# 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 to 3 (mild discomfort), 4 to 6 (moderate), or 7 to 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 | Occasional grimace/frown; withdrawn or disinterested.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.

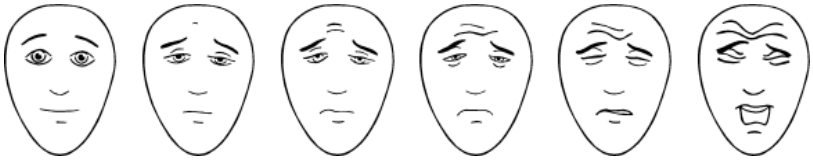



**Figure 20.1: Revised faces pain scale**

*LoE:IIIb*[6]

**Visual analogue scale:**
» Use in children over 7 and adults who can communicate.
» Ask: "on a scale of 0 to 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 dosing table: Chapter 23.

*Adults*

- Paracetamol, oral, 500 mg to 1 g, 4 to 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 to 10 mg/kg/dose 8 hourly with or after a meal. See dosing table: Chapter 23.
  - Discontinue if not effective after 2 to 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 to 3 days.

LoE:IVb[11]

If response to paracetamol and ibuprofen is still inadequate:
**ADD**

- Tramadol, oral, 50 to 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 dosing table:Chapter 23. (Doctor prescribed.)

**CAUTION**

Morphine can cause respiratory depression, monitor carefully.

*Adults*

- Paracetamol, oral, 500 mg to 1 g, 4 to 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 to 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 to 5 mg (maximum 0.1 mg/kg) 4 hourly.
  - Adjust morphine doses for patients with renal impairment:
    - GFR 10 to 50 mL/min, 75% of dose,
    - GFR <10 mL/min, 50% of dose.

*LoE:IVb[14]*

**OR**

- Morphine, IM, 5 to 10 mg, 4 to 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 to 5 mg as a single dose, then further boluses of 1 to 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 to 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 dosing table: Chapter 23.

*LoE:IVb*[18]

Adults:

- Paracetamol, oral, 500 mg to 1 g, 4 to 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 to 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:**

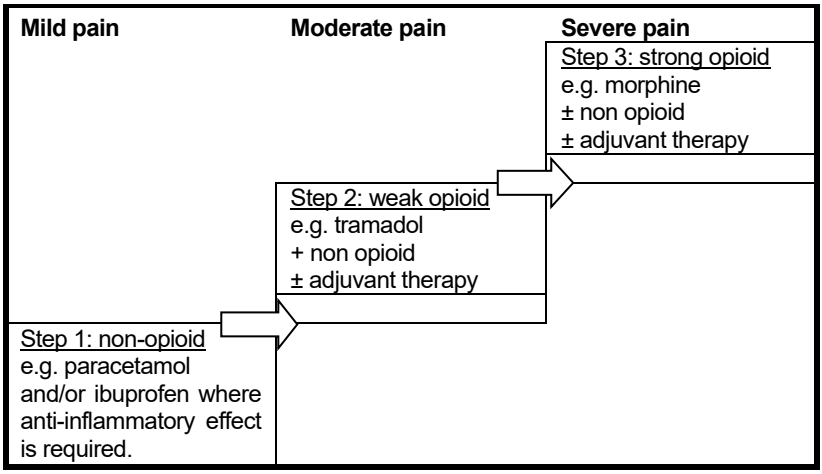
» Appropriate care should be provided from the time of diagnosis.
» Home palliative care is provided by the family or caregiver with the support of health care professionals. See Chapter 22: Medicines used in palliative care.

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

*LoE:IIb*[22]

**AND/OR**

- 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 to 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 to 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, 12 hourly. (Doctor prescribed.)

- Start with 10 to 20 mg/dose.
- Titrate the dose and dose frequency against the effect on pain. LoE:IIb[25]

If breakthrough pain occurs: See Section 20.5: Breakthrough Pain.

Elderly adults or severe liver impairment:

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

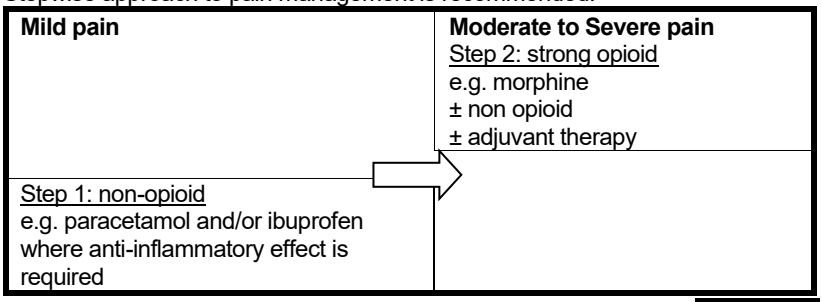
**Note:**

» 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 to 15 mg/kg/dose 6 hourly when required. See dosing table: Chapter 23.
- NSAIDs, e.g.:
- Ibuprofen, oral, 5 to 10 mg/kg/dose 8 hourly with or after a meal. See dosing table: Chapter 23. Where anti-inflammatory effect is required.
  - Can be used in combination with paracetamol and/or opioids. LoE:IIb[27]
  - Discontinue if not effective after 2 to 3 days.

