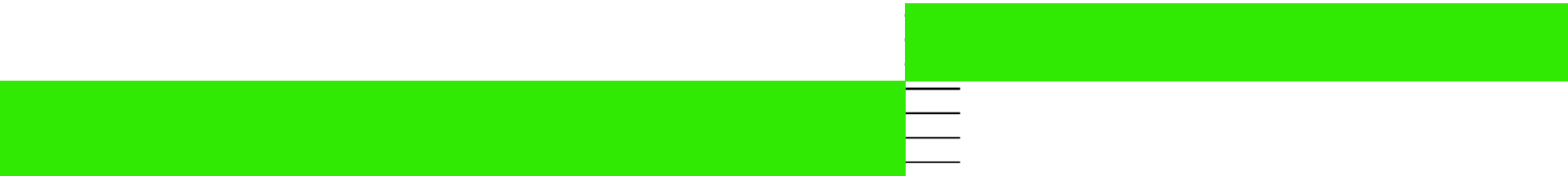
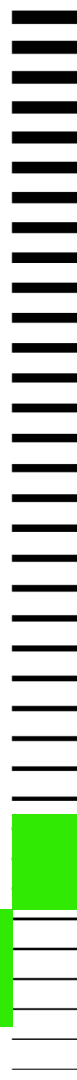


Management of Migraine and Tension-Type Headache :

An Algorithm for
Pharmacists



The Pharmacist and The Management of Headache

- Headache is one of the most common reasons patients seek help from healthcare practitioners.
- Headache management is a critical aspect of healthcare that directly impacts the quality of life for a significant number of individuals.
- As frontline healthcare providers, pharmacists play a vital role in the management of headaches due to their accessibility and expertise in medications.
- Pharmacists have the opportunity to provide valuable guidance and support to individuals suffering from headaches and improve patient outcomes

Overview

1 Prevalence and Impact

2 Role of the pharmacist and Headache Assessment

3 Pharmacological Management

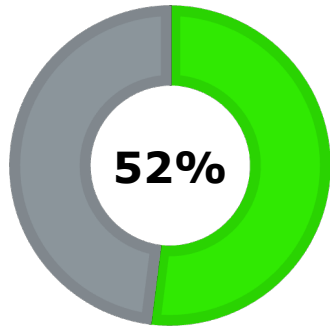
4 Point of care algorithm

Prevalence

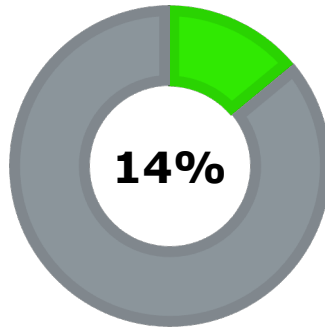
Global Prevalence of Migraine and Tension-Type Headache

- Global Burden of Disease (GBD) study, headache disorders are among the most prevalent and disabling conditions worldwide.

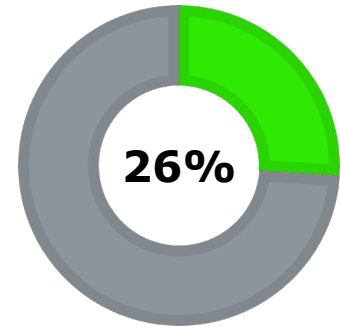
Adult population
worldwide affected by a
headache disorder



