PHC Chapter 20: Pain

20.1 PAIN CONTROL

R52.0/R52.9

DESCRIPTION

Pain is “an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage”.

It is subjective. It is affected by the patient's mood, morale, and the meaning the pain has for the patient. Verbal description is only one of several behaviours to express pain; inability to communicate does not negate the possibility that the patient is experiencing pain.

LoE:IVb[1]

GENERAL MEASURES

» Enquire about pain at all patient consults.
» General medical history is an important part of a pain history, as it reveals co-morbidities affecting the complexity of the pain condition.
» Culture, gender and language play an essential role in how a patient reports pain.

LoE:IVb[2]

» Active pain assessment and self-report is the key to effective pain management.
» Different pain assessment scales should be used for different ages and intellectual categories of patients.

Choice of pain assessment tool:

» The gold standard of pain assessment is self-report. Consider using self-report tools from > 5 years (e.g. revised faces pain scale, visual analogue scales below).
» If the child is unable to self-report, use the revised Face, Legs, Activity, Cry, and Consolability (R-FLACC) scale.

LoE:IIIb[3]

» In non-verbal patients or patients with cognitive impairment, specific tools, e.g. the Abbey pain scale, may be used to assess pain: https://www.mdcalc.com/calc/3627/abbey-pain-scale-dementia-patients

LoE:IVb[4]

Revised FLACC tool (R-FLACC)

Infants and children (2 months to 18 years old) - Behavioural pain assessment tool:

This tool can be used in children aged 2 months to 18 years and includes descriptors for cognitively impaired children. The clinician assigns a score to each parameter, and tallies a score out of 10. The final score is used to diagnose 1-3 (mild discomfort), 4-6 (moderate), or 7-10 (severe pain), which must be treated accordingly.

LoE:IIIb[5]

Revised FLACC Tool (R-FLACC)			
	0	**1**	**2**
Face	No particular expression/ smile.	Occasional grimace/frown; withdrawn or disinterested. Appears sad/worried.	Constant grimace/frown, quivering chin, clenched jaw. Looks distressed, expression of fright/panic.
Legs	Normal position or relaxed.	Uneasy, restless, tense. Occasional tremors.	Kicking or legs drawn up, spasticity, constant tremors, jerking.
Activity	Lying quietly, normal position, moves easily.	Squirming, shifting back and forth, tense, mildly agitated. Shallow, splinting respirations, intermittent sighs.	Arched, rigid, jerking. Severe agitation. Breath-holding, gasping, sharp intake of breath. Severe splinting.
Crying	No cry (awake/ asleep).	Moans or whimpers, occasional complaint, verbal outburst/grunt.	Crying steadily, screams, sobs. Frequent complaints/ outbursts, constant grunting.
Consolability	Content, relaxed.	Reassured by occasional touching, 'talking to', hugging. Distractible.	Difficult to console/comfort. Pushing away caregiver or comfort measures.

Table 20.1: Revised FLACC tool for assessment of pain severity (R-FLACC)

Revised faces pain scale:
» Use in children > 4 years of age.
» Ask them to point to the face that best depicts their level of pain.

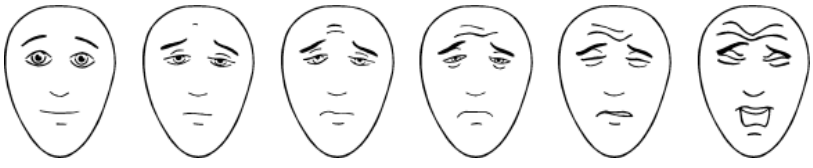


Figure 20.1: Revised faces pain scale

LoE:IIIb[6]

Visual analogue scale:
» Use in children over 7 and adults who can communicate.
» Ask: "on a scale of 0-10, '0' being no pain and '10' being the worst pain, what number are you feeling right now?"

Pain should be assessed by:
» duration
» severity, e.g. does the patient wake up because of the pain?
» site
» character, e.g. stabbing, throbbing, crushing, cramp like
» persistent or intermittent
» relieving or aggravating factors
» accompanying symptoms e.g. nausea and vomiting, visual disturbances
» distribution of pain
» referred pain

20.2 ACUTE PAIN

R52.0/R52.9

DESCRIPTION

Acute pain happens suddenly, starts out sharp or intense, and serves as a warning sign of disease or threat to the body. It is caused by injury, surgery, illness, trauma, or painful medical procedures and generally lasts from a few minutes to less than six months. Acute pain usually disappears whenever the underlying cause is treated or healed.

LoE:IVb[7]

GENERAL MEASURES

» Patient counselling.
» Lifestyle adjustment.

MEDICINE TREATMENT

Mild pain:

Non-opioid treatment.

Non-inflammatory or post trauma:

Children

- Paracetamol, oral, 15 mg/kg/dose 6 hourly when required. See paracetamol dosing table, chapter 23.

Adults

- Paracetamol, oral, 500 mg–1 g, 4–6 hourly as required (to a maximum of 4 g in 24 hours).
  - Maximum dose: 15 mg/kg/dose.

LoE:IVb[8]

Pain associated with inflammation:

Adults

- NSAIDs, e.g.:
- Ibuprofen, oral, 400 mg 8 hourly with or after a meal.

Combine paracetamol and ibuprofen at the above dosages if there is no relief after 2 or 3 doses.

LoE:IVb[9]

Moderate pain:

If no relief to paracetamol,
ADD:

Children

- NSAIDs, e.g.:
- Ibuprofen, oral, 5–10 mg/kg/dose 8 hourly with or after a meal. See ibuprofen dosing table, chapter 23.
  - Discontinue if not effective after 2–3 days.

LoE:IVb[10]

Refer if there is no response to paracetamol and ibuprofen.

Adults

- NSAIDs, e.g.:
- Ibuprofen, oral, 400 mg 8 hourly with or after a meal.
  - Discontinue if not effective after 2–3 days.

LoE:IVb[11]

If response to paracetamol and ibuprofen is still inadequate:
ADD

- Tramadol, oral, 50–100 mg, 6 hourly as a starting dose (Doctor prescribed).
  - May be increased to a maximum daily dose of 400 mg.

LoE:IVb[12]

Acute severe pain:

Note: All children with severe pain should be referred. Ensure patient is comfortable prior to referral.

Children

- Morphine solution, oral (Doctor prescribed).
  - Starting dose:
    - 0–1 month of age: 0.05 mg/kg/dose 6 hourly.
    - ≥ 1–11 months of age: 0.1 mg/kg/dose 4-6 hourly.
    - ≥ 12 months of age: 0.2–0.4 mg/kg/dose 4-6 hourly.

See morphine dosing table, chapter 23. (Doctor prescribed).

CAUTION

Morphine can cause respiratory depression, monitor carefully.

Adults

- Paracetamol, oral, 500 mg–1 g, 4–6 hourly as required (to a maximum of 4 g in 24 hours).
  - Maximum dose: 15 mg/kg/dose.

LoE:IVb[13]

AND

- Tramadol, oral, 50–100 mg, 6 hourly as a starting dose (Doctor prescribed).
  - May be increased to a maximum daily dose of 400 mg.

If no response to paracetamol and tramadol: **REPLACE** tramadol with morphine:

- Morphine solution, oral (Doctor prescribed).
  - Starting dose: 5 mg (maximum 0.2 mg/kg) 4 hourly.
  - Elderly or frail patients: 2.5–5 mg (maximum 0.1 mg/kg) 4 hourly.
  - Adjust morphine doses for patients with renal impairment:
    - GFR 10–50 mL/min, 75% of dose,
    - GFR <10 mL/min, 50% of dose.

LoE:IVb[14]

OR

- Morphine, IM, 5–10 mg, 4–6 hourly when required (Doctor prescribed).

LoE:IVb[15]

OR

- Morphine, IV, to a total maximum dose of 10 mg (Doctor prescribed).
  - Dilute 10 mg up to 10 mL with sodium chloride, 0.9%.

- Administer morphine, IV, 3–5 mg as a single dose, then further boluses of 1–2 mg/minute and monitor closely.
- Total maximum dose: 10 mg.
- Repeat after 4 hours if necessary.
- Monitor response to pain and effects on respiration and BP.

LoE:IVb[16]

Patients that require morphine for acute pain of unknown cause or have pain that does not respond with one dose, must be referred for definitive treatment.

