigidity, dripping of saliva, tongue protrusion, tremors) are present while on antipsychotic drugs, add an anticholinergic: **Benzhexol** initially 2 mg every 12 hours then reduce gradually to once daily and eventually give 2 mg only when required

Bipolar depression

Depressive symptoms but with history of manic episode/diagnosis of bipolar disorder

- Counsel about bipolar disorder and caution against substance abuse (drugs or alcohol)
- Begin treatment with a mood stabilizer (carbamazepine or valproate, see above)
- Psychoeducation and psychotherapy if available. Support the family as bipolar disorder can be very distressing and disruptive to families.
- If moderate/severe depression, consider treatment with antidepressant in addition to mood stabilizer BUT under specialist supervision (there is risk of triggering a manic episode).

In between episodes, indication for use of mood stabilizers to prevent both manic and depressive episodes; 2 or more episodes (2 manic or 1 manic and 1 depressive) 1 severe manic episode involving significant risk and consequences

- **Sodium Valproate or carbamazepine** as described above

CAUTION

- Avoid mood stabilizers in pregnant women due to risk of teratogenicity. Use low dose haloperidol if necessary
- Use lower doses in elderly
- Refer adolescents for specialist management
- Caution against substance abuse

PREVENTION

- Good psychosocial support
- Avoid drug and alcohol abuse

3.10 Psychosis ICD10 CODE: F20-F29

A mental condition characterized by distortions of thinking and perception, disturbed behaviour, personality disintegration and inappropriate or narrowed emotions.

CAUSES

- Not known, but there are associated biological, genetic, psychological and environmental factors

CLINICAL FEATURES

Any one or more of these may be diagnostic:

- Delusions (abnormal, fixed, false beliefs) or excessive and unwarranted suspicions (may be multiple, fragmented or bizarre)
- Disconnected ideas with vague or incoherent speech and inadequate in content
- Hallucinations: hearing voices or seeing things that are not witnessed by others. Smells, tactile hallucinations and distorted feelings of bodily dysfunction.
- Severe behaviour abnormalities: agitation or disorganised behaviour, excitement, inactivity or over activity
- Disturbance of emotions such as marked apathy or disconnection between reported emotions and observed effect
- Mood is usually inappropriate, blunt or flat
- Difficulty in forming and sustaining relationships or occupational/schooling functions.
- Social withdrawal and neglect of usual responsibilities
- Poor self-care and downward drift in social functioning and or hygiene

CHRONIC PSYCHOSIS OR SCHIZOPHRENIA

- Symptoms of psychosis lasting for 3 or more months
- Accompanied by deterioration in social, general and occupational functioning

DIFFERENTIAL DIAGNOSIS

- Alcohol and drug abuse and dependence/addictions
- Organic delirium, dementia, mood disorders

INVESTIGATIONS

- Good social, personal and family history
- Laboratory investigations for infectious diseases e.g. HIV, syphilis. Illicit drug screen.
- Brain scan, especially for first episode psychosis

MANAGEMENT

Acute psychosis

- Counselling/psychoeducation of patient and carers

Antipsychotic drugs are the mainstay treatment for psychosis:

- **Chlorpromazine: starting dose 75-150 mg** daily and maintenance dose of 75-300 mg daily. Up to 1000 mg daily in divided doses may be required for those with severe disturbance
- Or
- **Haloperidol: starting dose 5-10 mg** daily (lower in elderly) and maintenance dose of 5-20 mg daily in divided doses
- Atypical antipsychotics: Olanzapine 5-10 mg once or twice daily, Risperidone 1-2 mg once or twice daily.
- Administer orally or IM for those with agitation
- Only use one antipsychotic at a time
- Gradually adjust doses depending on response
- Monitor for side effects e.g. extrapyramidal side effects
- Use therapeutic dose for 4-6 weeks to assess effect
- Psychological interventions (family therapy or social skills therapy) if available
- Ensure follow up
- For acute psychosis, continue treatment for at least 12 months. Discuss discontinuation with patient, carers and specialist

If extrapyramidal side-effects and/or sialorrhoea.:

- Add an anticholinergic: **Benzhexol initially 2 mg** every 12 hours then reduce gradually to once daily and eventually give 2 mg only when required

If no response refer to specialist

Chronic psychosis

Treat as above, but if adherence is a problem or the patient prefers, use depot antipsychotics:

- **Fluphenazine Decanoate 12.5-50 mg** every 2-5 weeks deep IM into gluteal muscle
- Or
- **Haloperidol Decanoate injection (oily) 50-200 mg** deep IM into gluteal muscle every 3-4 weeks
- Or
- **Flupenthixol Decanoate 20-40 mg** deep IM into gluteal muscle every 3-4 weeks

3.11 Postnatal Psychosis ICD10 CODE: F53

Postpartum psychosis is the most severe form of postpartum psychiatric illness.

CAUSES

- Not well known, but hormonal changes may have a role

PREDISPOSING FACTORS

- First child
- Previous episode of post-natal psychosis
- Previous major psychiatric history
- Family history of mental illness
- Inadequate psychosocial support during pregnancy especially by partner (baby's father)
- Infections in early puerperium
- Substance abuse (Drug & Alcohol abuse/dependence)

CLINICAL FEATURES

- Symptoms develop within the first 2 postpartum weeks (sometimes as early as 48-72 hours after delivery)
- The condition resembles a rapidly evolving manic or mixed episode with symptoms such as restlessness and insomnia, irritability, rapidly shifting depressed or elated mood and disorganized behaviour including aggressiveness and violence.
- The mother may have delusional beliefs that relate to the infant (e.g. the baby is defective or dying, the infant is Satan or God) or she may have auditory hallucinations that instruct her to harm herself or her infant
- The risk for infanticide and suicide is high, even homicide

DIFFERENTIAL DIAGNOSIS

- Depression with psychotic features
- Mania, chronic psychosis
- Delirium

INVESTIGATIONS

Good history, physical and psychiatric assessment including assessment of the family situation

MANAGEMENT

- It is a psychiatric emergency: admit to hospital in a mother and baby unit
- Treat any identifiable cause/precipitant e.g. infection
- **Haloperidol 10 mg or Chlorpromazine 200 mg or Olanzapine 19 mg** [IM Injection or tablets} every 8 or 12 hours. Monitor response to medication and adjust dosage accordingly
- If restless and agitated, add rectal or I.V **Diazepam 5-10 mg** slow infusion; repeat after 10 minutes if still agitated;— Continue with **diazepam tablet 5 mg every 12** hours until calm
- Refer to specialist

NOTES

- Post-natal psychoses are no different from other similar acute psychoses, give concurrent psychosocial interventions and drug therapy. Always involve the spouse/partner
- Admit mother with the infant **BUT** always supervise their interaction for baby's safety

PREVENTION

- Proper antenatal screening, good psychosocial support
- Early detection and treatment
- Adherence to treatment for a current mental illness e.g. depression, bipolar, chronic psychosis

3.12 Alcohol Use Disorders ICD10 CODE: F10

Conditions resulting from different patterns of alcohol consumption, including acute alcohol intoxication, harmful alcohol use, alcohol dependence syndrome and alcohol withdrawal state.

CAUSES/RISK FACTORS

- Genetic
- Social and environmental factors including availability
- Stress, work, peer pressure, psychological factors
- Personality disorders

CLINICAL FEATURES

Acute intoxication

- Transient condition following intake of alcohol resulting in disturbances of consciousness, cognition, perception, affect or behaviour. This includes idiosyncratic intoxication.

Harmful alcohol use

- Pattern of alcohol consumption that is causing damage to the health, physical (e.g. liver disease) or mental (e.g. depressive disorder). Criteria: More than 5 drinks in any given occasion in the last 12 months or more than 2 drinks a day or drinking every day
- These patients consume more alcohol than recommended but they do not fulfil (yet) the criteria for alcohol dependence

Alcohol consumption during pregnancy is extremely harmful for the baby: it can cause foetal alcohol syndrome. Counsel against any substance consumption.

Alcohol dependence

- A disorder characterised by the need to take large daily amounts of alcohol for adequate functioning. The use of alcohol takes on a much higher priority for the individual than other behaviours that once had greater value
- Complications: malnutrition, thiamine deficiency (causing amnesic syndromes- Wernicke encephalopathy, Korsakoff psychosis, black outs), liver disease, chronic pancreatitis, diabetes, peptic ulcer, cardiomyopathy, neuropathy, head trauma etc.