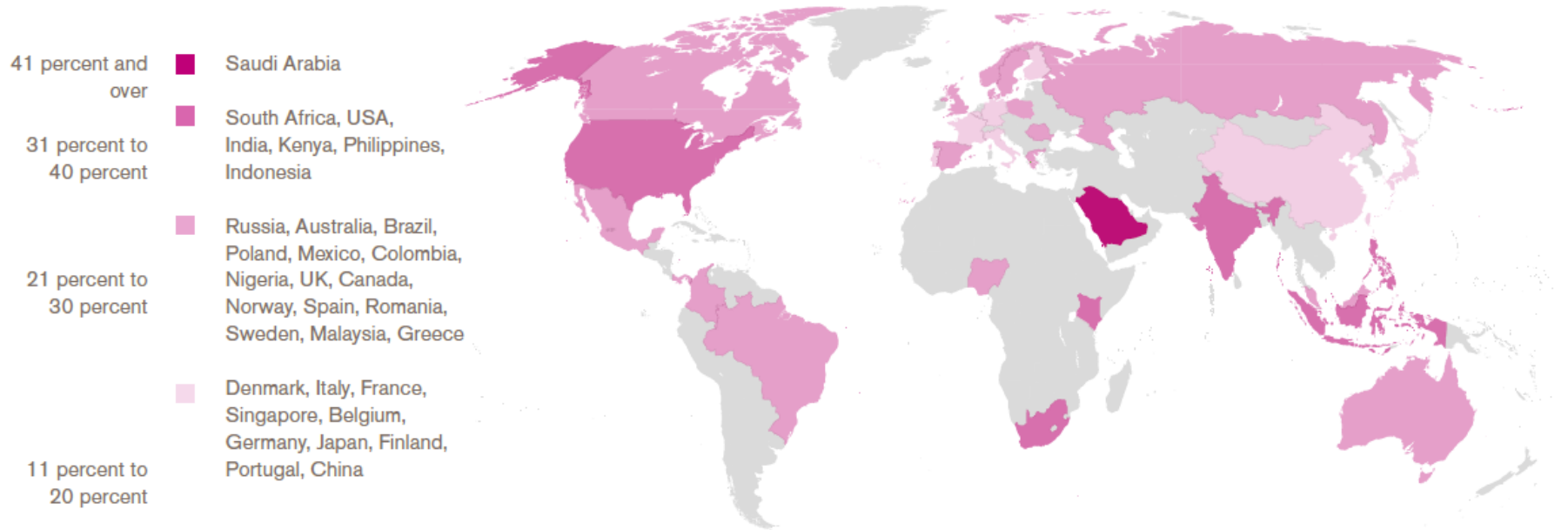
Global prevalence of
Migraine



Global prevalence of
Tension-Type Headache
(TTH)



Prevalence of Regular Headache (weekly)



South Africa, has a high prevalence of regular (weekly) headache with between 31% to 40%

Impact of Migraine and Tension-Type Headache

Patient behind the pain:

Individual Economic Impact of Headache

- The average South African worker takes 1.6 sick days due to headache

4 in 10 say they regularly work through their head pain (42 percent)



Nearly 3 in 10 regularly struggle to concentrate because of head pain (28 percent)



1 in 10 regularly leave work early because of head pain (12 percent)



2 in 10 say they regularly perform below their usual standards because of head pain (22 percent)



Over 2 in 10 say their head pain has had a negative impact on their career progression (27 percent)

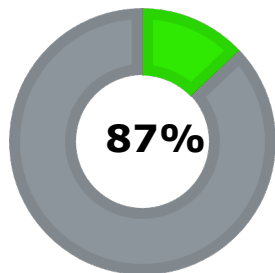


Patient behind the pain:

Social Impact

Pain touches almost every aspect of people's lives :

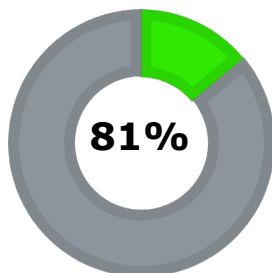
Impact on their daily routines



Emotional wellbeing



Decrease in Quality of Life



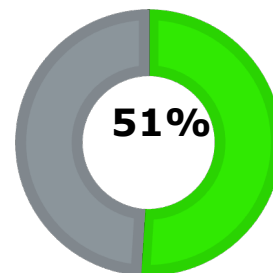
Social life



Family life



South Africans reporting
headache negatively impacts
their mood



Parenting



Across all aspects of everyday life, pain is negatively impacting the lives of both the sufferer and those closest to them, from damaging self-perception and negatively impacting time spent with friends and families, through to having a detrimental impact on parenting abilities.