If no response while awaiting transfer a repeat dose of IV morphine may be given after the initial bolus dose of 3-5 mg.

Precautions and special comments on the use of morphine:

» Morphine may cause respiratory depression. This can be reversed with naloxone (See Section 21.3.3: Exposure to poisonous substances).
» Do not administer morphine in patients with:
  - severe head injury
  - acute asthma
  - uncontrolled hypothyroidism
» Morphine can be used for acute abdominal pain without leading to surgical misdiagnosis.
» Use morphine with extreme care in the following:
  - recent or concurrent alcohol intake or other CNS depressants
  - advanced chronic obstructive pulmonary disease, or other respiratory disease with imminent respiratory failure
  - hypovolaemia or shock
  - advanced liver disease
  - the elderly
» Use morphine with extreme care in these circumstances, and monitor response to pain and effects on respiration and BP.

If morphine has been administered, document the time and dose of administration on the referral letter as this may alter some of the clinical features of acute abdomen or head injury.

REFERRAL

» All children with acute severe pain.
» No response to oral pain control and unable to initiate opioid therapy.
» Uncertain diagnosis.
» Management of serious underlying conditions.

20.3 CHRONIC NON-CANCER PAIN

R52.1/R52.2/R52.9

DESCRIPTION

Pain is defined as chronic when it is present for more than 3 months.

LoE:IVb[17]

» It can arise from:
  - tissue damage (nociceptive pain), e.g. arthritis, lower back pain, pleuritic pain;
  - injury to nerves (neuropathic pain) e.g. post herpetic neuralgia (pain following shingles), trigeminal neuralgia, diabetic neuropathy, HIV related peripheral neuropathy, drug induced peripheral neuropathy, or phantom limb pain;
  - Pain experienced in the absence of tissue damage, inflammation and nerve damage (central pain), e.g. fibromyalgia, irritable bowel syndrome.

GENERAL MEASURES

» Assess pain severity, functional status, medication use including self-medication, co-morbid illnesses, etc.
» Actively look for concomitant depression and anxiety/somatoform pain disorders.
» Counsel on lifestyle adjustments.
» Refer for occupational therapy and physiotherapy as appropriate.
» Address psycho-social problems e.g. stress, anxiety, sleep disturbances.

MEDICINE TREATMENT

» The principles are the same as with cancer pain relief. Analgesics should be given by mouth, regularly, in a stepwise manner to ensure adequate relief. Neuropathic and central pain are best treated with analgesics in addition to tricyclic antidepressants.
» It is useful to combine different classes of analgesics for the additive effects, depending on pain severity.

Mild pain:

To manage chronic non-cancer conditions such as genetic conditions, nerve damage pain, chronic musculoskeletal pain, and chronic abdominal pain.

Children:

- Paracetamol, oral, 15 mg/kg/dose 6 hourly when required. See paracetamol dosing table, chapter 23

LoE:IVb[18]

Adults:

- Paracetamol, oral, 500 mg–1 g, 4–6 hourly as required (to a maximum of 4 g in 24 hours)
  - Maximum dose: 15 mg/kg/dose.

LoE:IVb[19]

Pain associated with inflammation:

Children

See the Paediatric Hospital STGs and EML, section 20.1.1.1 Acute Pain.

Adults

- NSAIDs, e.g.:
- Ibuprofen, oral, 400 mg 8 hourly with or after a meal. *LoE:IIb*[20]

OR

Combine paracetamol and ibuprofen at the above dosages.

Moderate pain:

Adults

If still no relief to simple analgesics (paracetamol and/or ibuprofen), as above

ADD

- Tramadol, oral, 50–100mg, 6 hourly as a starting dose (Doctor prescribed).
  - May be increased to a maximum daily dose of 400 mg.

Adjuvant therapy:

Adults

In addition to analgesia as above:

- Amitriptyline, oral, 10 mg at night (Doctor initiated).
  - Titrate up to a maximum of 75 mg at night. *LoE:IVb*[21]

Under-recognition of pain and under-dosing of analgesics is common in chronic pain.
Analgesics should be given regularly rather than only when required in patients with ongoing pain.

REFERRAL

» Pain requiring strong opioids.
» Pain requiring definitive treatment for the underlying disease.
» Conditions difficult to treat e.g. Complex Regional Pain Syndrome (CRPS) and post-herpetic neuralgia.
» All children.

20.4 CHRONIC CANCER PAIN

R52.1/R52.2/R52.9

DESCRIPTION

Cancer pain is usually persistent and progressive. Pain assessment requires training in:

» psycho-social assessment
» assessment of need of type and dose of analgesics
» pain severity assessment

Under-recognition of pain and under-dosing with analgesics is common in chronic cancer pain.
Analgesics should be given regularly rather than only when required in patients with ongoing pain.

GENERAL MEASURES

» The need for treatment is determined by pain severity rather than the presence of pain.
» Do not withhold pharmacological treatment for pain.
» Pain is what the patient says it is.
» Arrange counselling/hospice care.
» Occupational therapy may be required.
» Manage contributing psycho-social factors.

Note:

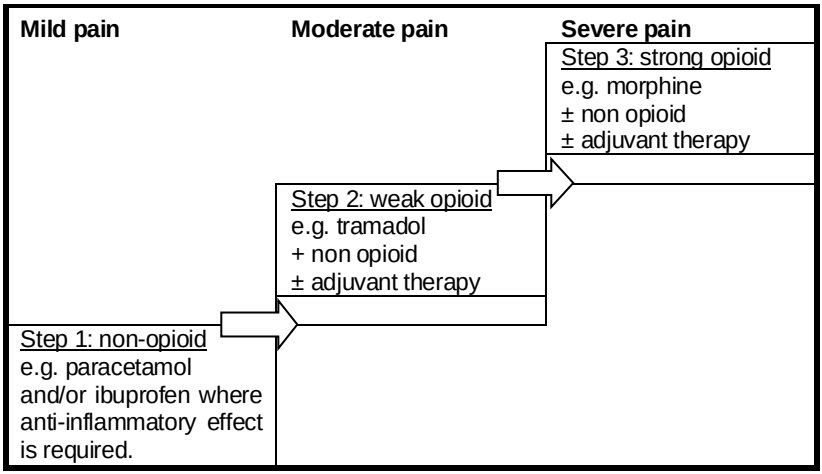
» Appropriate care should be provided from the time of diagnosis.
» Home palliative care is provided by the family or caregiver with the support of health care professionals. See Chapter 22: Medicines used in palliative care.

MEDICINE TREATMENT

» Pain should be controlled as rapidly as possible.
» If pain is not adequately controlled within 2 days, proceed to the next step.
» Cancer pain in children is managed by the same principles but using lower doses of morphine than adults.

STEPWISE APPROACH IN MANAGEMENT OF CANCER PAIN

Adults



Step 1: Non-opioid

- Paracetamol, oral, 500 mg–1 g, 4–6 hourly as required (to a maximum of 4 g in 24 hours)
  - Maximum dose: 15 mg/kg/dose.

AND/OR *LoE:IIb*[22]

- NSAIDs, e.g.:
- Ibuprofen, oral, 400 mg 8 hourly with or after a meal.

LoE:IIb[23]

Step 2: Add weak opioid to Step 1

- Tramadol, oral, 50–100 mg, 6 hourly as a starting dose (Doctor prescribed).
  - May be increased to a maximum daily dose of 400 mg.

CAUTION
Use with caution when administered with antidepressants e.g. amitryptyline to avoid over sedation.

LoE:IIb[24]

Step 3: Replace weak opioid with strong opioid, i.e. morphine, and add to paracetamol and/or ibuprofen

- Morphine, oral, 4 hourly (Doctor prescribed).
  - Start with 5–10 mg.
  - Titrate the dose and dose frequency against the effect on pain.

<u>If dosage is established and patient is able to swallow:</u>

- Morphine, long-acting, oral, 12 hourly (Doctor prescribed).
  - Start with 10–20 mg/dose.
  - Titrate the dose and dose frequency against the effect on pain. *LoE:IIb*[25]

<u>If breakthrough pain occurs:</u> See Section 20.5: Breakthrough Pain.

<u>Elderly adults or severe liver impairment:</u>

- Morphine solution, oral, 4 hourly (Doctor prescribed).
  - Start with 2.5–5 mg.
  - Titrate the dose and dose frequency against the effect on pain.