**Step 2: Add opioid to paracetamol and/or ibuprofen**

- Morphine, oral, 0.2 to 0.4 mg/kg/dose 4 to 6 hourly according to severity of the pain. See 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:
  - 1-11 months: 5 mL daily, adjusted according to response
  - 1-4 years: 10 mL daily, adjusted according to response
  - 5-14 years: 15 mL daily, adjusted according to response

Adjust dose as needed to achieve 2-3 soft stool per day, by:

- Increasing frequency of administration to 12 hourly, or
- Increasing volume by 2.5 - 5 mL per dose.

*LoE:IVb*[30]

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 to 8 hourly. See dosing table: Chapter 23.

Adults

- Chlorphenamine, oral, 4 mg, 6 to 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 to 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 to 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 to 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 to 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*[31]

» 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.

**References:**


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

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

[3] R-FLACC: 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.

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).

[4] Abbey Pain Scale: Abbey Pain Scale for Dementia Patients. https://www.mdcalc.com/calc/3627/abbey-pain-scale-dementia-patients

[5] R-FLACC: 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.

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.

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).

[6] Fcaes Pain Scale Revised: International Assicuatioin for the Study of Pain. https://www.iasp-pain.org/resources/faces-pain-scale-revised/

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

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

[9] Ibuprofen, oral (ceiling effect): National Department of Health, Essential Drugs Programme: Adult Hospital Level STGs and EML, 2015. http://www.health.gov.za/

Ibuprofen, oral (ceiling effect): Laska EM, Sunshine A, Marrero I, Olson N, Siegel C, McCormick N. The correlation between blood levels of ibuprofen and clinical analgesic response. Clin Pharmacol Ther. 1986 Jul;40(1):1-7. http://www.ncbi.nlm.nih.gov/pubmed/3522030

[10] Ibuprofen, oral: National Department of Health, Essential Drugs Programme: Paediatric Hospital Level STGs and EML, 2017. http://www.health.gov.za/

[11] Ibuprofen (ceiling effect): National Department of Health, Essential Drugs Programme: Adult Hospital Level STGs and EML, 2015. http://www.health.gov.za/

Ibuprofen, oral (ceiling effect): Laska EM, Sunshine A, Marrero I, Olson N, Siegel C, McCormick N. The correlation between blood levels of ibuprofen and clinical analgesic response. Clin Pharmacol Ther. 1986 Jul;40(1):1-7. http://www.ncbi.nlm.nih.gov/pubmed/3522030.

[12] Tramadol (dose): Charlesworth, S. (Ed.). (2020). Palliative Care Formulary (7th ed.). Pharmaceutical Press.

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

[14] Morphine, Dose Adjustemnt in renal impairment:: South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.

[15] Morphine, IM (adults): South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.

[16] Morphine, IV (adults): National Department of Health, Essential Drugs Programme: Adult Hospital Level STGs and EML, 2015. http://www.health.gov.za/

[17] Definition (Chronic Non-Cancer Pain): 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/

[18] Paracetamol, oral (Mild chronic non-cancer pain: children): National Department of Health, Essential Drugs Programme: Paediatric Hospital level STGs and EML, 2017. http://www.health.gov.za/

Paracetamol, oral (Mild chronic non-cancer pain: children): Cooper TE, Fisher E, Anderson B, Wilkinson NM, Williams DG, Eccleston C. Paracetamol (acetaminophen) for chronic non-cancer pain in children and adolescents. Cochrane Database Syst Rev. 2017 Aug 2;8:CD012539. https://www.ncbi.nlm.nih.gov/pubmed/28770975

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

Ibuprofen, oral (ceiling effect): Laska EM, Sunshine A, Marrero I, Olson N, Siegel C, McCormick N. The correlation between blood levels of ibuprofen and clinical analgesic response. Clin Pharmacol Ther. 1986 Jul;40(1):1-7. http://www.ncbi.nlm.nih.gov/pubmed/3522030

NSAIDS: da Costa BR, Pereira TV, Saadat P, Rudnicki M, Iskander SM, Bodmer NS, Bobos P, Gao L, Kiyomoto HD, Montezuma T, Almeida MO, Cheng PS, Hincapié CA, Hari R, Sutton AJ, Tugwell P, Hawker GA, Jüni P. Effectiveness and safety of non-steroidal anti-inflammatory drugs and opioid treatment for knee and hip osteoarthritis: network meta-analysis. BMJ. 2021 Oct 12;375:n2321. Doi: 10.1136/bmj.n2321. PMID: 34642179; PMCID: PMC8506236.