Alcohol withdrawal

- Symptoms occurring upon cessation of alcohol after its prolonged daily use (6 hours to 6 days after)
- Tremor in hands, sweating, vomiting, diarrhoea, tachycardia, hypertension, agitation, anxiety, headache, seizure and confusion in severe cases.

DIAGNOSTIC CRITERIA FOR ALCOHOL DEPENDENCE:

If 3 or more of the features below are present:

- A strong desire to take alcohol
- Difficulties controlling alcohol use in terms of onset, termination or levels of use
- A physiological withdrawal state when alcohol use has ceased or been reduced or switched to a weaker brand e.g. spirits to beers (alcohol withdrawal syndrome)
- Evidence of tolerance: increased doses of alcohol are required to achieve effects originally produced by lower doses
- Progressive neglect of alternative pleasures or interests because of alcohol use
- Alcohol use persists despite clear evidence of harmful consequences e.g. liver damage, depression, cognitive impairment, loss of a job, friends, relationships, school problems etc.

DIFFERENTIAL DIAGNOSIS

- Abuse of other psychoactive substances
- Depression, chronic psychosis (often co-existing!)
- Endocrinopathies.

INVESTIGATIONS

- Blood: complete blood count, liver enzymes -- Shows elevated Mean Corpuscular Volume (MCV) and Gamma-Glutamyl Transferase (GGT) levels
- Social investigations

MANAGEMENT

Manage acute intoxication, withdrawal and Wernicke's encephalopathy

Harmful alcohol consumption

- Counselling and advice
- Investigate and treat concurrent medical or psychiatric illness (dementia, depression, bipolar disorder, anxiety, psychosis etc.)
- Follow up and refer if not better

Alcohol dependence

- Counselling and education of the patient
- Assess and manage concurrent medical and mental conditions
- Advise thiamine 100 mg daily

If patient is willing to stop, facilitate alcohol cessation:

- Determine appropriate setting, refer for detoxification, and treat withdrawal symptoms with **diazepam or clonazepam. ALWAYS give Thiamine – parenterally initially, then orally.**
- Consider referral to self-help groups
- Counsel the family, provide psychosocial interventions if available

PREVENTION

- Health education on dangers of alcohol abuse
- Reduce accessibility to alcohol , e.g. have special alcohol/liquor stores with strict selling rules
- Control alcohol production, % concentration, sales and use (drinking patterns) e.g. age and time to buy/start drinking.
- No advertisement of alcohol on TV, Radio, bill-boards or cinema

3.12 Substance Abuse ICD10 CODE: F11-F19

Conditions resulting from different patterns of drug use including

- Acute sedative overdose, acute stimulant intoxication,
- Harmful or hazardous use: causing damage to health (physical, mental or social functioning,
- Dependences: cannabis, opioids, stimulants, benzodiazepines and their withdrawal states. Dependence: is a situation in which drug use takes on a much higher priority for a given individual than other behaviours that once had greater value.

CAUSES/RISK FACTORS:

- Social factors: peer pressure, idleness/unemployment, social pressures, poverty, cultural use, religious use, increased availability
- Psychological factors: other psychiatric disorders e.g. anxiety, depression, stress, adolescent development changes
- Biological and genetic factors e.g. low levels of alcohol dehydrogenase enzyme.

Commonly abused drugs:

- Tobacco (cigarettes, shisha, kuber, mirage, migagi)
- Cannabis (njaga, bhang, marijuana, weed, hemp)
- Khat (mairungi, cathinone)

- Heroin
- Cocaine
- Petrol fumes and organic solvents (e.g. thinners)
- Opioids: meperidine/pethidine, morphine
- Amphetamines (e.g. speed)
- Mandrax® (methaqualone)
- Benzodiazepines
- Barbiturates (phenobarbitone)

CLINICAL FEATURES

Presenting features that may point to drug use disorders:

- Change in behaviour e.g. excessive irritability
- Change in function e.g. decline in school/work performance
- Loss of interest
- Episodes of intoxication e.g. slurred speech, staggering gait
- Involvement in illegal activities e.g. rape, theft
- Change in appearance e.g. weight loss, red eyes, puffy face, untidy, scars from multiple needle pricks
- Financial difficulties e.g. stealing, unpaid debts
- Relationship problems e.g. increased conflicts, communication breakdown
- Find out if person uses illegal or prescribed drugs in a way that risks damage to their health

INVESTIGATIONS

- Ask about use of illicit or non-prescribed drugs, self-medication or using increased doses of prescribed drugs and/or multiple doctor-shopping. Use of pain medications.

If yes, assess for features of dependence (3 or more of the following):

- A strong desire to take drugs for whatever relief e.g. pain, headaches, sleep etc.
- Difficulties controlling drug use in terms of onset, termination or levels of use
- A physiological withdrawal state when drug use has ceased or been reduced (as shown by classic withdrawal symptoms – anxiety, tremors, sweating, insomnia, nausea, vomiting, loose bowels etc.)
- Evidence of tolerance: increased doses of the drug are required to achieve effects originally produced by lower doses
- Progressive neglect of alternative pleasures or interests because of drug use
- Drug use persists despite clear evidence of harmful consequences physically, mentally or socially e.g. depression, loss of a job, marital break-up, school expulsion, liver disease etc.
- Investigate concurrent physical or mental illnesses, social, and family problems

MANAGEMENT

- Assess for and manage co-existing medical conditions e.g. HIV, cirrhosis
- Treat presenting symptoms (acute intoxication or withdrawal, psychosis, depression)
- Assess for harmful use (substance abuse but not meeting criteria for dependence) or dependence
- Psychoeducation and counselling. Family therapy.
- Refer to self-help groups if possible
- Refer to specialist for further management (**detoxification and rehabilitation therapy**)

PREVENTION

- Health education on dangers of substance use – physically, psychologically, job, school, family
- Employment/recreational opportunities. School programs against drug & alcohol use/abuse
- Encourage social and cultural values that promote sobriety e.g. family values, morality etc.

Attempt to reduce availability of drugs of abuse in communities. Regulate substances production, sale and use.

3.13 Childhood Behavioural Disorders ICD10 CODE: F90-F98

A general term including more specific disorders such as attention deficit hyperactivity disorder (ADHD) and other behavioural disorders. Only children and adolescents with moderate to severe degree of psychological, social, educational or occupational impairment should be diagnosed as having behavioural disorders. In some children the problem persists into adulthood. They are on a neurodevelopmental disorders spectrum. Investigate if the child's behaviour is a reaction to an external stressor, trauma and/or fear E.g. Is the child is bullied, traumatized or harmed at home or outside home. In this case, it is NOT a behavioural disorder!

CAUSES/RISK FACTORS

- Genetic
- Depression
- Medical conditions, alcohol or drug use
- Reaction to fear or trauma e.g. domestic abuse/violence

CLINICAL FEATURES

Attention Deficit Hyperactivity Disorder (ADHD)

- Impaired attention (breaking off from tasks and leaving activities unfinished) so severe as to affect normal functioning and learning
- Excessive restlessness, over activity especially in situations requiring calm, talkativeness, fidgeting
- Of early onset (<6 years) and lasting >6 months

Other behavioural disorders

- Unusually frequent and severe tantrums, persistent severe disobedience
- Repetitive and persistent pattern of dissocial, aggressive or defiant conduct (bullying, cruelty to animals, destructiveness, fire setting etc.), more severe than ordinary mischief, not only in response to severe family or social stressors, and lasting >6 months

Differential diagnosis

- Depression, psychosis
- Epilepsy, developmental disorders
- Medical conditions e.g. hyperthyroidism

MANAGEMENT

- Family psychoeducation and counselling
- Parent skill training
- Contact teachers, advise and plan for special needs education
- Psychosocial interventions if available
- Support to family
- Refer to specialist for further management

For ADHD not improving with above interventions:

- Consider methylphenidate under specialist supervision

3.14. Childhood Developmental Disorders ICD10 CODE: F80-F89

A broad spectrum of disorders with childhood onset, characterized by impairment or delay in functions related to central nervous system maturation, and with a steady course rather than remissions and relapses as in other mental illnesses. They include dyslexias, intellectual disability/mental retardation as well as pervasive developmental disorders such as autism.