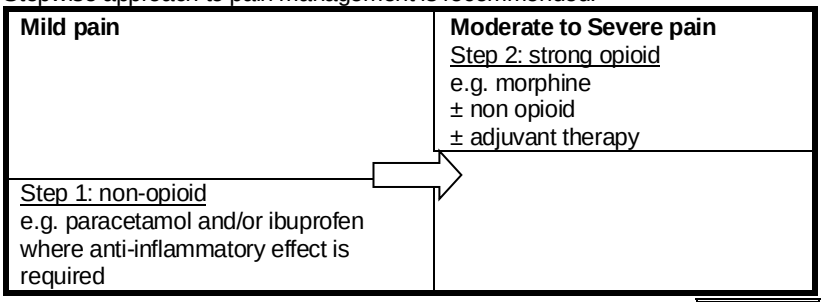
Note:

» There is no maximum dose for morphine – Titrate the dose against the effect on pain.

» For the management of morphine overdose, See Section 21.3.3: Exposure to poisonous substances.

Children

Stepwise approach to pain management is recommended:



LoE:IVb[26]

Step 1: Non-opioid

- Paracetamol, oral, 10–15 mg/kg/dose 6 hourly when required. See paracetamol dosing table, chapter 23.
- NSAIDs, e.g.:
- Ibuprofen, oral, 5–10 mg/kg/dose 8 hourly with or after a meal. See ibuprofen dosing table, chapter 23. Where anti-inflammatory effect is required.
  - Can be used in combination with paracetamol and/or opioids.
  - Discontinue if not effective after 2–3 days.

LoE:IIb[27]

Step 2: Add opioid to paracetamol and/or ibuprofen

- Morphine, oral, 0.2–0.4 mg/kg/dose 4–6 hourly according to severity of the pain. See morphine dosing table, chapter 23. (Doctor prescribed).

LoE:IIb[28]

Adjuvant therapy:

Children

See the Paediatric Hospital STGs and EML, chapter 20: Pain control.

Adults

In addition to analgesia as above:

- Amitriptyline, oral, 10 mg at night. (Doctor initiated).
  - Titrate up to a maximum of 75 mg at night.

LoE:IVb[29]

Significant nausea and vomiting:

Adults

- Metoclopramide oral, 10 mg, 8 hourly as needed.
  - Maximum daily dose: 0.5 mg/kg

Children

For treatment of nausea and vomiting in the palliative care setting, see section: 22.1.3 Nausea and vomiting.

Constipation:
A common problem due to long-term use of opioids, which can be prevented and should always be treated.
For management of constipation in palliative care, see Section: 22.1.1.

Children
- Lactulose, oral, 0.5 mL/kg/dose once daily. See lactulose dosing table, chapter 23.
  - If poor response, increase frequency to 12 hourly.

Adult
- Lactulose, oral, 10–20 mL once daily.
  - If poor response, increase frequency to 12 hourly.

Pruritus:

Children
- Chlorphenamine, oral, 0.1 mg/kg/dose 6–8 hourly. See chlorphenamine dosing table, chapter 23.

Adults
- Chlorphenamine, oral, 4 mg, 6–8 hourly.

CAUTION
Do not give an antihistamine to children < 2 years of age.

Anxiety related to pain:

Children
- Diazepam, oral, 0.04 mg/kg/dose 8–12 hourly (Doctor prescribed).

Weight kg	**Dose** mg	**Tablet** 2 mg	**Age** months/years
> 9–17.5 kg	0.5 mg	¼ tablet	> 12 months–3 years
> 17.5–25 kg	1 mg	½ tablet	> 5–7 years
> 25–35 kg	1.5 mg	¾ tablet	> 7–11 years
> 35 kg	2 mg	1 tablet	> 11 years

  - May be increased up to 0.2 mg/kg/dose 8–12 hourly.
  - Beware of respiratory depression if given with morphine.

If an increase in dosage is required follow the weight band dosing guidance of 0.2 mg/kg/dose (see table below) .

Diazepam, oral, 0.2 mg/kg/dose 8–12 hourly (Doctor prescribed).

- Beware of respiratory depression if given with morphine.

Weight kg	**Dose** mg	**Use one of the following tablets:**		**Age** months/years
		2 mg	5 mg	
> 9–11 kg	2 mg	1 tablet	–	> 12–18 months
> 11–14 kg	2.5 mg	–	½ tablet	> 18 months–3 years
> 14–17.5 kg	3 mg	1½tablets	–	> 5–7 years
> 17.5–25 kg	4 mg	2 tablets	–	> 5–7 years
> 25 kg	5 mg	–	1 tablet	> 7 years

Adults

Diazepam, oral, 2–5 mg every 12 hours for a maximum of two weeks (Doctor prescribed).

20.5 BREAKTHROUGH PAIN

R52.9

DESCRIPTION

Breakthrough pain is a transient exacerbation of pain which either occurs spontaneously or in relation to a specific trigger, despite relatively stable and adequately controlled background pain. It may or may not be at the same location as the background (controlled) pain.

MEDICINE TREATMENT

» Treat breakthrough pain by giving an extra dose of immediate-release morphine equal to the regular 4 hour dose (i.e. one sixth of the total daily dose).

» The next regular dose of morphine must still be given at the prescribed time, and not be delayed because of the additional dose. *LoE:IVb*[30]

» The regular 4-hourly dosage should be titrated upward against the effect on pain in the following way:
  - Add up the amount of "breakthrough morphine" used in the previous 24 hours.
  - Divide this amount by 6 (the number of 4 hourly doses in 24 hours).
  - Increase maintenance dose on the following day by that amount.

Example:

» Patient receives 10 mg morphine every four hours.

» The patient has 3 episodes of breakthrough pain over 24 hours and is given an additional 10 mg during each episode:
  – Total breakthrough pain dosage: 3 x 10 mg = 30 mg.
  – Dose to add to maintenance dose the following day: 30 mg ÷ 6 = 5 mg.

» The day following the breakthrough pain, the regular 4 hourly dose of 10 mg will be increased by 5 mg, i.e. 10 mg + 5 mg = 15 mg.

» The new morphine dose will be 15 mg 4 hourly.

CAUTION
Morphine can cause respiratory depression, monitor carefully.

REFERRAL

» Uncontrolled pain.
» Pain uncontrolled by step 1 of the stepwise management approach where no doctor is available.
» Severe emotional, or other distress, which may aggravate the perception of pain.
» Nausea and vomiting associated with pain in children.

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Chapter 21

SOUTH AFRICAN PRIMARY HEALTHCARE LEVEL ESSENTIAL MEDICINES LIST
CHAPTER 20: PAIN
NEMLC RECOMMENDATIONS FOR MEDICINE AMENDMENTS (2020-4)

The Primary Health Care (PHC) Pain chapter underwent detailed clinical editing and editorial changes for clarity.

Medicine amendment recommendations, with supporting evidence and rationale are listed below.
Kindly review the medicine amendments in the context of the respective standard treatment guideline (STG) and supporting medicine reviews. *All reviews and costing reports may be accessed at:* https://www.health.gov.za/nhi-edp-stgs-eml/.

A: NEW STANDARD TREATMENT GUIDELINES

SECTION	CONDITION	MEDICINE ADDED
20.5	**BREAKTHROUGH PAIN**	Morphine, oral

20.5 BREAKTHROUGH PAIN

The proposal to expand the breakthrough pain section as an STG, differentiating between different types of incident pain was accepted. The expansion as an STG also allows for cross reference to the STG within the primary health care level and from the adult hospital level.

An external comment to include a statement that the health care provider should ensure that the patient's analgesic management includes medication from different classes e.g. simple analgesics like paracetamol or NSAIDS (where appropriate) before increasing opioid use was not supported. The suggestion was not supported as this section pertains only to breakthrough pain and not background pain. It was noted that at the start of the breakthrough pain STG it is mentioned that breakthrough pain can only be identified if background pain is controlled.

An external comment to include a warning for health care professionals to monitor respiratory depression following additional immediate release morphine dosing was accepted and the following statement was added to the STG "*Morphine can cause respiratory depression, monitor carefully*."

Regarding morphine prescribed dosing times, the STG stipulates that the next regular dose of morphine must still be given at the prescribed time. An external commentator indicated that this would be an ideal situation and that this only applies to patients who are awake and it is not acceptable to wake patients in order to dose patients. The STG was not amended as pain control should be individualised according to patient needs.