NSAIDS: Musculoskeletal System (Therapeutic class): National Department of Health: Affordable Medicines, EDP-Adult Hospital level. Medicine Review: NSAIDs, oral: Diclofenac, naproxen, meloxicam, piroxicam, January 2018. https://www.knowledgehub.org.za/content/standard-treatment-guidelines-and-essential-medicines-list

[20] Ibuprofen (ceiling effect): National Department of Health, Essential Drugs Programme: Adult Hospital Level STGs and EML, 2015. http://www.health.gov.za/

Ibuprofen, oral (ceiling effect): Laska EM, Sunshine A, Marrero I, Olson N, Siegel C, McCormick N. The correlation between blood levels of ibuprofen and clinical analgesic response. Clin Pharmacol Ther. 1986 Jul;40(1):1-7. http://www.ncbi.nlm.nih.gov/pubmed/3522030

NSAIDS: da Costa BR, Pereira TV, Saadat P, Rudnicki M, Iskander SM, Bodmer NS, Bobos P, Gao L, Kiyomoto HD, Montezuma T, Almeida MO, Cheng PS, Hincapié CA, Hari R, Sutton AJ, Tugwell P, Hawker GA, Jüni P. Effectiveness and safety of non-steroidal anti-inflammatory drugs and opioid treatment for knee and hip osteoarthritis: network meta-analysis. BMJ. 2021 Oct 12;375:n2321. Doi: 10.1136/bmj.n2321. PMID: 34642179; PMCID: PMC8506236.

NSAIDS: Musculoskeletal System (Therapeutic class): National Department of Health: Affordable Medicines, EDP-Adult Hospital level. Medicine Review: NSAIDs, oral: Diclofenac, naproxen, meloxicam, piroxicam, January 2018. https://www.knowledgehub.org.za/content/standard-treatment-guidelines-and-essential-medicines-list

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

[22] Paracetamol, oral (adults - chronic cancer pain): Wiffen PJ, Derry S, Moore RA, McNicol ED, Bell RF, Carr DB, McIntyre M, Wee B. Oral paracetamol (acetaminophen) for cancer pain. Cochrane Database Syst Rev.2017 Jul 12;7:CD012637. https://www.ncbi.nlm.nih.gov/pubmed/28700092

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

[23] NSAIDs, oral (adults - chronic cancer pain): Derry S, Wiffen PJ, Moore RA, McNicol ED, Bell RF, Carr DB, McIntyre M, Wee B. Oral nonsteroidal anti-inflammatory drugs (NSAIDs) for cancer pain in adults. Cochrane Database Syst Rev. 2017 Jul 12;7:CD012638. https://www.ncbi.nlm.nih.gov/pubmed/28700091

Ibuprofen, oral (ceiling effect): National Department of Health, Essential Drugs Programme: Adult Hospital level STG, 2015. http://www.health.gov.za/

Ibuprofen (ceiling effect): Laska EM, Sunshine A, Marrero I, Olson N, Siegel C, McCormick N. The correlation between blood levels of ibuprofen and clinical analgesic response. Clin Pharmacol Ther. 1986 Jul;40(1):1-7. http://www.ncbi.nlm.nih.gov/pubmed/3522030

[24] Tramadol, oral (adults - chronic cancer pain): Wiffen PJ, Wee B, Derry S, Bell RF, Moore RA. Opioids for cancer pain – an overview of Cochrane reviews. Cochrane Database Syst Rev. 2017 Jul 6;7:CD012592. https://www.ncbi.nlm.nih.gov/pubmed/28683172

Tramadol, oral (adults - chronic cancer pain: caution South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.

[25] Morphine, long-acting: National Department of Health, Essential Drugs Programme: Adult Hospital level STG, 2015. http://www.health.gov.za/

Morphine, long-acting, oral: South African Medicines Formulary, 14th Edition. Division of Clinical Pharmacology. University of Cape Town, 2022.