Role of the Pharmacist

Pharmacist's Role in Headache Management

- Pharmacists play a critical role in the management of headaches and can significantly impact patient outcomes and overall healthcare delivery.
- Their expertise in medication therapy and accessibility to patients position them as key healthcare providers in headache management.
 - Patient Assessment and Education
 - Medication Selection and Management
 - Medication Counseling and Adherence
 - Collaborative Care
 - Patient Monitoring and Follow-up:

Headache Assessment

Migraine headache

Migraine is a primary neurological condition that is characterized by recurrent episodes of headache with other associated symptoms such as nausea, vomiting, and sensitivity to sensory stimuli.

	Migraine without aura	Migraine with aura
A	At least five attacks fulfilling criteria B–D	At least two attacks fulfilling criteria B and C
B	Headache attacks lasting 4–72 h (untreated or unsuccessfully treated)	One or more of the following fully reversible aura symptoms: 1. Visual 2. Sensory 3. Speech and or language 4. Motor 5. Brainstem 6. Retinal
C	Headache has at least two of the following four characteristics: 1. Unilateral location 2. Pulsating quality 3. Moderate or severe pain intensity 4. Aggravation by or causing avoidance of routine physical activity	At least two of the following four characteristics: 1. At least one aura symptom spreads gradually over ≥ 5 min 2. Two or more aura symptoms occur in succession 3. Each individual aura symptom lasts 5–60 min 4. At least one aura symptom is unilateral 5. At least one aura symptom is positive 6. The aura is accompanied, or followed within 60 min, by headache
D	During headache at least one of the following: 1. Nausea and/or vomiting 2. Photophobia and phonophobia	

ICHD-3 diagnostic criteria for migraine with and without aura

Tension-Type Headache (TTH)

- The pathophysiology of TTH is poorly understood,
- Psychogenic association:
 - muscle contraction headache,
 - psychomyogenic headache,
 - stress headache, and
 - psychogenic headache.

	Infrequent ^a or frequent ^b TTH	Chronic TTH
A	At least 10 episodes of headache ^a fulfilling criteria B–D	Headache occurring on ≥15 d/mo on average for >3 mo
B	Lasting from 30 min to 7 d	Lasting hours to days, or unremitting
C	At least two of the following four characteristics 1. Bilateral location 2. Pressing or tightening (non-pulsatile) quality 3. Mild or moderate pain intensity 4. Not aggravated routine physical activity	At least two of the following four characteristics 1. Bilateral location 2. Pressing or tightening (non-pulsatile) quality 3. Mild or moderate pain intensity 4. Not aggravated routine physical activity
D	Both of the following: 1. No nausea and/or vomiting 2. No more than one of photophobia or phonophobia	Both of the following: 1. No more than one of photophobia, phonophobia, or mild nausea 2. Neither moderate or severe nausea nor vomiting

ICHD-3 diagnostic criteria for Tension-Type Headache

^aInfrequent TTH is defined as pain on <1 d/mo on average. ^bFrequent TTH is defined as pain on 1–14 d/mo on average for >3 mo.

Migraine Headache vs Tension-Type Headache (TTH)

- The symptoms, diagnosis, and treatment of TTH significantly overlap with migraine.
- TTH often manifests in response to stress, anxiety, depression, emotional conflicts, and other stimuli
- Migraine headaches arise from a complex interaction of neuronal and vascular factors e.g. fatigue, fasting, menses , vasoactive substances in food

	Tension-Type Headache	Migraine headache
Location	• Bilateral • Over the top of head, extending to base of skull	• Usually, unilateral
Nature of pain	• Varies from diffuse to tight, pressing, constricting pain	• Throbbing/pulsating • May be preceded by aura • Aggravated by routine activity
Onset	• Gradual	• Sudden
Duration	• 30 minutes to 7 days ys	• 4 – 72 hours

Dangerous headaches

- Most headaches are rarely a sign of something more serious.
- Distinguishing dangerous headaches from benign or low-risk headaches is a significant challenge because the symptoms can overlap.