The STG was updated as follows:

DESCRIPTION

Breakthrough pain is a transient exacerbation of pain which either occurs spontaneously or in relation to a specific trigger despite relatively stable and adequately controlled background pain. It may or may not be at the same location as the background (controlled) pain.

MEDICINE TREATMENT

» Treat breakthrough pain by giving an extra dose of immediate-release morphine equal to the regular 4 hour dose (i.e. one sixth of the total daily dose).
» The next regular dose of morphine must still be given at the prescribed time, and not be delayed because of the additional dose.
» The regular 4-hourly dosage should be titrated upward against the effect on pain in the following way:
  – Add up the amount of "breakthrough morphine" used in the previous 24 hours.
  – Divide this amount by 6 (the number of 4 hourly doses in 24 hours).
  – Increase maintenance dose on the following day by that amount.

Example:
» Patient receives 10 mg morphine every four hours.
» The patient has 3 episodes of breakthrough pain over 24 hours and is given an additional 10 mg during each episode:
  – Total breakthrough pain dosage: 3 x 10 mg = 30 mg
  – Dose to add to maintenance dose the following day: 30 mg ÷ 6 = 5 mg
» The day following the breakthrough pain, the regular 4 hourly dose of 10 mg will be increased by 5 mg, i.e. 10 mg + 5 mg = 15 mg.
» The new morphine dose will be 15 mg 4 hourly.

CAUTION
Morphine can cause respiratory depression, monitor carefully.

A: PROPOSED AMENDMENTS

SECTION	MEDICINE/MANAGEMENT	ADDED/DELETED/AMENDED/ NOT ADDED/ RETAINED
20.1 PAIN CONTROL	Definition and Pain Scales Updated	n/a
20.2 ACUTE PAIN	**Mild pain (Adults):** **Non-inflammatory or post trauma** Paracetamol, oral	Retained with amendment to dosage range and reiteration of maximum daily dose
	Moderate pain (Adults): **If no relief to paracetamol:** Tramadol, oral	Retained with amendment to dosage range
	Acute severe pain (Children): Morphine solution, oral	Added
	Acute severe pain (Adults): Paracetamol	Retained with amendment to dosage range and reiteration of maximum daily dose
	Acute severe pain (Adults): Tramadol	Retained with amendment to dosage range
	Acute severe pain (Adults): **If no response to paracetamol in combination with tramadol** Morphine solution, oral	Retained with amendment to dosage range
	Acute severe pain (Adults): **If no response to paracetamol in combination with tramadol** Morphine IM	Retained with amendment to dosage range
	Acute severe pain (Adults): **If no response to paracetamol in combination with tramadol** Morphine IV	Retained
20.3 CHRONIC NON-CANCER PAIN	**Mild pain: (Adults):** Paracetamol	Retained with amendment to dosage range and reiteration of maximum daily dose
	Moderate pain (Adults): Tramadol	Retained with amendment to dosage range
	Moderate pain (Adults): **Adjuvant therapy:** Amitriptyline	Retained with amendment to initiation dose
20.4 CHRONIC CANCER PAIN	**Stepwise Approach in Management of Cancer Pain** **Step 1: Non Opioid (Adults)**	Retained with amendment to dosage range and reiteration of maximum daily dose

SECTION	MEDICINE/MANAGEMENT	ADDED/DELETED/AMENDED/ NOT ADDED/ RETAINED
	Paracetamol	
	Stepwise Approach in Management of Cancer Pain Step 2: Add weak opioid to Step 1 (Adults) Tramadol	Retained with amendment to dosage range
	Stepwise Approach in in Management of Cancer Pain Step 3: Replace weak opioid with strong opioid, i.e. morphine, and add to paracetamol and/or ibuprofen (Adults) Morphine, long-acting oral:	Amended (Aligned with Adult Hospital Level STGs and EML)
	Stepwise Approach in in Management of Cancer Pain Children Paracetamol	Narrative revised to align to stepwise approach to pain management graphic where paracetamol is recommended as an and/or option to NSAIDs
	Adjuvant therapy (Adults): Amitriptyline	Retained with amendment to initiation dose
	Significant nausea and vomiting: Metoclopramide, oral:	Retained (maximum dose added)
	Sennosides	Not Added (cross reference to palliative care chapter provided)

20.1 PAIN CONTROL

As per external comment received, the description of pain was updated and aligned to the current International Association for the Study of Pain (IASP) definition of pain. Pain is now described as an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage[1]."

Level of Evidence: Guidelines: IVb

An external comment to expand the definition of pain to include the addition of six key notes and the etymology of the word pain for further context was not accepted as the Committee considered the detail below outside the scope of the PHC STGs:

1. Pain is always a personal experience that is influenced to varying degrees by biological, psychological, and social factors.
2. Pain and nociception are different phenomena. Pain cannot be inferred solely from activity in sensory neurons.
3. Through their life experiences, individuals learn the concept of pain.
4. A person's report of an experience as pain should be respected.
5. Although pain usually serves an adaptive role, it may have adverse effects on function and social and psychological well-being.
6. Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that a human or a nonhuman animal experiences pain.

An editorial change suggested to remove the word "always" in relation to describing pain as being subjective was accepted.

As per the IASP[1], an external comment to add "verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that the patient is experiencing pain" was accepted by the Committee for inclusion.

Level of Evidence: Guidelines: IVb

[1] International Association for the Study of Pain. IASP Announces Revised Definition of Pain. 2020. https://www.iasp-pain.org/resources/terminology

The following general measures[2] on pain assessment were added after the description section on pain control and as an introduction to the pain tools:

- Enquire about pain at all patient consults
- General medical history is an important part of a pain history, as it reveals co-morbidities affecting the complexity of the pain condition
- Culture, gender and language play an essential role in how a patient reports pain.

Level of Evidence: Guidelines: IVb

The STG was updated as follows:

R52.0/R52.9

DESCRIPTION

Pain is "an unpleasant sensory and emotional experience associated with, or resembling that associated with, actual or potential tissue damage" ~~an unpleasant sensation experience associated with actual or potential tissue injury.~~

It is ~~always~~ subjective. It is affected by the patient's mood, morale and the meaning the pain has for the patient. Verbal description is only one of several behaviors to express pain; inability to communicate does not negate the possibility that the patient is experiencing pain.

GENERAL MEASURES

- Enquire about pain at all patient consults
- General medical history is an important part of a pain history, as it reveals co-morbidities affecting the complexity of the pain condition
- Culture, gender and language play an essential role in how a patient reports pain.
- Active pain assessment and self-report is the key to effective pain management.
- Different pain assessment scales should be used for different ages and intellectual categories of patients.

FLACC Scale

The FLACC scale was replaced with the Revised FLACC Tool (R-FLACC)[3,4] a behavioural pain assessment tool for infants and children (2 months to 18 years old), to ensure alignment to the paediatric hospital level STGs. Although the STG is for PHC level the Committee was of the opinion that guidance was being provided for assessment of a symptom which is unrelated to level of care, and therefore recommended alignment to paediatric hospital level STGs.

Level of Evidence: Guidelines: IVb

Pain score thresholds for mild, moderate, or severe pain for the FLACC definitions were included follows: 1-3 (mild discomfort), 4-6 (moderate) and 7-10 (severe).[5]

[2] Mash B, Brits H, Naidoo M. (2023). South African Family Practice Manual. (4th ed). Van Schaik Publishers.

[3] Merkel, S. et al. The FLACC: A Behavioural Scale for Scoring Postoperative Pain in Young Children, Pediatric Nurse 23(3): 293-297, 1997. Copyright: Jannetti Co. University of Michigan Medical Centre.

[4] Malviya, S., Vopel-Lewis, T. Burke, Merkel, S., Tait, A.R. (2006). The revised FLACC Observational Pain Tool: Improved Reliability and Validity for Pain Assessment in Children with Cognitive Impairment. (Pediatric Anesthesia 16: 258-265).

[5] Merkel, S. I., Voepel-Lewis, T., Shayevitz, J. R., & Malviya, S. (1997). The FLACC: A behavioral scale for scoring postoperative pain in young children. Pediatric Nursing, 23(3), 293–297. The FLACC scale was developed by Sandra Merkel, MS, RN, Terri Voepel-Lewis, MS, RN, and Shobha Malviya, MD, at C. S. Mott Children's Hospital, University of Michigan Health System, Ann Arbor, MI.