CAUSES

- May not be known
- Nutritional deficiencies e.g. iodine deficiencies
- Medical conditions
- Alcohol, drug or medicine use during pregnancy
- Risk factors: maternal depression, infections in pregnancy e.g. rubella

CLINICAL FEATURES

- Delay in development (using local developmental milestones or comparison with other children)

INTELLECTUAL DISABILITY

- Impairment of skills across multiple development areas (i.e. cognitive, language, motor and skills)
- Lower intelligence and decreased ability to adapt to daily demands of life
- Specific learning disabilities e.g. writing, mathematics, language etc.

Pervasive developmental disorders including autism

- Impaired social behaviour, communication and language
- Oddities in communication (lack of social use of language skills, lack of flexibility of language used).
- Loss of previously acquired skills
- Narrow range of interests and activities that are both unique to the individual and carried out repetitively
- Originating in infancy or early childhood
- Some degree of intellectual disability may be present

INVESTIGATIONS

- Look for other priority mental, neurological or substance use disorder (depression, epilepsy, behavioural disorder)
- Consider if delay in development could be due to non-stimulating environment or maternal depression
- Assess for nutritional and other medical conditions e.g. sensory impairments (blindness, deafness etc.)
- Assess maternal problems/diseases when pregnant and substance use

MANAGEMENT

- Address medical issues including visual and hearing impairment, nutritional problems
- Family psychoeducation
- Parent skills training
- Contact teachers, advise and plan for special needs education
- Provide support to carers/family
- Link with community based rehabilitation services if available
- Protect and promote rights of the child: e.g. education, security, a safe home/shelter, food

THESE CHILDREN ARE VERY VULNERABLE TO ABUSE INCLUDING SEXUAL ABUSE

- Refer to specialist for more comprehensive assessment and management including special programs e.g. special education.

CHAPTER 4

**PALLIATIVE CARE ICD10
CODE: Z51.5**

PALLIATIVE CARE ICD10 CODE: Z51.5

Palliative care is an approach that improves the quality of life of patients (adults and children) and their families who are facing problems associated with life-ending illness. It prevents and relieves suffering through the early identification, correct assessment and treatment of pain and other problems, whether physical, psychological, social or spiritual. (WHO 2002)

Palliative care aims to improve the quality of life of patients (and their families) who are faced with life-ending illness, through the prevention and relief of suffering and misery. This is achieved through early identification, ongoing assessment, treatment of pain and other physical, psychological, social and spiritual problems.

4.1 Pain

“Pain is what the patient says hurts”.

Pain is an unpleasant sensory and emotional experience associated with actual or potential tissue damage, or described in terms of such damage. Pain is the most common symptom of a disease. The nature, location and cause of pain will differ in each case. Pain requires a holistic approach as it can be affected by spiritual, psychological, social, and cultural factors, which may need to be addressed after physical pain is controlled.

CAUSES OF PAIN

Pain can be divided into three types of causative categories:

- Acute Pain: Caused by a specific action with a definite time period, e.g., postoperative, acute infection, or trauma
- Chronic pain: Ongoing physical pain with an indefinite time period, for example:
 - Constant and usually increasing: cancer
 - Recurrent sickle-cell crisis, arthritis, HIV/AIDS
 - Drug side-effect or toxicity (e.g., peripheral neuropathy due to isoniazid, chemotherapy)
- Psychological pain: Also called Functional Pain or Chronic Pain Syndrome/Disorder. This is pain which cannot be explained by physical, organic, anatomical or physiological mechanisms and has emotional overlay. Sometimes the anatomic lesion, if present, cannot explain the degree of the pain complaint or the accompanying dysfunction.

RISK FACTORS AND MITIGATORS

These factors increase pain perception:

- Anxiety and depression, social abandonment, post-traumatic stress
- Insomnia
- Lack of understanding of the problem

These factors decrease pain perception:

- Relaxation, sleep
- Relief of other symptoms
- Explanation/understanding, venting feelings
- Social support

CLINICAL FEATURES AND INVESTIGATIONS

Types of Pain

There are 3 types of pain complaints that health workers need to be aware of:

i. Nociceptive Pain

The pain pathways are intact. This kind of pain responds to the analgesic ladder

It can be:

- Somatic Pain (from bones and muscles): described as aching/ throbbing e.g. migraine
- Visceral Pain: described as colicky pain (for hollow viscera), pressure, cramping and ache for solid viscera

ii. Neuropathic Pain

There is damage to nerves or the pathways. The pain responds only partially to the analgesic ladder. The first line treatment options in neuropathic pain are pregabalin, gabapentin, duloxetine and amitriptyline.

- Described as burning, prickling, stinging, pins and needles, insects crawling under skin, numbness, hypersensitivity, shooting, or electric shock.

iii. Psychogenic Pain

There is no organic anatomical or physiological pathology. OR if present, the organic lesion cannot explain the degree of the pain complaint or accompanying dysfunction. There is usually an underlying psychiatric disorder e.g. psychosis, depression, anxiety or substance dependence, hence drug seeking behaviour, family problem, academic problem, relationship problem etc.

CLINICAL INVESTIGATION

It is important for health workers to conduct a thorough investigation of a patient indicating they are in pain. The following points can be used to guide the investigation:

- Duration of pain
- Severity: assess using the Numerical Rating Scale, where the patient grades his/her pain on a scale of 0 = no pain to 5 = worst pain ever experienced
- Site and radiation
- Nature (e.g., stabbing, throbbing, crushing, cramp-like)
- Periodicity (constant or intermittent)
- Relieving or aggravating factors

- Accompanying symptoms
- Ask the patient for a detailed history for each pain experienced, as there may be more than one type of pain and area experiencing pain
- A targeted physical examination
- A psychiatric evaluation/consultation is indicated when there is no convincing organic lesion OR when there is evidence of overwhelming psychosocial factors.

MANAGEMENT OF NOCICEPTIVE PAIN

There are two goals of pain management:

- Diagnose and treat the disease causing the pain
- Achieve total pain relief with minimal side-effects and enable the patient to live as normal a life as possible

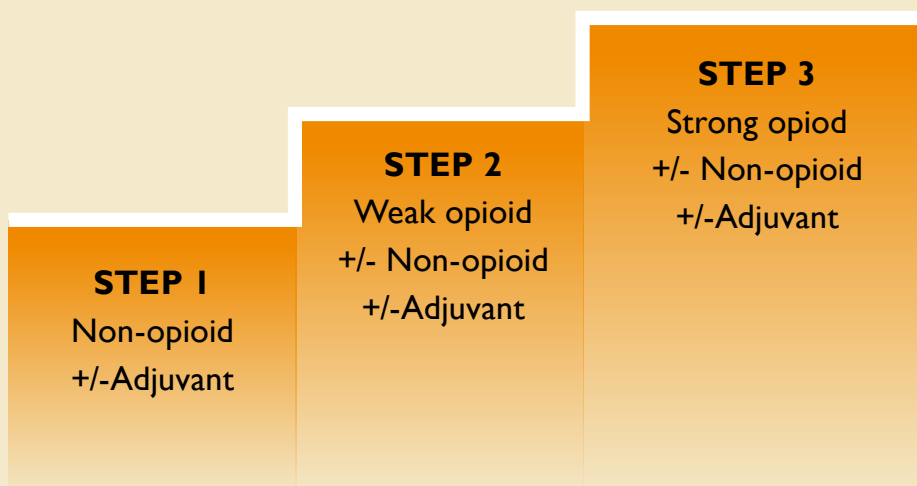
Pain can be treated through use of medicines and/or nondrug treatment

Non pharmacological treatment of pain

- Lifestyle adjustment
- Patient counselling
- Massage with aromatherapy oils: may be useful for neuropathic pain and muscular pain
- Reflexology
- Application of heat or cold packs
- Relaxation
- Distraction (e.g., listening to radio or partaking in a non-invasive hobby)
- Non-pharmacological treatment of underlying cause (e.g., surgery or radiotherapy of cancer)
- Social and spiritual support

The WHO Analgesic Ladder describes the use of medicines to relieve pain based on the type and degree of pain.