RED FLAGS		
Emergent (Immediate referral)	URGENT	Indicators of Secondary Headaches
Thunderclap onset • severe headache with onset of pain within 5 minutes	Elderly patient: new headache with cognitive change	New headache that has recently started in a person older than 50 years of age
Symptoms of acute narrow-angle glaucoma • painful red eye, misty vision, haloes and semi-dilated pupil	Frequent headaches (≥ 10 per month), change in headache pattern and severity, headaches lasting more than 72 hours	Unexplained focal signs
Infection symptoms • Fever (especially with stiff neck and reduced consciousness)		Atypical headaches
Neurological (related to the brain) symptoms • Stiff neck • Reduced consciousness • Change in personality • Cognitive dysfunction that has recently started • Neurological dysfunction that has recently started		Unusual headache precipitants
Symptoms of stroke • Drooping face, paralysis on one side of body, slurred/jumbled speech		Unusual aura symptoms
		Aggravation by neck movement

Medication Overuse Headache (MOH)

- Unintended consequence of management of patients with established primary headache disorders
- Overuse medication for acute headaches and inadvertently increase the frequency and intensity of their headaches.
- Transforms the treatment for their headache to the actual cause of their disease (MOH).).
- The diagnosis of MOH is related to the frequency of a headache (not quality or intensity)

Assess	Manage
• Taking prescription medicines for ≥ 10 days/month (e.g. Ergots, triptans, combination analgesics, or codeine or other opioids); OR • Taking OTC analgesics for ≥ 15 days/month (e.g. paracetamol, NSAIDS, aspirin) • Occurs daily or nearly daily • Often the worst first thing in the morning – after waking up • Tends to get worse when medicine is stopped	• Educate patient • Consider prophylactic medication • Provide an effective acute medication for severe attacks with limitations on frequency of use • Gradual withdrawal of combination analgesics with opioids • Abrupt (or gradual) withdrawal of paracetamol, NSAIDS, or triptans