The STG was updated as follows:

~~FLACC SCALE:~~

~~For babies and intellectually impaired children and critically ill adults who are unable to self-report pain the FLACC (face, legs, activity, cry, consolability) scale is used. Evaluate each item and arrive at a total score ranging from 0 to10. A score of ≥4 needs active pain management.~~

~~Item~~	~~0~~	~~1~~	~~2~~
~~Face~~	~~No particular expression or smile~~	~~Occasional grimace or frown, withdrawn disinterested~~	~~Frequent to constant frown, clenched jaw, quivering chin~~
~~Legs~~	~~Normal position or relaxed~~	~~Uneasy, restless, tense~~	~~Kicking, or legs drawn up~~
~~Activity~~	~~Lying quietly, normal position, moves easily~~	~~Squirming, shifting back and forth, tense~~	~~Arched, rigid or jerking~~
~~Cry~~	~~No cry (awake or asleep)~~	~~Moans or whimpers, occasional complaint~~	~~Crying steadily, screams or sobs, frequent complaints~~
~~Consolability~~	~~Content, relaxed, no need to console~~	~~Reassured by occasional touching, hugging or "talking to", distractible~~	~~Difficult to console or comfort~~

Revised FLACC tool (R-FLACC)

Infants and children (2 months to 18 years old): Behavioural pain assessment tool

This tool can be used in children aged 2 months to 18 years and includes descriptors for cognitively impaired children. The clinician assigns a score to each parameter, and tallies a score out of 10. The final score is used to diagnose 1-3 (mild discomfort), 4-6 (moderate), or 7-10 (severe pain), which must be treated accordingly.

Revised FLACC Tool (R-FLACC)			
	0	**1**	**2**
Face	No particular expression/ smile.	Occasional grimace/frown; withdrawn or disinterested. Appears sad/worried.	Constant grimace/frown, quivering chin, clenched jaw. Looks distressed, expression of fright/panic.
Legs	Normal position or relaxed.	Uneasy, restless, tense. Occasional tremors.	Kicking or legs drawn up, spasticity, constant tremors, jerking.
Activity	Lying quietly, normal position, moves easily.	Squirming, shifting back and forth, tense, mildly agitated. Shallow, splinting respirations, intermittent sighs.	Arched, rigid, jerking. Severe agitation. Breath-holding, gasping, sharp intake of breath. Severe splinting.
Crying	No cry (awake/ asleep).	Moans or whimpers, occasional complaint, verbal outburst/grunt.	Crying steadily, screams, sobs. Frequent complaints/ outbursts, constant grunting.
Consolability	Content, relaxed.	Reassured by occasional touching, 'talking to', hugging.	Difficult to console/comfort. Pushing away caregiver or comfort

		Distractible.	measures.

Table 20.1: Revised FLACC tool for assessment of pain severity (R-FLACC)

Self-reporting pain assessment tools: The gold standard of pain assessment is self-report. Consider using self-report tools from > 5 years. If the child is unable to self-report, use R-FLACC.

REVISED FACES PAIN SCALE:

Use in children > 4 years of age.
Ask them to point to the face that best depicts their level of pain.

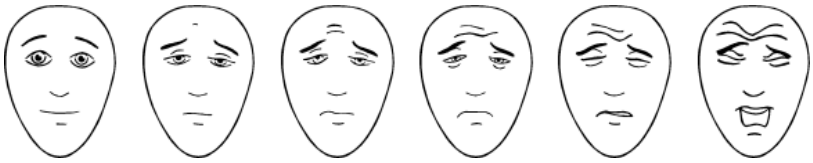

Figure 20.1: Revised faces pain scale

VISUAL ANALOGUE SCALE:

» Use in children over 7 and adults who can communicate.
» Ask: "on a scale of 0-10, '0' being no pain and '10' being the worst pain, what number are you feeling right now?"

Pain should be assessed by:
duration
severity, e.g. does the patient wake up because of the pain?
site
character, e.g. stabbing, throbbing, crushing, cramp like
persistent or intermittent
relieving or aggravating factors
accompanying symptoms e.g. nausea and vomiting, visual disturbances
distribution of pain
referred pain

In non-verbal patients or patients with cognitive impairment, specific tools, e.g. the Abbey pain scale, may be used to assess pain.
https://www.mdcalc.com/calc/3627/abbey-pain-scale-dementia-patients

It was raised through external comment that active pain assessment and self-report is the key to effective pain management and reiterated that different pain assessment scales should be used for different ages and intellectual categories of patients. The external commentator also recommended that the visual analogue scale (VAS) be changed to the numerical rating scale (NRS), as the description provided of the scale is more in line with the NRS than the VAS. The Committee retained the VAS with the current description as a number rating does appear with the VAS and pain scales are to be used depending on context. In this case the revised faces pain scale may also be used as a visual analogue tool to allow the patient to describe their pain. The Committee recommended inclusion of a pain assessment tool for the nonverbal patient or patients with cognitive impairment, through a link (https://www.mdcalc.com/calc/3627/abbey-pain-scale-dementia-patients) to the Abbey pain scale.

20.2 ACUTE PAIN

Description

As per external comment received and in line with the IASP[6] definition the description of acute pain was revised from "*pain that has been present for less than 4 weeks and usually occurs in response to tissue damage*" to match and align to the IASP description. i.e. "*Acute pain happens suddenly, starts out sharp or intense, and serves as a warning sign of disease or threat to the body. It is caused by injury, surgery, illness, trauma, or painful medical procedures and generally lasts from a few minutes to less than six months. Acute pain usually disappears whenever the underlying cause is treated or healed."*

Level of Evidence: Guidelines: IVb

[6]International Association for the Study of Pain. IASP Announces Revised Definition of Pain. 2020. https://www.iasp-pain.org/resources/terminology

The STG was updated as follows:

R52.0/R52.9

DESCRIPTION

Acute pain happens suddenly, starts out sharp or intense, and serves as a warning sign of disease or threat to the body. It is caused by injury, surgery, illness, trauma, or painful medical procedures and generally lasts from a few minutes to less than six months. Acute pain usually disappears whenever the underlying cause is treated or healed.

~~Pain that has been present for less than 4 weeks and usually occurs in response to tissue damage.~~

Medicine Treatment

An external editorial comment to change the title medicine treatment to non-pharmacological management was not accepted as medicine treatment is a standard title employed throughout the STGs.
An external comment to revise "non-opioid treatment" to "simple analgesics" was not accepted in order to maintain alignment to standard wording used throughout the STGs.

Mild Pain (Adults)
Paracetamol, oral: *Amended (Dose range amended and maximum dose reiterated)*

The committee reviewed the interpretation of the dosage range for paracetamol as written in the STG (1 gram 4–6 hourly). By implication, if 1gram is taken 4 hourly the total daily dose would equate to 6grams which is higher than the maximum allowable daily dose (4 grams in 24 hours) which is stated in the STG. The Committee recommended for the paracetamol oral dose to be amended to include a lower starting dose of 500mg and to retain the 4 hourly dosing in those with breakthrough pain as needed within the 24-hour dosing period. It was recommended for this dosage to be revised and applied to all applicable sections of the primary health care and adult STGs to ensure uniformity.

The STG was updated as follows:

MEDICINE TREATMENT

Mild pain:
Non-opioid treatment.

Non-inflammatory or post trauma:

Children

- Paracetamol, oral, 15 mg/kg/dose 6 hourly when required. See paracetamol dosing table, chapter 23.

Adults

- Paracetamol, oral, 500 mg–1 g, 4–6 hourly ~~when~~ as required (to a maximum of 4g in 24 hours)
  Maximum dose: 15 mg/kg/dose.

Level of Evidence: Guidelines: IVb[7]

Pain associated with inflammation: Moderate Pain (Adults):
Tramadol, oral: *Amended* (*Dosage range added)*

An external comment was received to clarify the frequency of tramadol dosing if the maximum dose in the STG is recommended as 400mg per day. Therefore, for adult's with moderate pain, a dosage range for tramadol is now provided to ensure dosing clarity and to accommodate for breakthrough pain in a 24-hour dosing period. Due to 100mg now being recommended in a 50 to 100mg dosing range the frequency of 4 to 6 hourly dosing was revised to 6 hourly[8] as a 100mg dose given 4 hourly could potentially result in therapy going over the allowable maximum daily dose if the range is read without the maximum dose. It was recommended for the tramadol dosage to be revised and applied to all applicable sections of the primary health care and adult STGs to ensure uniformity.