The World Health Organisation analgesic ladder (1996)²



4.1.1 Pain Management in Adults

STEP 1:

Mild Pain: Non-opioid analgesics such as Nonsteroidal anti-inflammatory drugs (NSAIDS) or Paracetamol with or without adjuvants

- Paracetamol 1 g every 6 hours (500 mg in elderly)

And/or

- Ibuprofen 400 mg every 6- 8 hours (max 2,400 mg/daily)

Or

- Diclofenac 50 mg every 8 hours

Continue with step 1 analgesics when moving to step 2 and 3

NOTE:

- Prolonged use of high doses of paracetamol may cause liver toxicity
- Do not use NSAIDS in renal impairment
- Caution when using Non-Steroidal Anti-inflammatory Drugs (NSAIDS) for more than 10 days

STEP 2:

Moderate Pain: Weak opioids (hydrocodone, codeine, tramadol) with or without non-opioid analgesics and without adjuvants

- **Codeine 30-60 mg** every 6 hours (max 240 mg)

Or

Tramadol 50-100 mg every 6 hours (max 400 mg) (Many prescribers are moving away from Tramadol because of the high side effects profile)

NOTE:

- Discontinue step 2 analgesics when starting step 3
- Give Bisacodyl 10-15 mg nocte to prevent constipation except if diarrhoea is present

STEP 3:

Severe and persistent Pain: Potent opioids (Morphine, methadone, fentanyl, oxycodone, buprenorphine, tapentadol, hydromorphone, oxymorphone) with or without non-opioid analgesics and with or without adjuvants

- **Morphine 5-10 mg** every 4 hours during day and double dose at night
- If breakthrough pain occurs, give equivalent additional dose
- Increase dose by 30-50% as required to control patient's pain
- Give additional dose 30 minutes before an activity causing pain (e.g. wound dressing)
- Elderly patients and/or renal impairment may require dose adjustment down wards
- Give Bisacodyl 10-15 mg nocte to prevent constipation except if diarrhoea is present
- **If modified or slow release tablets are available, use the same 24-hour dose but given in 1 or 2 doses daily**

Adjuvants; options for the various pain situations

- **Amitriptyline 12.5–25 mg** nocte for neuropathic pain (max 50-75 mg if tolerated)
- **Carbamazepine 200-400mg** in divided dosages for intractable neuropathic pain and headache
- Dexamethasone 4-8 mg once a day for swelling or oedema or raised intracranial pressure
- Hyoscine 20 mg every 6 hours for smooth muscle spasm
- **Diazepam 5-20 mg** nocte or clonazepam 1-2mg nocte for painful skeletal muscle spasms
- A stimulant laxative such as Bisacodyl 10-15 mg nocte **MUST** be given to prevent constipation except if diarrhoea is present. Other laxatives include Senna or its derivatives

CAUTION:

- Do not use **pethidine** for chronic pain; accumulates with severe side-effects on the gut. Only use as one off-dose for acute severe pain if morphine not available
- Side effects of NSAIDs: gastritis, renal toxicity, bleeding, bronchospasm
- Avoid **amitriptyline** in heart disease
- Side effects of opioids: see sections below

IAHPC List of Essential Medicines for Palliative Care

Medication	Formulation	Indication for PC	WHO Model list
Amitriptyline^a	50–150 mg tablets	Depression Neuropathic pain	24.2.1–Depressive disorders
Bisacodyl	10 mg tablets 10 mg rectal suppositories	Constipation	Not included
Carbamazepine^b	100–200 mg tablets	Neuropathic pain	5–Anticonvulsants/ antiepileptics 24.2.2–Bipolar disorders
Citalopram (or any other equivalent generic SSRI except paroxetine and fluvoxamine)	20 mg tablets 10 mg/5 mL oral solution 20–40 mg injectable	Depression	Not included
Codeine	30 mg tablets	Diarrhea Pain—mild to moderate	2.2–Opioid analgesics 17.5.3–Antidiarrheal
Dexamethasone	0.5–4 mg tablets 4 mg/mL injectable	Anorexia Nausea Neuropathic pain Vomiting	3–Antiallergics and anaphylaxis 8.3–Hormones and antihormones
Diazepam	2.5–10 mg tablets 5 mg/mL injectable 10 mg rectal suppository	Anxiety	1.3–Preoperative sedation short-term procedures 5–Anticonvulsants/ antiepileptics 24.3–Generalized anxiety, sleep disorders
Diclofenac	25–50 mg tablets 50 and 75 mg/3 mL injectable	Pain—mild to moderate	Not included
Diphenhydramine	25 mg tablets 50 mg/mL injectable	Nausea Vomiting	Not included
Fentanyl (transdermal patch)	25 µg/h 50 µg/h	Pain—moderate to severe	Not included
Gabapentin	300 mg or 400 mg tablets	Neuropathic pain	Not included

Medication	Formulation	Indication for PC	WHO Model list
Haloperidol	0.5–5 mg tablets 0.5–5 mg drops 0.5–5 mg/mL injectable	Delirium Nausea Vomiting Terminal restlessness	24.1—Psychotic disorders
Hyoscine butylbromide	20 mg/1 mL oral solution 10 mg tablets 10 mg/mL injectable	Nausea Visceral pain Terminal respiratory congestion Vomiting	Not included
Ibuprofen	200 mg tablets 400 mg tablets	Pain—mild to moderate	2.1—Nonopioids and NSAIDs
Levomepromazine	5–50 mg tablets 25 mg/mL injectable	Delirium Terminal restlessness	Not included
Loperamide	2 mg tablets	Diarrhea	Not included
Lorazepam^c	0.5–1–2 mg tablets 2 mg/mL liquid/drops 2–4 mg/mL injectable	Anxiety Insomnia	Not included
Megestrol acetate	160 mg tablets 40 mg/mL solution	Anorexia	Not included
Methadone (IR)	5 mg tablets 1 mg/mL oral solution	Pain—moderate to severe	24.5—Substance dependence
Metoclopramide	10 mg tablets 5 mg/mL injectable	Nausea Vomiting	17.2—Antiemetics
Midazolam	1–5 mg/mL injectable	Anxiety Terminal restlessness	Not included
Mineral oil enema			Not included
Mirtazapine (or any generic dual action NaSSA or SNRI)	15–30 mg tablets 7.5–15 mg injectable	Depression	Not included
Morphine	IR: 10–60 mg tablets IR: 10 mg/5 mL oral solution IR: 10 mg/mL injectable SR: 10 mg tablets SR: 30 mg tablets	Dyspnea Pain—moderate to severe	2.2—Opioid analgesics Note: Only IR is included in the WHO Model List—SR morphine is not.

Management of Psychogenic Pain

A full psychiatric evaluation is carried out to answer the following questions:

- Is there an ongoing physical disease?
- Does the physical disease explain the degree of pain complaint or dysfunction?
- Is there a problem with the use/misuse and response to the pain medication?
- Is there an underlying/associated psychiatric disorder? E.g. depression, somatisation, psychosis, anxiety, hypochondriasis, conversion disorder, addiction, psycho-trauma?
- Is there a pain behaviour syndrome e.g. drug seeking for narcotics, benzodiazepines?
- Is the patient malingering or faking, hence a diagnosis of Factitious Disorder?

Psychiatric treatment of psychogenic pain includes:

- Respect the patient: Pain is not psychological by default – Do not say “it is all in your head”. Clinician must reassure patient that he/she understands patient’s suffering.
- Avoid/stop invasive investigations and procedures for the pain. Talk to the other involved doctors.
- Wean the patient off all drugs of dependence. This may need an addictionologist.
- Treat the underlying psychiatric condition e.g. depression, psychosis, substance abuse, conversion disorder, post-traumatic stress disorder, family discord etc.
- Psychotherapy and Behavioural Therapy: Talking and listening to the patient and/or family helps. Use other coping mechanisms for relief of pain and suffering e.g. relaxation, sports, distractions, acceptance of limitations e.g. to amputation etc.