Morphine, long-acting, oral: National Department of Health: Affordable Medicines, EDP-PHC. Medicine Review. Oxycodone for chronic cancer pain in adults, June 2018. http://www.health.gov.za/

Morphine, long-acting, oral: Schmidt-Hansen M, Bennett MI, Arnold S, Bromham N, Hilgart JS. Oxycodone for cancer-related pain. Cochrane Database Syst Rev. 2017 Aug 22;8:CD003870. https://www.ncbi.nlm.nih.gov/pubmed/28829910

[26] Pain ladder (children): World Health Organisation. WHO Guidelines on the Pharmacological Treatment of Persisting Pain in Children with Medical Illnesses. Geneva: World Health Organization; 2012. https://pubmed.ncbi.nlm.nih.gov/23720867/

[27] NSAIDs, oral (children – chronic cancer pain): Cooper TE, Heathcote LC, Anderson B, Grégoire MC, Ljungman G, Eccleston C. Non-steroidal anti-inflammatory drugs (NSAIDs) for cancer-related pain in children and adolescents. Cochrane Database Syst Rev. 2017 Jul 24;7:CD012563. https://www.ncbi.nlm.nih.gov/pubmed/28737843

[28] Opioids, oral (children – chronic cancer pain): Wiffen PJ, Cooper TE, Anderson AK, Gray AL, Grégoire MC, Ljungman G, Zernikow B. Opioids for cancer-related pain in children and adolescents. Cochrane Database Syst Rev. 2017 Jul 19;7:CD012564. https://www.ncbi.nlm.nih.gov/pubmed/28722116

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

[30] South African Health Product Regulatory Authority. Professional information – Duphalac.

British National Formulary for children 2025. London: BMJ Group, Pharmaceutical Press and RCPCH Publications Ltd.

[31] Breakthrough Pain: Charlesworth, S. (Ed.). (2020). Palliative Care Formulary (7th ed.). Pharmaceutical Press

# SOUTH AFRICAN NATIONAL DEPARTMENT OF HEALTH
# NEMLC SUMMARY REPORT ON UPDATES MADE TO THE THE STANDARD TREATMENT GUIDELINES AND ESSENTIAL MEDICINE LIST GUIDANCE PRODUCTS

## Primary Health Care
## Chapter 20 Pain

## Document Version

| **Report Version** | **Date** | **Detail** |
|---|---|---|
| *V1.0* | *12 February 2026* | *Correction and adjustment of lactulose dosing for constipation* |

## Specific guidance products (Tick relevant and specify chapter number)

| *No* | Guidance Product | *Tick* | *Number* |
|---|---|---|---|
| *1.* | Primary Health Care Level STGs | ✓ | *Chapter 20 - Pain*<br>*Chapter 22 – Medicines Used in Palliative Care* |
| *2.* | Adult Hospital Level STGs | | |
| *3.* | Paediatric Hospital Level STGs | ✓ | *Chapter 20 – Pain Control*<br>*Chapter 21 – Palliative Care* |
| *4.* | Tertiary and Quaternary EML | | |

## Summary Tables

### Medicine Amendments

Kindly review the medicine amendments in the context of the respective standard treatment guideline (STG).

| **STG/SECTION** | **GUIDANCE PRODUCTS (Tick relevant)** | | | | **MEDICINE / MANAGEMENT** | **ADDED / DELETED / AMENDED** | **TI* CONSIDERATIONS (if applicable)** |
|---|---|---|---|---|---|---|---|
| | PHC STGs & EML | AH STG & EML | PaedH STG & EML | TQ EML | | | |
| *Report Version v1.0* | | | | | | | |
| **20.4 Chronic Caner Pain (Constipation)** | X | | X | | Standardisation of lactulose dosing to dosing by age for the indication of constipation | Amended | |

The report provides an update on the following:

1. Standardisation of lactulose dosing to dosing by age for the indication of constipation in children in the pain and palliative care chapters.

# STANDARD TREATMENT GUIDELINE – 20.4 Chronic Cancer Pain Constipation)

**Lactulose, oral: Amended**

An external commentator raised concerns regarding the presentation and lack of standardisation of lactulose dosing for children in the pain and palliative care standard treatment guidelines. Lactulose dosing was considered, and it was recommended that dosing by age be implemented in the STGs for children with guidance for dose escalation on volume and frequency while noting the aim is to achieve two to three loose stools per day.

The STG was updated from:

Children

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

**To**

Children

- Lactulose, oral:
  - 1-11 months: 5 mL daily, adjusted according to response
  - 1-4 years: 10 mL daily, adjusted according to response
  - 5-14 years: 15 mL daily, adjusted according to response

Adjust dose as needed to achieve 2-3 soft stool per day, by:

- Increasing frequency of administration to 12 hourly, or
- Increasing volume by 2.5 - 5 mL per dose.

**Level of Evidence: IV (Guidelines)[1,2]**

The dosing will be applied to all pain and palliative care chapters for the indication of constipation in children.

[1] South African Health Product Regulatory Authority. Professional information – Duphalac.
[2] British National Formulary for children 2025. London: BMJ Group, Pharmaceutical Press and RCPCH Publications Ltd.