Level of Evidence: Guidelines: IVb

[7] South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022
[8] Charlesworth, S. (Ed.). (2020). Palliative Care Formulary (7th ed.). Pharmaceutical Press

The STG was updated as follows:

Pain associated with inflammation:

Adults
NSAIDs, e.g.:
Ibuprofen, oral, 400 mg 8 hourly with or after a meal.
~~If no relief after 2 or 3 doses, c~~Combine paracetamol and ibuprofen at the above dosages if no relief after 2 or 3 doses,

Moderate pain:
If no relief to paracetamol,
ADD:

Children
- NSAIDs, e.g.:
- Ibuprofen, oral, 5–10 mg/kg/dose 8 hourly with or after a meal. See ibuprofen dosing table, chapter 23.
    - Discontinue if not effective after 2–3 days.

I~~f~~ Refer if there is no response to paracetamol and ibuprofen~~, refer~~.

Adults
- NSAIDs, e.g.:
- Ibuprofen, oral, 400 mg 8 hourly with or after a meal.
    - Discontinue if not effective after 2–3 days.

If ~~still no relief~~ response to paracetamol and ibuprofen is still inadequate:

ADD
Tramadol, oral, 50-100 mg, ~~4-~~6 hourly as a starting dose (Doctor prescribed).
May be increased to a maximum daily dose of 400 mg ~~daily~~.

Acute severe pain (Children)

For children with acute severe pain, the PHC STG retained recommendation that all children to be referred. An external commentator raised that pain medication should be given prior to referral and mentioned Integrated Management of Childhood Illness (IMCI) guidance as evidence. It was noted that IMCI does not deal with the management of pain in detail (guidance on paracetamol use for sore throat is provided). However, in line with WHO recommendations[9] for the management of moderate to severe pain the Committee recommended to include oral morphine (Dr prescribed) with a statement for monitoring for respiratory depression whilst awaiting referral to secondary level of care if the child has an inadequate response to paracetamol and NSAIDs initially prescribed for moderate pain. The dose of the oral morphine is aligned to chapter 23 morphine paediatric dosing table.. An external comment was received to specify the age of children in the section heading. Dosing is suggested and specified by age. Whilst the Committee recognised the practical challenges for morphine availability and monitoring in the PHC setting, the initial morphine dose was accepted as a recommendation for acute severe pain in children awaiting referral.

Level of Evidence: Guidelines: IVb

[9] Pocket book of primary health care for children and adolescents: guidelines for health promotion, disease prevention and management from the newborn period to adolescence. Copenhagen: WHO Regional Office for Europe; 2022. Licence: CC BY-NCSA 3.0 IGO.

The STG was updated as follows:

Acute severe pain:

~~Refer.~~ Note: All children with severe pain should be referred. Ensure patient is comfortable prior to referral.

Children

- Morphine solution, oral (Doctor prescribed).
  - Starting dose:
    - 0–1 month of age: 0.05 mg/kg/dose 6 hourly.
    - ≥ 1–11 months of age: 0.1 mg/kg/ dose 4-6 hourly.
    - ≥ 12 months of age: 0.2–0.4 mg/kg/dose 4-6 hourly.

See morphine dosing table, chapter 23. (Doctor prescribed).

Acute severe pain (Adults)

For the section on acute severe pain for adults, the Committee recommended for the sequence of listed analgesics to be amended and combinations of treatment to be clarified in order to remove ambiguity i.e., oral paracetamol was recommended to be listed as first line treatment and then for tramadol to be added; and if no response to paracetamol in combination with tramadol to substitute tramadol with morphine via the oral/IM/IV route.

Paracetamol, oral: *Amended (Dose range amended and maximum dose reiterated)*

The committee reviewed the interpretation of the dosage range for paracetamol as written in the STG (1 gram 4–6 hourly). By implication, if 1gram is taken 4 hourly the total daily dose would equate to 6grams which is higher than the maximum allowable daily dose (4 grams in 24 hours) which is stated in the STG. The Committee recommended for the paracetamol oral dose to be amended to include a lower starting dose of 500mg and to retain the 4 hourly dosing in those with breakthrough pain as needed within the 24-hour dosing period. It was recommended for this dosage to be revised and applied to all applicable sections of the primary health care and adult STGs to ensure uniformity.

Level of Evidence: Guidelines: IVb[10]

Tramadol, oral: *Amended* (*Dosage range added)*

An external comment was received to clarify the frequency of tramadol dosing if the maximum dose in the STG is recommended as 400mg per day. Therefore, for adult's with moderate pain, a dosage range for tramadol is now provided to ensure dosing clarity and to accommodate for breakthrough pain in a 24-hour dosing period. Due to 100mg now being recommended in a 50 to 100mg dosing range the frequency of 4 to 6 hourly dosing was revised to 6 hourly[11] as a 100mg dose given 4 hourly could potentially result in therapy going over the allowable maximum daily dose if the range is read without the maximum dose. It was recommended for the tramadol dosage to be revised and applied to all applicable sections of the primary health care and adult STGs to ensure uniformity.

Level of Evidence: Guidelines: IVb

Morphine solution, oral: *Amended*

For acute severe pain in adults the starting dose and dose range of morphine oral solution was decreased for primary health care level use from 10-15mg to 5-10mg then finally to 5mg- (maximum 0.2 mg/kg) 4 hourly as per guidance in the South African Medicines Formulary and palliative care formulary guidelines [12,13]. An external comment that 5-10mg is an IV dose and that oral dosing is usually three times the intravenous (IV) dose was not accepted as the

[10] South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.
[11] Charlesworth, S. (Ed.). (2020). Palliative Care Formulary (7th ed.). Pharmaceutical Press .
[12] South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.
[13] Charlesworth, S. (Ed.). (2020). Palliative Care Formulary (7th ed.). Pharmaceutical Press .

recommended oral starting dose is for opioid naïve patients. It was noted that two to three times the IV dose would be too high in opioid naïve patients.[12,13] Guidance for morphine dosing adjustment in patients with renal impairment was added in line with the South African Medicines Formulary.[14]

Level of Evidence: IVb – Guidelines

Morphine, IM: *Amended*

The intramuscular dose of morphine was revised from 10mg 4 to 6 hourly to include a range of 5 to 10mg 4 to 6 hourly. The lower dosage range of 5mg was added for the frail, elderly and multiple organ failure patients as per South African Medicine Formulary (SAMF) Guidance[15]. The Committee recommended that the STG should emphasise that a repeat dose of IV morphine may be given after the initial bolus dose of 3-5 mg if there is no response while awaiting transfer.

Level of Evidence: Guidelines: IVb

Under "Precautions and special comments on the use of morphine" the repetition of morphine IV dosing was removed and replaced with a reminder to use morphine with extreme caution. A reminder to monitor response to pain and effects on respiration and BP was retained.

The STG was updated as follows:

Adults
- Paracetamol, oral, 500mg–1 g, 4- 6 hourly as required (to a maximum of 4g in 24 hours).
  Maximum dose: 15 mg/kg/dose.

AND
- Tramadol, oral, 50–100 mg, ~~4-~~6 hourly as a starting dose (Doctor prescribed).
  May be increased to a maximum daily dose of 400 mg.

If no response to paracetamol and tramadol: **REPLACE** tramadol with morphine:
- Morphine solution, oral (Doctor prescribed).
  - Starting dose: 5-~~10~~ mg (maximum 0.2 mg/kg) 4 hourly.
  - Elderly or frail patients: 2.5–5 mg (maximum 0.1 mg/kg) 4 hourly.
  - Adjust morphine doses for patients with renal impairment:
    - GFR 10–50 mL/min, 75% of dose,
    - GFR <10 mL/min, 50% of dose.

OR
- Morphine, IM, 5-10 mg, 4–6 hourly when required (Doctor prescribed).

OR
- Morphine, IV, to a total maximum dose of 10 mg (Doctor prescribed).
  Dilute 10 mg up to 10 mL with sodium chloride 0.9%.
  Administer morphine, IV, 3–5 mg as a single dose, then further boluses of 1–2 mg/minute and monitor closely.
  Total maximum dose: 10 mg.
  Repeat after 4 hours if necessary.
  Monitor response to pain and effects on respiration and BP.

Patients ~~requiring~~ that require morphine for acute pain of unknown cause or have pain that does not respond~~ing~~ with 1 dose, must be referred for definitive treatment.