4.1.2 Pain Management in Children

STEP 1:

Mild Pain (Non-Opioid ± Adjuvant)

- Paracetamol 10-15 mg/kg every 6 hours

And/or

- Ibuprofen 5-10 mg/kg every 6-8 hours (use only in children >3 months)
- Continue with step 1 analgesics when moving to step 2
- Prolonged use of high doses of paracetamol may cause liver toxicity

STEP 2:

Moderate and severe Pain (Opioid ± Non-Opioid ± Adjuvant)

- **Morphine** every 4 hours
 - - 1-6 months: 0.01 mg/kg
 - - 6-12 months: 0.2 mg/kg
 - - 1-2 years: 0.2-0.4 mg/kg
 - - 2-12 years: 0.2-0.5 mg/kg (max 10 mg)
- Increase the dose slowly, until pain is controlled
- Increase dose by max 50% every 24 hours
- Give Bisacodyl (suppository only) 5 mg nocte to prevent constipation except if diarrhoea is present

NOTE: Codeine and tramadol are not used in children under 12 years of age**Adjuvants; options for the various pain situations in children**

- **Amitriptyline** nocte for neuropathic pain Child 2-12 years: 0.2-0.5 mg/kg (max 1 mg/kg or 25 mg)

Or

- **Carbamazepine 5-20 mg/kg** in 2-3 divided doses, increase gradually to avoid side effects (second line)
- Prednisolone 1-2 mg/kg per day
- Hyoscine
 - 1 month-2 years: 0.5 mg/kg every 8 hours
 - 2-5 years: 5 mg every 8 hours
 - 6-12 years: 10 mg every 8 hours
- **Diazepam** for associated anxiety
 - Child 1-6 years: 1 mg/day in 2-3 divided doses
 - Child 6-14 years: 2-10 mg/day in 2-3 divided doses

General principles in use of opioids for pain and symptom control in palliative care

- Health professionals specially trained in palliative care should supervise management of chronic pain in advanced or incurable conditions (e.g., cancer, AIDS)
- **Morphine** is usually the drug of choice for severe pain. Liquid morphine is available, easy to dose, and is well absorbed from the oral mucosae and can be dripped in the mouth of adults and children

In continuous pain, analgesics should be given:

By the clock (i.e. according to a regular dose schedule)



By the patient (i.e. self-administered and dose according to the patient's situation)



By the mouth (i.e. as oral dose forms)

NOTE:

- Pain is better controlled using regular oral doses which control pain. If pain is not controlled, increase the 24-hour dose by 30-50%
- Repeated injections are not indicated
- Consider extra doses when painful procedure is planned and for breakthrough pain.
- If using breakthrough doses regularly, then increase the regular dose!
- Side effects are minor and well-manageable if careful dosing and titration are done

CAUTION ON USE OF OPIOIDS

Opioids need to be effectively managed and administered, considering the associated cautions and side effects below.

- Do not use opioids in severe respiratory depression and head injury
- Use with care in the following conditions
 - Advanced liver disease (but can be used in hepatocellular carcinoma when titrated as above)
 - Acute asthma
 - Acute abdominal pain (can use while awaiting diagnostic tests; never leave the patient in pain)
 - Hypothyroidism
 - Renal failure (reduce starting dose and/or reduce dose frequency)
 - Elderly or severely wasted patient (reduce starting dose and/or reduce dose frequency)
 - Use with extreme care (i.e., start with small doses and use small incremental increases) in recurrent or concurrent intake of alcohol or other CNS depressants

MANAGEMENT OF SIDE EFFECTS OF OPIOIDS

Respiratory depression

This rarely occurs if small oral doses are used and gradually titrated to response but can occur when **morphine** used parenterally

- Reverse respiratory depression using **naloxone** 0.4-2 mg slow IV every 2-3 minutes according to response
- For a child: 0.01 mg/kg slow IV; repeat 0.1 mg/kg if no response

Constipation

- - Give Bisacodyl 10-15 mg nocte to prevent constipation except if diarrhoea is present
- - For a child: 5 mg rectally
- - Add liquid paraffin 10 ml once a day if Bisacodyl is not enough

Nausea or Vomiting

Usually occurs in first 5 days and is self-limiting. Vomiting later on may be due to another cause.

- Give anti-emetic (e.g. metoclopramide 10 mg every 8 hours for 3–5 days)
- Child 9-18 yrs.: 5 mg 8 hourly
- Child 5-9 yrs.: 2.5 mg 8 hourly
- Child 3-9 yrs.: 2-2.5 mg 8hourly
- Child 1-3 yrs.: 1 mg 8 hourly
- Child <1 yr: 100 micrograms per kg every 12 hours

Confusion or Drowsiness

If excessive continuous drowsiness, titrate the opioid dose down slowly

Referral criteria

- If pain does not respond to above measures, refer to palliative care specialist
- Refer for radiotherapy at national referral hospital (if available) for severe cancer bone pain not responding to above medications
- Refer for surgery if the cause of pain is amenable to surgery

Neuropathic Pain

Neuropathic pain occurs as a result of damage to nerve tissue. There are two clinical kinds of neuropathic pain, both elements may be combined:

- Stabbing-type: pain in a nerve distribution with minimal pain in between (e.g. trigeminal neuralgia) but can occur with any nerve. Responds to Phenytoin
- Paraesthesia, dysesthesias, or burning-type pain: (e.g. post-herpetic neuralgia). Responds well to small doses of **Amitriptyline**

MANAGEMENT

a) Trigeminal neuralgia or stabbing-type pain-Acute phase

- **Carbamazepine** initially 100 mg every 12 hours, Increase gradually by 200 mg every 2-3 days according to response, max 1200 mg NB: Causes white cell depression

b) Burning type pain (post-herpetic neuralgia, diabetic neuropathy)

- **Amitriptyline 12.5-25 mg** at night or every 12 hours depending on response, max 50-75 mg

Back or Bone Pain

Includes pain in the lumbar region of the spine or bone pain anywhere within the body.

CAUSES

Potential causes of back or bone pain:

- Disc degeneration (often has a neuropathic element because of pressure on sciatic or other nerve)
- Osteoporosis (if collapse of vertebrae or fracture)
- Infection (e.g. TB, brucellosis, PID, retroperitoneal)
- Metastatic cancers, renal disease
- Strain
- Congenital abnormalities
- Spondylolisthesis

CLINICAL FEATURES

Each situation will differ depending on the cause of the pain:

- If an infection is present: throbbing and constant pain
- If sciatica, sciatic nerve roots will be involved

INVESTIGATIONS

- Try to establish the cause and type of pain
- X-ray: Spine and pelvis

MANAGEMENT OF BACK OR BONE PAIN

Analgesics

- Give a Step 1 drug for 7 days or as long as required according to patient
- NSAIDs are the Step 1 drug of choice in bone pain
- May have to add a Step 2 or 3 drug, especially in metastatic disease

For acute back pain:

- Rest the back on a firm but not hard surface

For neuropathic element:

- Manage as for neuropathic pain above

NOTE

Children can also have psychogenic pain. This is especially so where there has been sexual abuse, family dysfunction including domestic violence or drug and alcohol abuse. Psychogenic pain management in children follows the same principles as in adults with one proviso: Always involve the family as in family therapy. Where there has been physical abuse or sexual abuse, including incest, the child must be protected. This calls for involvement of child protection services including reporting to the police.

4.2 Other conditions in palliative care

In palliative care, other conditions that are commonly encountered are summarised below.

4.2.1 Breathlessness ICD10 CODE: R06

This could be due to palliative care conditions or anxiety

MANAGEMENT

- **Non-drug treatment**
 - Reassure patient; explore patient's fears and anxieties; anxiety worsens condition
 - Breathing exercises and relaxation techniques; teach patient how to slow down breathing by pursing their lips and breathe with diaphragm rather than chest
 - Pulmonary rehabilitation
 - Position patient in most comfortable position in bed
 - Ensure good ventilation (e.g. open windows, use fans, loosen tight clothing)
 - Conserve energy (e.g. encourage exertion to breathlessness)
 - Refer if symptoms persist, in airway obstruction, or need for pleurodesis

- **Medicines:**
 - **Oral morphine 2.5-5 mg** every 4 hours
 - Oxygen if patient is hypoxic
 - **Diazepam** if patient is anxious
 - **Diazepam 2.5-5 mg orally**; once a day if breathlessness is associated with panic attacks

NOTE

Shortness of Breath often occurs as a subjective sensation in Hyperventilation Syndrome. This is a common complication in Anxiety Disorders including Generalised Anxiety Disorder (GAD) and Panic Disorder. Its management is as described above in the section on anxiety disorders. It involves Psychotherapy support and reassurance to the patient, Resolve underlying conflicts, Short term use of benzodiazepines (up to two weeks): Diazepam 5-10 mg od or Clonazepam 1-2 mg od and long term treatment with antidepressants in persistent cases: Imipramine/Amitriptyline 50-100mg nocte OR SSRIs like Fluoxetine, Paroxetine or Citalopram 20 -40 mg daily for up to 8 to 12 months.