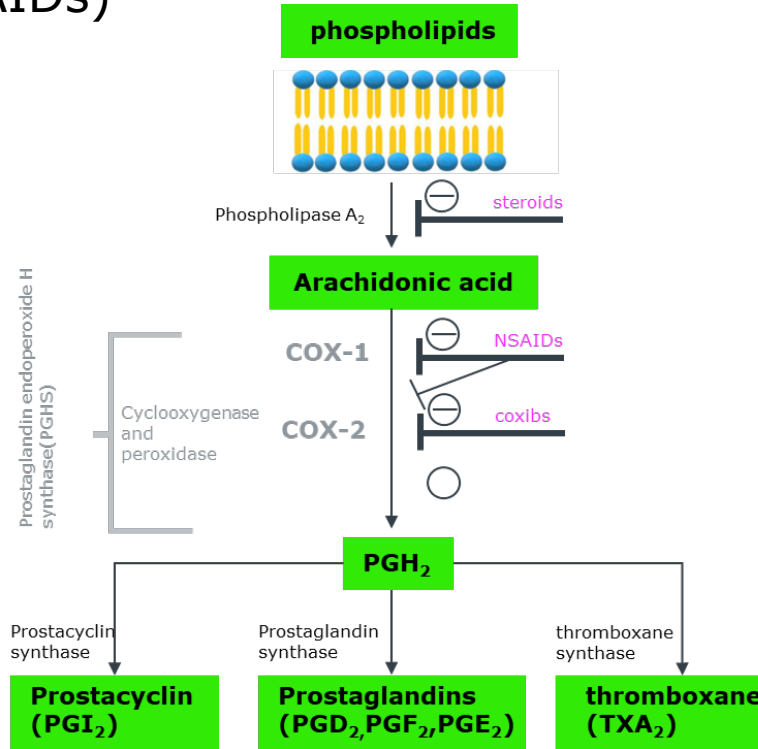
Pharmacological Management

Common non-prescription medicines to manage Migraine and Tension-Type Headache

Migraine	Tension-Type Headache
• Ibuprofen 400 mg 8 hourly • ASA 1000 mg 8 hourly • Naproxen sodium 500-550 mg 8-12 hourly • Paracetamol 1000 mg 4- 6 hourly. (Max 4g/24hrs). • Diclofenac 50mg 8 hourly • Adjuvants e.g. caffeine • Fixed-dose combination analgesics (with codeine if necessary, however not recommended for routine use) • Ergots, triptans, anti-nausea (e.g cyclizine)	• Ibuprofen 400 mg 8 hourly • ASA 1000 mg 8 hourly • Naproxen sodium 500-550 mg 8-12 hourly • Paracetamol 1000 mg 4- 6 hourly. (Max 4g/24hrs). • Diclofenac 50mg 8 hourly • Adjuvants e.g. caffeine, muscle relaxants • Fixed-dose combination analgesics (with codeine if necessary, however not recommended for routine use)

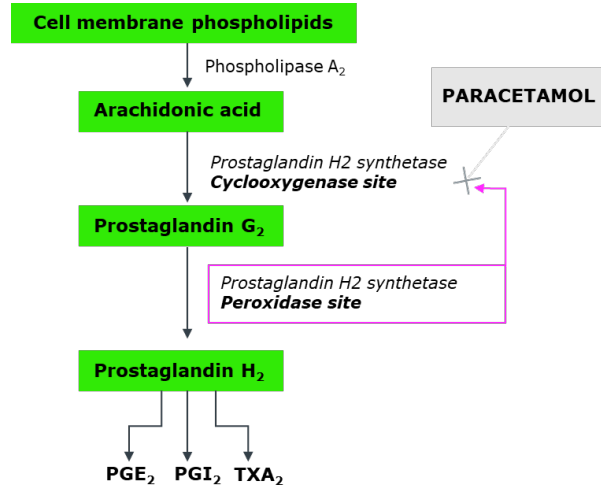
Mechanism of Action :

Non-Steroidal Anti-Inflammatories (NSAIDs)