If no response while awaiting transfer a repeat dose of IV morphine may be given after the initial bolus dose of 3-5 mg.

Precautions and special comments on the use of morphine:
» Morphine may cause respiratory depression. This can be reversed with naloxone. (See Section 21.3.3: Exposure to poisonous substances).

[14] South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.

15 South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.

» **Do not administer** morphine in patients with:
- severe head injury
- acute asthma– uncontrolled hypothyroidism

» Morphine can be used for acute abdominal pain without leading to surgical misdiagnosis.
» **Use** morphine **with extreme care** ~~if there is~~ in the following:
- recent or concurrent alcohol intake or other CNS depressants
- advanced chronic obstructive pulmonary disease, or other respiratory disease with imminent respiratory failure
- hypovolaemia or shock
- advanced liver disease
- ~~in~~ the elderly

» Use morphine with extreme care in these circumstances, and monitor response to pain and effects on respiration and BP.

~~Adults~~
- Morphine, IV, to a total maximum dose of 10 mg (Doctor prescribed).
  ~~Dilute 10 mg up to 10 mL with sodium chloride 0.9%.~~
  ~~Morphine , IV, 3–5 mg as a single dose then further boluses of 1–2 mg/minute and monitor closely.~~
  ~~Total maximum dose: 10 mg.~~
  ~~Repeat after 4 hours if necessary.~~
  - monitor response to pain and effects on respiration and BP.

If morphine has been administered, document the time and dose of administration ~~should be clearly documented~~ on the referral letter as this may alter some of the clinical features of acute abdomen or head injury.

20.3 CHRONIC NON-CANCER PAIN

Description

The definition of chronic non-cancer pain was updated for correctness as per the International Association for the Study of Pain (IASP); and through expert opinion was confirmed as correct.[16] A statement of transient pain, which was previously recommended due to a gap in the time period for the definitions of acute and chronic pain, is no longer required as the definition of acute pain was also updated in line with the IASP.

An extremal commentator raised that the term pleurisy constitutes archaic terminology. Pleurisy was revised to pleuritic pain. Additionally, an editorial comment to add the word pain after phantom limb was also accepted.

The STG was updated as follows:

DESCRIPTION

Pain ~~that~~ is defined as chronic when it is present for more than ~~4 weeks~~**3 months.**

It can arise from:
» tissue damage (nociceptive pain), e.g. arthritis, lower back pain, ~~pleurisy~~ pleuritic pain; ~~or~~
» injury to nerves (neuropathic pain) e.g. post herpetic neuralgia (pain following shingles), trigeminal neuralgia, diabetic neuropathy, HIV related peripheral neuropathy, drug induced peripheral neuropathy, or phantom limb pain; ~~or~~
» Pain experienced in the absence of tissue damage, inflammation and nerve damage (central pain) e.g. fibromyalgia, irritable bowel syndrome.

For the "General Measures" and "Medicine Treatment" headings external comments received to consider revising the headings to "Non-Pharmacological" and "Pharmacological Treatment" respectively as better terminology was not accepted as general measures and medicine treatment is standard wording used throughout all the STGs at all levels of care.

Medicine Treatment

An external comment to revise the introduction as follows was not accepted: *"The principles are the same as with cancer pain relief. Multimodal therapy should be used and escalated according to the stepladder approach to pain management. Analgesics should be given by mouth, regularly, in a stepwise manner to ensure adequate relief. Neuropathic and central pain are best treated with medications specific for this type of pain, as stated in the South*

[16] Treede RD, Rief W, Barke A, Aziz Q, Bennett MI, Benoliel R, et al.. Chronic pain as a symptom or a disease: the IASP Classification of Chronic Pain for the International Classification of Diseases (ICD-11). Pain. 2019 Jan;160(1):19-27. https://pubmed.ncbi.nlm.nih.gov/30586067

African Neuropathic pain guidelines. This includes low dose tricyclic antidepressants as first line therapy. It is useful to combine different classes of analgesics for the additive effects, depending on pain severity."

The original paragraph was retained as the 2012 South African Neuropathic pain guidelines have not been reviewed by NEMLC and are currently being updated.

Mild Pain (Adults)
Editorial changes were made to the STG with examples of chronic non-cancer conditions such as genetic conditions, nerve damage pain, chronic musculoskeletal pain, and chronic abdominal pain now appearing in the introduction of mild pain, rather than the medicine treatment section for children.

Paracetamol, oral: *Amended (Dose range amended and maximum dose reiterated)*

The committee reviewed the interpretation of the dosage range for paracetamol as written in the STG (1 gram 4–6 hourly). By implication, if 1gram is taken 4 hourly the total daily dose would equate to 6grams which is higher than the maximum allowable daily dose (4 grams in 24 hours) which is stated in the STG. The Committee recommended for the paracetamol oral dose to be amended to include a lower starting dose of 500mg and to retain the 4 hourly dosing in those with breakthrough pain as needed within the 24-hour dosing period. It was recommended for this dosage to be revised and applied to all applicable sections of the primary health care and adult STGs to ensure uniformity.

Level of Evidence: Guidelines: IVb[17]

Pain associated with inflammation:
Moderate pain:

Tramadol, oral: *Amended*

An external comment was received to clarify the frequency of tramadol dosing if the maximum dose in the STG is recommended as 400mg per day. Therefore, for adult's with moderate pain, a dosage range for tramadol is now provided to ensure dosing clarity and to accommodate for breakthrough pain in a 24-hour dosing period. Due to 100mg now being recommended in a 50 to 100mg dosing range the frequency of 4 to 6 hourly dosing was revised to 6 hourly[18] as a 100mg dose given 4 hourly could potentially result in therapy going over the allowable maximum daily dose if the range is read without the maximum dose. It was recommended for the tramadol dosage to be revised and applied to all applicable sections of the primary health care and adult STGs to ensure uniformity.

Level of Evidence: Guidelines: IVb

Adjuvant therapy:
Amitriptyline, oral: *Initiation Dose Amended*

An external comment to revise the starting dose of amitriptyline to as low as 5 to 10 mg in pharmacologically naïve patients was deliberated. Evidence for starting amitriptyline at 5mg was considered as low certainty evidence. The 10mg dose was suggested as a minimum starting dose as per SAMF[19] guidance and was also considered appropriate as would also minimise side effect compared to a starting dose of 25mg.

A cross reference to the Paediatric Hospital STGs and EML, section 20.1.1.1 Acute Pain for pain associated with the inflammation in children. The committee recommended that review of NSAIDS for children at PHC to be considered in the next review cycle.

[17] South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022
[18] Charlesworth, S. (Ed.). (2020). Palliative Care Formulary (7th ed.). Pharmaceutical Press
19 South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.

The STG was updated as follows:

MEDICINE TREATMENT

» The principles are the same as with cancer pain relief. Analgesics should be given by mouth, regularly, in a stepwise manner to ensure adequate relief. Neuropathic and central pain are best treated with analgesics in addition to tricyclic antidepressants.
» It is useful to combine different classes of analgesics for the additive effects, depending on pain severity.

Mild pain:

Chronic non-cancer conditions such as genetic conditions, nerve damage pain, chronic musculoskeletal pain, and chronic abdominal pain:

Children

- Paracetamol, oral, 15 mg/kg/dose 6 hourly when required. See paracetamol dosing table, chapter 23.

Adults

- Paracetamol, oral, 500 mg–1 g, 4–6 hourly ~~when~~ as required (to a maximum of 4 g in 24 hours)
  Maximum dose: 15 mg/kg/dose.
  ~~Maximum dose: 4 g in 24 hours.~~

Pain associated with inflammation:

Children

See the Paediatric Hospital STGs and EML, section 20.1.1.1 Acute Pain.

Adults

NSAIDs, e.g.:

- Ibuprofen, oral, 400 mg 8 hourly with or after a meal.

OR

Combine paracetamol and ibuprofen at the above dosages.

Moderate pain:

Adults

If still no relief to simple analgesics (paracetamol and/or ibuprofen), as above

ADD

- Tramadol, oral, 50–100mg, ~~4~~ 6 hourly as a starting dose (Doctor prescribed).
  May be increased to a maximum daily dose of 400 mg.

Adjuvant therapy:

Adults

In addition to analgesia as above:

- Amitriptyline, oral, ~~25~~ 10 mg at night (Doctor initiated).
  Titrate up to a maximum of 75 mg at night.