4.2.3 Nausea and Vomiting ICD10 CODE: R11

Can be due to disease or medicines

MANAGEMENT

- Treat the cause
- Vomiting typically relieves nausea. If due to gastric stasis or delayed bowel transit time
- Give metoclopramide 10–20 mg every 8 hours (30 minutes before meals; same dose SC or IV). If due to metabolic disturbance (liver/renal failure, medicines e.g., chemotherapy)
- Give **haloperidol 1.25 -2.5 mg** nocte (PO or SC)
- If due to raised intracranial pressure give Dexamethasone 8-16 mg once a day and refer to specialist.
- If due to visceral stretch or compression Promethazine 25 mg every 8 hours or Hyoscine butyl bromide 20-40 mg 8 hourly

Nausea and vomiting can also occur as psychiatric complications or atypical presentations as in Emesis Gravidarum or in Depression. Treatment with Psychotherapy support accompanied by Imipramine 50-100mg/24 hours in divided doses plus Chlorpromazine 50-100mg nocte often helps. Duration of therapy is 6-8 to 12 months for depression and 3 months in cases of emesis gravidarum.

4.2.4 Pressure Ulcer (Decubitus Ulcers) ICD10 CODE: L89

Ulcer of the skin and/or subcutaneous tissue caused by ischaemia secondary to extrinsic pressure or shear

MANAGEMENT

- **Non-drug treatment**
 - Debridement of necrotic tissue
 - Clean with normal saline
 - If able, encourage patients to raise themselves off the seat and shift their weight every 15-20 minutes or to take short walks
 - Repositioning of those who cannot move themselves frequently, determined by need and skin status
 - Inspect skin every time the patient's position is changed
 - Maintain optimal hydration and hygiene of skin
 - Avoid trauma, by not dragging patient
 - Good nutrition for those with good prognosis to maintain normal serum albumin
 - Educate patient caretakers on risk factors for developing pressure ulcers, how to inspect and care for skin, and inform health care professional
 - May need skin grafting and flaps; refer to hospital
- **Medicines**
 - Give antibiotics if there is evidence of surrounding cellulitis
 - Control pain
 - Control odour with topical metronidazole powder or gel until there is no foul smell
 - If patient has sepsis, give parenteral antibiotics

4.2.5 Fungating Wounds

MANAGEMENT

- Treat underlying cause
- Chlorhexidine 1.5% + Cetrimide 15% diluted with water for regular wound cleaning
Metronidazole Powder alone or combined with povidone iodine as a single formulation (This has been extensively used in Uganda for over 25 years) has been found very effective for managing fungating wounds
- Apply clean dressings daily
- Give analgesia for pain
- If cellulitis, give appropriate antibiotic

4.2.6 Anorexia and Cachexia ICD10 CODE: R63.0 AND R64

Anorexia is loss of desire to eat. Cachexia is a complex metabolic syndrome, characterized by profound loss of lean body mass, in terminal illnesses.

CAUSES

- Nausea and vomiting, constipation, gastrointestinal obstruction
- Sore mouth, mouth tumours, malodour
- Hypercalcaemia, hyponatraemia, uraemia, liver failure
- Medications
- Depression

MANAGEMENT

- Treat underlying causes if possible.
- Megestrol Acetate 40-320mg per day in divided doses for at least two months

Non-medicine treatment

- Small amounts of food frequently
- Give energy-dense food, and limit fat intake
- Avoid extremes in taste and smell
- Pleasant environment, nice presentation of food
- Eating is a social habit and people eat better with others
- Nutritional counselling
- If prognosis <2 months, counsel patient and family to understand and adjust to reduced appetite as a normal disease process

CAUTION:

In established cancer and cachexia, aggressive parenteral and enteral nutritional supplementation is of minimal value

Anorexia and cachexia can also present in psychiatric conditions in both children and adults. The common causes are Depression (including anaclitic depression in infants causing failure to thrive), Eating Disorders such as Anorexia Nervosa and Bulimia and also in substance abuse including chronic drug and alcohol addiction. Such extreme weight loss due to psychiatric disorder calls for referral to a psychiatrist.

4.2.7 Hiccup ICD10 CODE: R06.6

Repeated involuntary spasmodic diaphragmatic and inspiratory intercostal muscle contractions. Hiccups up to 48 hours are acute, those lasting more than 48 hours are persistent and more than 2 months are intractable.

CAUSES:

- Gastric distension, GERD, gastritis, diaphragmatic irritation by supraphrenic metastasis, phrenic nerve irritation
- Metabolic: uraemia, hypokalaemia, hypocalcaemia, hyperglycaemia, hypocapnia
- Infection: oesophageal candidiasis
- Brain tumour, stroke, stress

MANAGEMENT

- Most hiccups are short-lived and self-limiting
- Treat underlying cause

Non-medicine treatment

- Direct stimulation of the pharynx by swallowing dry bread or other dry food
- Stimulation of vagus nerve by ingesting crushed ice or Valsalva manoeuvre
- Rapidly ingest 2 heaped teaspoons of sugar
- Indirect stimulation of the pharynx – C3-5 dermatome stimulation by tapping or rubbing the back of the neck
- Relief of gastro-intestinal distension e.g. nasogastric suction, flatus tube, total alimentation etc.
- Treat underlying condition/cause.
- Refer if hiccups persist or are intractable

Medicines

For persistent or intractable hiccups use:

- Metoclopramide 10 mg 8 hourly (if the cause is gastric distension)

Or

- **Haloperidol 2–5 mg** once a day

Or

- **Chlorpromazine 25 mg** 6 hourly

NOTE:

Use of Haloperidol, Chlorpromazine or anticholinergics may sometimes cause paralytic ileus.

4.2.8 Dry or Painful Mouth ICDI0 CODE: R68.2

Dry mouth, painful mouth and mouth ulcers are caused by infections, drugs, chemotherapy, trauma, dryness, radiotherapy, HIV and opportunistic infections.

Non-medicine treatment

- Mouth wash with salted water (hourly), frequent sipping to keep mouth moist
- Brush teeth and tongue at least 3 times a day
- Suck fresh cold pineapple cubes once or twice daily
- Avoid sugary foods and drinks, eat soft food
- - Apply Vaseline to cracked lips
- Review medications (dry mouth can be a side effect, e.g. of **Amitriptyline**)

Treat appropriate infection:

- Candidiasis with fluconazole 200 mg od for 7 days
- Herpes simplex with oral acyclovir 200 mg, 5 times a day for 5–10 days depending on severity
- Anaerobic gingivitis, halitosis, with metronidazole mouthwash (mix 50 mL of IV metronidazole with 450 mL of water, plus 50 ml of juice)

4.2.9 Severe Mucositis or aphthous ulcers

- Consider steroids dexamethasone 8 mg once daily for 5 days
- Analgesic gel (Bonjela, Oracure) on ulcers Painful mouth
- Oral **liquid morphine** as above (before swallowing, hold liquid morphine in the mouth for at least 30 seconds)

4.2.10 Other Symptoms that need controlled medicines

a) Anxiety and muscle spasm

- **Diazepam 5-10 mg** once a day, titrated to three times a day
- **Clonazepam 1-2mg** once a day. *Use for brief periods of time of not more than two weeks*

b) Excessive bronchial secretions

- Hyoscine 20 mg once a day titrated to 3 times a day according to response

c) Intractable cough

- **Morphine** as mentioned above

d) Delirium and acute anxiety in palliative care

- **STEP 1:** Diagnose delirium based on clinical symptoms usually acute onset, fluctuating course, inattention, disorganised thinking and altered level of consciousness.
- **STEP 2:** Identify and treat potential causes which could include medications, infections, shock, trauma, intoxications or withdrawal, electrolyte imbalance and other neurological issues.
- **STEP 3:** Implement behavioural/ non-pharmacological measures including family support, and supervision of safety, maintain day time routine and night time routine to support orientation to sleep
 - Ensure nutrition and hydration
 - Ensure sensory deficits are addressed to enhance communication
 - Avoid tethering medical devices and restraints
- **STEP 4:** Only use neuroleptics if the problem is not addressed by other means.