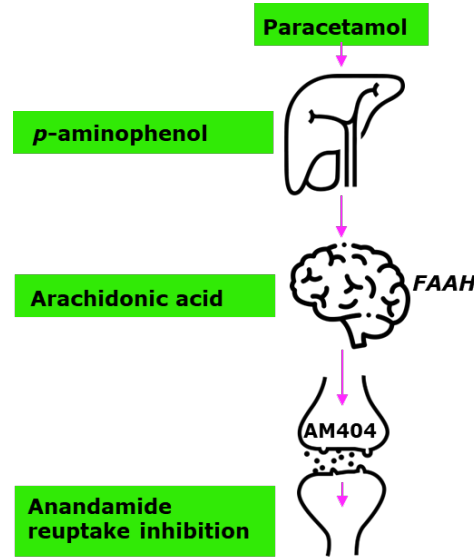


Prostaglandin H₂ Synthetase

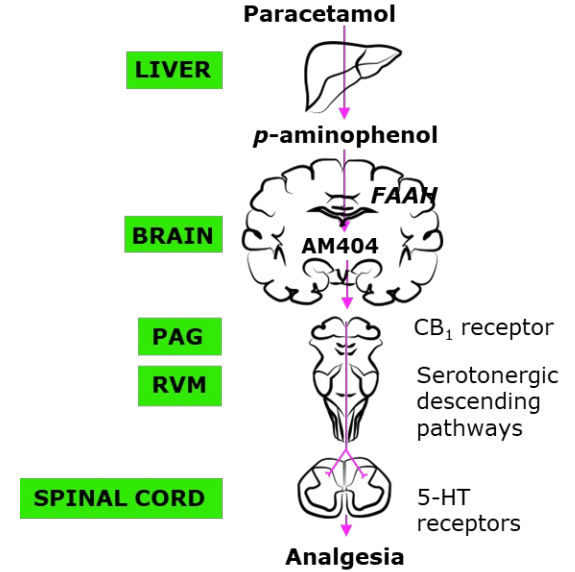
Mechanism of Action : Paracetamol



Prostaglandin H₂ Synthetase



Endocannabinoid Enhancement



Serotonergic pathway activation

Management Strategies : Multi-Modal Analgesia

- Multimodal analgesia is a pharmacologic method of pain management which combines various groups of medications for pain relief.
- The scientific rationale behind multi-target combinations is the therapeutic benefit that could not be achieved by the individual constituents and that the single substances of the combinations act together additively or even multiplicatively.
 - As an example, the fixed-dose combination of acetylsalicylic acid (ASA), paracetamol and caffeine provide more rapid and superior pain relief compared to Ibuprofen.
- This broadens the array of therapeutic options and enables the completeness of the therapeutic effect.
- It also allows pharmacists to **customize treatment** to the patient's specific needs and is an **opioid sparing strategy**

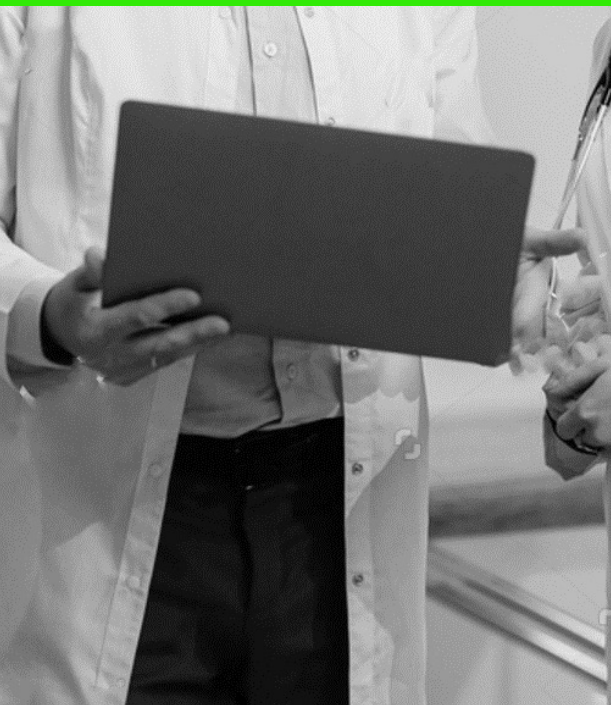
Management Strategies: Pharmacokinetics/Pharmacodynamics

- Pharmacokinetic research, contends that rapid absorption leads to a greater continuing analgesia of non-narcotic analgesics.
 - greater initial analgesia due to faster absorption leads to increased analgesia for several hours
 - greater the maximum analgesic effect, the longer is the duration of effect
- When we are managing pain
 - **Correct dose** and **Consistent dosing** improves patient outcomes.

Point of Care Algorithm



Conclusion



- High prevalence of Migraine and Tension-Type Headache.
- Headaches negatively impact the lives of people in all aspects of their lives and affects both the sufferer and those closest to them.
- Pharmacists are in a unique position, as they play an important role in the prevention and management of Migraines and Tension type headache (and Medication overuse headache)
- Headache severity and associated features can guide diagnosis and treatment of migraine and TTH.
- Simple analgesics (alone or in combination) are effective in treating migraine and TTH, and allow pharmacists to customize treatment to the patient's specific needs
- A structured point of care approach to managing patients with migraine or TTH leads to better patient outcomes.

Thank You