Referral

An external comment to add complex regional pain syndrome and post-herpetic neuralgia to the list of conditions difficult to treat and for referral for secondary level of care was accepted.

The STG was updated as follows:

REFERRAL

» Pain requiring strong opioids.
» Pain requiring definitive treatment for the underlying disease.
» Conditions difficult to treat e.g. Complex Regional Pain Syndrome (CRPS) and post-herpetic neuralgia
» All children.

20.4 CHRONIC CANCER PAIN

Description

An external comment for an editorial change to replace the word “medicinal” with the word “pharmacological” was accepted.

The STG was updated as follows:

Cancer pain is usually persistent and progressive. Pain assessment requires training in:
» psycho-social assessment
» assessment of need of type and dose of analgesics
» pain severity assessment

Under-recognition of pain and under-dosing with analgesics is common in chronic cancer pain.
Analgesics should be given regularly rather than only when required in patients with ongoing pain.

Medicine Treatment

The heading "Recommended Steps in Management of Cancer Pain" was revised to "Stepwise Approach in Management of Cancer Pain"

Stepwise Approach in Management of Cancer Pain

Step 1: Non Opioid (Adults)
Paracetamol, oral: *Amended (Dose range amended and maximum dose reiterated)*

The committee reviewed the interpretation of the dosage range for paracetamol as written in the STG (1 gram 4–6 hourly). By implication, if 1gram is taken 4 hourly the total daily dose would equate to 6grams which is higher than the maximum allowable daily dose (4 grams in 24 hours) which is stated in the STG. The Committee recommended for the paracetamol oral dose to be amended to include a lower starting dose of 500mg and to retain the 4 hourly dosing in those with breakthrough pain as needed within the 24-hour dosing period. It was recommended for this dosage to be revised and applied to all applicable sections of the primary health care and adult STGs to ensure uniformity.

Level of Evidence: Guidelines: IVb[20]

Step 2: Add weak opioid to Step 1 (Adults)
Tramadol, oral: *Amended*

An external comment was received to clarify the frequency of tramadol dosing if the maximum dose in the STG is recommended as 400mg per day. Therefore, for adult's with moderate pain, a dosage range for tramadol is now provided to ensure dosing clarity and to accommodate for breakthrough pain in a 24-hour dosing period. Due to 100mg now being recommended in a 50 to 100mg dosing range the frequency of 4 to 6 hourly dosing was revised to 6 hourly[21] as a 100mg dose given 4 hourly could potentially result in therapy going over the allowable maximum daily dose if the range is read without the maximum dose. It was recommended for the tramadol dosage to be revised and applied to all applicable sections of the primary health care and adult STGs to ensure uniformity.

Step 3: Replace weak opioid with strong opioid, i.e. morphine, and add to paracetamol and/or ibuprofen (Adults)
Morphine, long-acting oral: *Amended (Aligned with* Adult Hospital Level STGs and EML)
Sennosides: *Not Added*

In step 3 for the recommended management of cancer pain in adults the dosing for morphine, long-acting oral was aligned with the Adult Hospital Level STGs and EML, from "8-hourly" to "12- hourly. A cross reference to Section 20.5: Breakthrough Pain was added, for management of breakthrough pain.

A request to add senna to the chapter for constipation was not accepted, as there is a cross-referral to the palliative care chapter where this is recommended.

[20] South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022
[21] Charlesworth, S. (Ed.). (2020). Palliative Care Formulary (7th ed.). Pharmaceutical Press

The STG was updated as follows:

Step 3

Paracetamol and/or ibuprofen can be used with morphine in step 3

- Morphine, oral, 4 hourly (Doctor prescribed).
  - Start with 5–10 mg.
  - Titrate the dose and dose frequency against the effect on pain.

If dosage is established and patient is able to swallow:

- Morphine, long-acting, oral, ~~8~~ **12 hourly** (Doctor prescribed).
  - Start with 10–20 mg/dose.
  - Titrate the dose and dose frequency against the effect on pain

If breakthrough pain occurs: See Section 20.5: Breakthrough Pain

Children

The Committee accepted an external comment to add the word "and" in addition to the word "or" to provide an option for the combination treatment of ibuprofen, paracetamol and opioids in a stepwise approach as per the WHO pain ladder[22] and the algorithm already included in the STG.

The STG was updated as follows:

Children

Stepwise approach to pain management is recommended:

Mild pain	**Moderate to Severe pain**
	Step 2: strong opioid e.g. morphine ± non opioid ± adjuvant therapy
Step 1: non-opioid e.g. paracetamol and/or ibuprofen where anti-inflammatory effect is required	

Step 1: Non-opioid

- Paracetamol, oral, 10–15 mg/kg/dose 6 hourly when required. See paracetamol dosing table, chapter 23.

NSAIDs, e.g.:

- Ibuprofen, oral, 5–10 mg/kg/dose 8 hourly with or after a meal. See ibuprofen dosing table, chapter 23.
  Where anti-inflammatory effect is required.
  Can be used in combination with paracetamol and/or opioids.
  Discontinue if not effective after 2–3 days.

Adjuvant therapy (Children)

A cross reference to the Paediatric Hospital STGs and EML was added, for adjuvant therapy in children.

Adjuvant therapy (Adults)

Amitriptyline, oral: *Initiation Dose Amended*

An external comment to revise the starting dose of amitriptyline to as low as 5 to 10 mg in pharmacologically naïve patients was deliberated. Evidence for starting amitriptyline at 5mg was considered as low certainty evidence. The 10mg dose was suggested as a minimum starting dose as per SAMF[23] guidance and was also considered appropriate as it would minimise side effects compared to a starting dose of 25mg.

Significant nausea and vomiting

Metoclopramide, oral: *Retained (maximum dose added)*

[22] World Health Organization cancer pain relief program: network news. J Pain Symptom Manage. 1986;1(1):53–57. doi:10.1016/ S0885-3924(86)80035-5

[23] South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.

Metoclopramide was queried as an agent of choice for significant nausea and vomiting at PHC level of care. It should be noted that Haloperidol[24] or Olanzapine orodispersable[25] are recommended in the adult hospital level STGs (Chapter 24: Medicine Used in Palliative Care (section 24.1.4: Nausea and Vomiting) if metoclopramide is ineffective or contra-indicated (e.g., inoperable bowel obstruction).

A minor editorial change regarding a cross reference to the palliative care section was made as follows; (For management of Constipation in palliative care see section: 22.1.1).

The STG was updated as follows:

Adjuvant therapy:

Adults
In addition to analgesia as above:

- Amitriptyline, oral, ~~25~~ 10 mg at night. (Doctor initiated).
  Titrate up to a maximum of 75 mg at night.

Significant nausea and vomiting:

Adults

- Metoclopramide oral, 10 mg, 8 hourly as needed.
  - Maximum daily dose: 0.5 mg/kg

Children
For treatment of nausea and vomiting in the palliative care setting, see section: 22.1.3 Nausea and vomiting.

Constipation:
A common problem due to long-term use of opioids, which can be prevented and should always be treated.
For management of constipation in palliative care, see Section: 22.1.1.

Children

- Lactulose, oral, 0.5 mL/kg/dose once daily. See lactulose dosing table, chapter 23.
  If poor response, increase frequency to 12hourly.

Adult

- Lactulose, oral, 10–20 mL once daily.
  If poor response, increase frequency to 12 hourly.

~~((See Section: 22.1.1 Constipation for further management of palliative constipation).~~

[24] Haloperidol, oral/parenteral: Digges M, Hussein A, Wilcock A, Crawford GB, Boland JW, Agar MR, Sinnarajah A, Currow DC, Johnson MJ. Pharmacovigilance in Hospice/Palliative Care: Net Effect of Haloperidol for Nausea or Vomiting. J Palliat Med. 2018 Jan;21(1):37-43. https://www.ncbi.nlm.nih.gov/pubmed/28772094
Haloperidol, oral/parenteral: Doyle D, Woodruff R. The IAHPC Manual of Palliative Care. 3rd ed. IAHPC Press, 2013. Available from: https://hospicecare.com/what-we-do/publications/manual-of-palliative-care/ [Accessed August 2019]
[25] National Department of Health: Affordable Medicines, EDP- Adult. Medicine Review: Olanzapine injection, orodispersible. Adult palliative care patients with nausea and vomiting not responding to metoclopramide, November 2022. http://www.health.gov.za/