If the non-pharmacological methods fail give:

- **First line:**
Adult Dose **Haloperidol 0.5- 1 mg 4 to 6 hourly PO or sublingual or IV**
The paediatric dose of **Haloperidol (3 years to 18 years) is 0.01- 0.1mg/ kg 8 hourly**
- **Second line:**
Chlorpromazine (only if sedation is required) Adult dose: 10mg PO 4-6 hourly or 25 per rectum 6 – 12 hourly Or 5 -10 mg IM OR IV 8 – 12 hourly
Paediatric Dose: 0.1mg/kg/dose PO /PR 6-8hourly OR 0.1-0.15mg/kg/dose IM/ IV 8- 12 hourly.
- **STEP 5:** Consider use of benzodiazepines only if safety concerns persist despite previous measures:
 - **Lorazepam 0.5-2mg** 6 hourly per os /per rectum/Sublingual/IV/Subcutaneous
 - Paediatric dose is 0.02-0.05mg/kg/ 6 hourly as required.
 - **Diazepam 2.5mg-10mg** 6 hourly as required per os/ per rectum/IV / Subcutaneous
 - Paediatric dose is 0.05mg-0.3mg/kg 6 hourly PRN
 - **Clonazepam 0.5-2 mg** 12 hourly orally or IV

e) **Palliative care emergencies**

Understanding the patient's wishes prior to this is very important

i. **Malignant spinal cord compression**

Commonly associated with breast, lung, prostate, renal and thyroid cancers. If detected and managed early loss of function can be avoided.

Immediate treatment includes steroids in form of Dexamethasone, and definitive therapy being surgery and radiotherapy and pain medicines and psychotropic medications/ adjuvants used as appropriate.

ii. Superior Vena Cava Syndrome,

This is caused by superior Vena Cava obstruction by tumours or thrombosis.

It is associated with dyspnoea, facial oedema, headache, cough, chest pain, visual disturbance and often related position of the patient.

Management of MSCC includes; radiotherapy, chemotherapy, elevation of the head of the bed, symptomatic treatment of dyspnoea with low dose opioids, steroids

iii. Bleeding

Identify the reversible causes of bleeding and act according to available resources.

For bleeding wounds consider topical epinephrine, tranexamic acid or aminocaproic acid powder or IV, direct pressure dressing cautery (silver nitrate or thermal) and over sewing small blood vessels.

For Haemoptysis place the patient in lateral decubitus with the affected side and consider radiotherapy if it is cancer and it is appropriate.

For haematemesis/vaginal bleeding /melaena, slow rate of blood loss with tranexamic acid 500-1000mg IV/Subcutaneous or topical with packing

iv. Pneumothorax/Pleural Effusions/Pericardial effusions

Action should depend on available resources

v. Seizures

These are common in patients within the palliative care context.

Benzodiazepines (Diazepam, Lorazepam, Midazolam and Clonazepam) are central in the management as per age and weight of the patient. In addition ongoing therapeutic options with other anticonvulsants such as phenobarbital, phenytoin should be initiated.

4.3 End of Life Care

This is care given in the last days of life.

CLINICAL FEATURES

Clinical signs at of end of life include (should be considered in those with terminal conditions who have been gradually deteriorating):

- Patient becomes bedbound and is increasingly drowsy or in a semi-conscious state
- Minimal oral intake; patient not managing oral medication and only able to take sips of fluid
- The patient's condition is deteriorating rapidly (e.g. day by day or hour by hour)
- Breathing becomes irregular +/- noisy (death rattle)

- Changes in skin colour and/ or temperature
- Limited attention span

INVESTIGATIONS

- Exclude reversible problems (e.g. drug toxicity, infections, dehydration, biochemical abnormalities)
- Before ordering a test, always ask “will this test change my management plan or the outcome for the patient?”
- It is important to weigh the benefit versus the burden in assessing an intervention, and/or management plan based on the clinical features exhibited by the patient

MANAGEMENT

General principles of medicine treatment:

- Focus on giving medication that will improve the patient’s **quality of life**
- Treat symptoms of discomfort as in sections above
- If the patient is unable to swallow choose an appropriate route to give necessary medications (e.g. via NG tube, parenteral or rectally)
- Subcutaneous (SC) is recommended when the enteral route is not possible. It is preferred over IV and IM access due to its reduced trauma and pharmacokinetics
- If repeated injections are anticipated or experienced, a butterfly needle can be inserted and used as a route for regular subcutaneous injections
- Consider prescribing medications pre-emptively (anticipatory) to combat developing symptoms
- **Morphine** concentrations can vary depending on the preparation used; remember that SC **morphine** has twice the potency of oral morphine

4.3.1 Hydration and nutrition

- Patients should eat and drink as they wish, and take sips of water as long as they are able
- Families should be educated that it is normal for patients to lose their appetite, have a sense of thirst and stop feeding towards the end of life. They should not feed patients if they are no longer able to swallow as this may cause choking and distress
- IV fluids at this stage will not prolong life or prevent thirst. Over-hydration is discouraged as it may contribute to distressing respiratory secretions or generalised oedema; good regular mouth care is the best way to keep the patient comfortable
- IV dextrose for calorie supplementation is unlikely to be of benefit
- If there is a reduced level of consciousness, patients should not be fed due to the risk of aspiration.
- Artificial nutrition is generally discouraged at the end of life

4.3.2 Supportive care

- Keep the patient clean and dry
 - Regularly clean the mouth with a moist cloth wrapped round a spoon
 - Prevent and manage pressure sores appropriately
 - Manage any associated pain
 - The end of life is an emotional time for all involved and requires health care professionals to be considerate and compassionate.
 - Take time to listen to the concerns of the patient and their family; break bad news sensitively
 - Encourage the family to be present, holding a hand or talking to the patient even if there is no visible response; the patient may be able to hear even if they cannot respond
 - Consider spiritual support
- Consider the best place of death for the patient and their family; would discharging them to go home be best?

CHAPTER 5

ANAESTHESIA

ANAESTHESIA

General Anaesthesia

In order to ensure safety and maximum benefit from the controlled medicines used in anaesthesia, the operating theatre should be in a constant state of preparedness.

5.1 Preparation in the operating theatre

The following should be available, checked, and ready

- Oxygen source
- Operating table that is adjustable and with its accessories
- Anaesthesia machine with accessories
- Self-inflating bag for inflating the lungs with oxygen
- Appropriate range of face masks
- Suction machine with range of suction catheters
- Appropriate range of oropharyngeal airways, endotracheal tubes, and other airways, e.g., laryngeal mask airway
- Laryngoscope with suitable range of blades
- Magill's forceps
- Intravenous infusion equipment, appropriate range of cannulas and fluids (solutions)
- Equipment for regional anaesthesia
- Adequate lighting
- Safe disposal of items contaminated with body fluids, sharps, and waste glass
- Refrigeration for storage of fluids, drugs, and blood
- **Anaesthetic drugs:** General and local anaesthetic agents
- **Muscle relaxants**
- Appropriate range of sizes of syringes
- Monitors: stethoscope, sphygmomanometer, pulse oximeter
- Appropriate protection of staff against biological contaminants. This includes: caps, gowns, gloves, masks, footwear and eye shields (personal protective equipment)
- Drugs necessary for management of conditions, which may complicate or co-exist with anaesthesia

5.2 Pre-operative management

The aim is to make the patient as fit as possible before surgical operation.

Assessment of the patient must be done:

- Identify the patient and establish rapport
- A standard history is obtained and an examination done
- Past anaesthetic experience is noted e.g. history of malignant hyperthermia
- Allay patient fears and anxiety. Anxiolytic pre-medication may be necessary
- Emphasis is on the cardio-respiratory systems
- Investigations appropriately interpreted e.g., Haemoglobin
- Health status/condition of the patient
- Classify physical status of the patient
- Make a plan for anaesthesia based on the information obtained

Preparation of the patient

- Explain the procedure to the patient and ensure that he/she has understood
- Ensure informed consent form is signed
- Weight of every patient should be taken
- Check site and side of the operation
- Check period of fasting
- Remove: Ornaments/prostheses/dentures that may injure the patient and make-up that may interfere with monitoring
- Any other necessary preparation based on patient's condition and nature of the operation (condition of deficits/imbbalances should be corrected, control chronic conditions)

NOTE:

The ability of the patient to withstand the stresses and adverse effects of anaesthesia and the surgical procedure will depend on how well prepared he/she is.

5.3 General Anaesthetic Agents

Intravenous agents

Most anaesthetic agents are included in the specialist essential medicines list meaning that use is restricted to specialised health workers.

5.1.1 Thiopentone

- Solution: 2.5% or 25 mg/ml
- Route: IV
- Dose: 3 to 5 mg/kg body weight

Indications for use of Thiopentone:

- Induction of anaesthesia and as an anticonvulsant

Contraindications:

- Airway obstruction,
- Shock,
- Hypersensitivity to barbiturates,
- Severe heart disease

Side effects:

- Drowsiness,
- Depression of cardio respiratory system(in clinical doses)

Complications:

- Hypotension,
- Apnoea (dose dependent),
- Tissue necrosis in case of extravasation of the solution

5.3.2 Ketamine

- Available as solution: 50 mg/ml, 10 mg/ml
- Route: IV or IM
- Dose: IV 1-2 mg/kg or IM. 5-7 mg/kg
- Indication: Induction of anaesthesia, maintenance of anaesthesia (infusion) and analgesia

NOTE:

It is contraindication in Hypertension, epilepsy, raised intracranial pressure, e.g. head injury

Side effects:

- Emergency delirium,
- hallucinations,
- increased salivation, increased muscle tone

Prevent salivation by atropine premedication and treat emergency delirium by giving **diazepam**

5.3.3 Propofol

It is Solution/emulsion: 1% or 10 mg/ml and given intravenously IV

- Dose: 1-2.5 mg/kg titrated at a rate of 4 ml per second

Indications for use of *Propofol*:

- Induction of anaesthesia,
- Maintenance of anaesthesia

Contraindication:

- Hypersensitivity,
- Hypotension

Side effects:

- Pain at site of injection

5.4 Inhalational anaesthetic agents

5.4.1 Halothane

Halothane is included in the general essential medicines list but should only be used by health workers confident with the use of this anaesthetic. It is a volatile liquid at room temperature.

Indications for its use:

- Induction of anaesthesia (in children, patients with airway obstruction)
- Maintenance of anaesthesia

Precaution:

- Always use at least 30% oxygen with halothane
- It is safe to avoid use of adrenaline to prevent high incidence of arrhythmias

Adverse effects which may occur include:

- Atony of the gravid uterus
- Post-operative shivering
- Severe cardiopulmonary depression

5.5 Muscle Relaxants

They are used to provide muscle relaxation to facilitate a procedure, and used in a patient who is unconscious, e.g. general anaesthesia, or sedated.

Precaution before using a muscle relaxant: always have means of supporting the airway and respiration

5.5.1 Suxamethonium

It is a short acting muscle relaxant:

- Solution: 50 mg/ml
- Action: Fast onset and short duration
- Route: IV or IM
- Dose: 1-2 mg/kg

Indication:

Muscle relaxation for short procedures, e.g., tracheal intubation, reduction of fracture

Contraindications:

- Airway obstruction,
- hyperkalaemia, e.g., tetanus, burns >3 days old

5.5.2 Atracurium

It is an intermediate acting muscle relaxant

- Solution: 10 mg/ml
- Duration of action is 20-40 minutes
- Route: IV
- Dose: 300-600 micrograms/kg
- Indication: Muscle relaxation for operation of intermediate duration

5.5.3 Pancuronium**Long acting muscle relaxant;**

- Solution: 2 mg/ml
- Action: Slow onset and long duration (45 minutes)
- Route: IV
- Dose: 4-6 mg initially, thereafter 2 mg or 80–100 microgram/kg
- Indication: Muscle relaxant for long procedure, e.g. laparotomy

5.6 Selection of Type of Anaesthesia for the Patient

One should consider the following factors:

- Patient factors: medical state, time of last meal, mental state, wish of patient if applicable
- Surgical factors: nature of surgery, site of operation, estimated duration of surgery, position in which the surgery is to be performed
- Anaesthetic factors: availability of drugs, experience and competence of the anaesthetic provider

Techniques of General Anaesthesia**Requirements for all:**

- Take and record baseline vital signs
- Establish intravenous line and commence infusion

5.6.1 General anaesthesia with spontaneous respiration**Induce anaesthesia by:**

- Intravenous route (adults) or
- Inhalation route (children, patient with difficult airway)

Maintenance

- Secure a clear airway using an oropharyngeal airway
- The mask is placed on the face
- Titrate concentration of inhalation against response of the patient
- Monitor, record every 5 minutes or more frequently, BP, pulse, respiration, colour, oximetry

Indication:

- This technique may be used for operations on limbs, perineum, superficial wall of chest, and abdomen
- Suitable for operations lasting less than 30 minutes

5.6.2 General anaesthesia with controlled ventilation

Induce anaesthesia:

- Intravenous or inhalation (see above)
- Tracheal intubation:
 - When spontaneously breathing for anticipated difficult airway (for children)
 - Or**
 - Under relaxation by **suxamethonium** and laryngoscopy
 - Confirm correct tube placement by presence of breath sounds on both chest sides
 - Connect the breathing/delivery system to the endotracheal tube

Maintenance

- Titrate concentration of inhalation agent against response of the patient
 - A selected, long acting muscle relaxant is given
 - Intermittent positive pressure ventilation is done
 - Monitor vital signs (as above)
- At the end of the operation when the patient shows signs of respiratory effort, give
 - IV. **Neostigmine 0.03 to 0.07 mg/kg** to reverse the effects of the long acting muscle relaxant.

Indication

- All operations that require a protected airway and controlled ventilation, e.g., intraabdominal, intrathoracic, and intracranial operations

5.6.3 Rapid sequence induction of general anaesthesia

(Also called crash induction) For patients with “full stomach” and at risk of regurgitation, e.g., emergency surgery, distended abdomen.

Crash induction steps:

- Establish an intravenous line and commence infusions
- Pre-oxygenation for >3 minutes
- Induce with selected intravenous anaesthetic agent
- Assistant applies cricoid pressure
- **IV suxamethonium** is given
- Laryngoscopy is done
- Trachea is intubated and correct tube placement confirmed
- The cuff of the endotracheal tube is inflated, then cricoid pressure released
- The position of the tube is fixed by strapping and an airway is inserted
- Then connect to breathing circuit/system to maintain anaesthesia

5.6.4 Techniques for Regional Anaesthesia

This may be used for anaesthesia to enable a painless surgical procedure or as a way of pain control in the context of palliative care.

Detailed knowledge of anatomy, technique, and possible complications is important for correct injection placement. Preoperative assessment and preparation of the patient should be done.

Only preservative free medicines may be used for nerve blocks. Lidocaine has a faster onset of action than bupivacaine, but a shorter duration of action.

- Lidocaine 1% or 2%.
 - Higher concentrations cause more pain on injection.
 - Maximum dose: 3 mg/kg.
- Lidocaine 2% plus adrenaline.
 - Not to be used in areas supplied by an end-artery e.g. finger, ear, penis.
 - Maximum dose: 7 mg/kg.
- Bupivacaine 0.5%:
 - Not be used in mucosal areas as risk of systemic toxicity.
 - Maximum dose: 2 mg/kg.

Patient refusal and local sepsis are the only absolute contraindications.

Select the appropriate technique for operation.

Procedure:

- Discuss the procedure with the patient
- Identify the injection site using appropriate landmarks
- Observe aseptic conditions
- Use small bore needle, which causes less pain during injection
- Select concentration and volume of drug according to the technique
- Aspirate before injection to avoid accidental intravascular injection
- Inject slowly and allow 5-10 minutes for onset of drug action
- Confirm desired block effect before surgery commences
- The patient must be monitored throughout the procedure

NOTE:

- Supplemental agents should be available for analgesia or anaesthesia if technique is inadequate
- Resuscitative equipment, drugs, and oxygen must be at hand before administration of any anaesthetic

CHAPTER 6

AN EFFECTIVE AND EFFICIENT SUPPLY CHAIN FOR CONTROLLED MEDICINES IN DRC

AN EFFECTIVE AND EFFICIENT SUPPLY CHAIN FOR CONTROLLED MEDICINES IN DRC

This depends on an evidence-based overall National Essential medicines List as well as a National Essential Medicines List for palliative care which are in agreement with the recommendations of the World Health Organisation. In addition, the supply chain is informed by the aspiration of the UN Political Declaration on Universal Health Coverage, the 2014 World Health Assembly Resolution on Palliative Care and the 2017 World Health Assembly Resolution on Cancer which all emphasize improved access to controlled medicines for medical and scientific use.

Understanding the supply chain system in a country for controlled medicines:

1. Understanding the National Essential Medicines List and the National Palliative Care Essential Medicines List and the controlled items on these lists for the country.
2. The teams responsible for the procurement of pharmaceutical products and controlled medicines in particular
3. The quantification of controlled medicines for the country
4. The national pharmaceuticals budget and the amount dedicated to controlled medicines
5. The ordering processes for importation of controlled medicines or their molecules
6. The process of distribution from the National Medical Stores to provinces, health facilities and patients
7. The record keeping and data collection about controlled medicines
8. Reporting in-country about controlled medicines
9. Reporting to the International Narcotics Control Board

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