Unlocking Primary Headaches

A Clinical Masterclass on the Differentiation and Targeted Treatment of Tension & Trigeminal Autonomic Cephalalgias.

℞ CLINICAL DIFFERENTIATION

Tension-Type Headache (TTH)

- Non-pulsating, pressure/tightness
- Bilateral, band-like distribution
- Mild to moderate intensity
- Not aggravated by routine activity
- No nausea or vomiting (rarely photophobia or phonophobia)

Trigeminal Autonomic Cephalalgias (TACs)

- Strictly unilateral
- Severe to very severe intensity
- Short duration (minutes to hours)
- Prominent cranial autonomic symptoms
- Restlessness or agitation
- ⚠ **Cluster Headache**: suicidally severe, cyclical attacks

℞ TARGETED TREATMENT STRATEGIES

TTH Management

ACUTE: Simple analgesics (NSAIDs, Paracetamol)
Combination analgesics (caffeine-containing)

PREVENTIVE: Amitriptyline (10-75mg daily)
Mirtazapine
Venlafaxine
Topiramate

TACs Management

ACUTE (Cluster): High-flow oxygen (100%, 12L/min)
Sumatriptan (8mg SC)
Zolmitriptan (nasal spray)

PREVENTIVE (Cluster): Verapamil (240-960mg daily)
Lithium
Topiramate
Galcanezumab

Paroxysmal Hemicrania: Indomethacin (absolute response)

℞ DIAGNOSTIC CRITERIA (ICHD-3)

- **TTH:** ≥10 episodes fulfilling criteria, <15 days/month for episodic
- **TACs:** ≥5 attacks fulfilling criteria, severe unilateral pain
- Exclude secondary causes (neuroimaging if red flags)

- Thunderclap onset
- New onset >50 years
- Progressive worsening
- Neurological deficit

Based on Australian Clinical Guidelines (Med2Date) | Incorporating ICHD-3 Criteria

4.9 Million

Australians living with chronic headache.

$35 Billion

Annual productivity loss in Australia.

40–70%

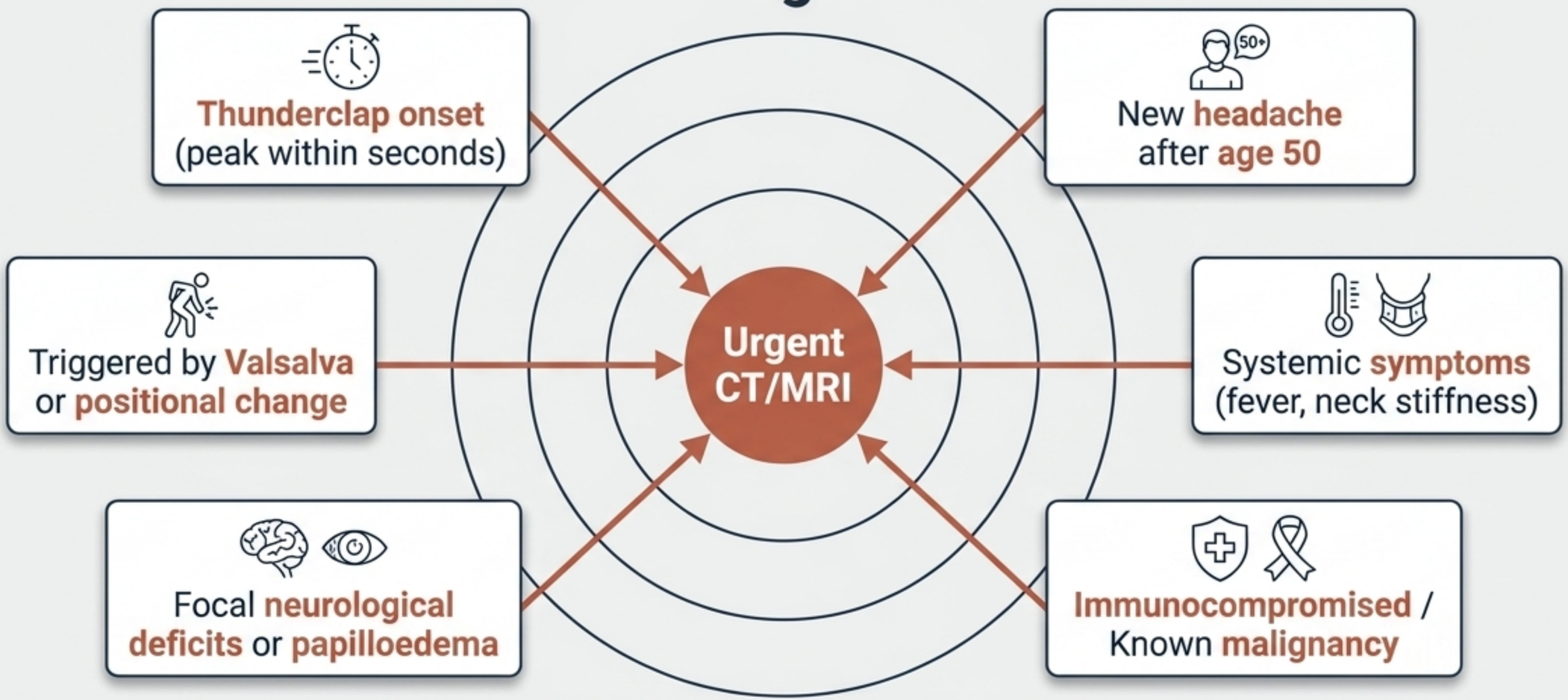
Lifetime prevalence of Tension-Type Headache (The common burden)

0.1–0.2%

Lifetime prevalence of Cluster Headache (The rare extremity)

Primary headaches are **neurological disorders** where the headache itself is the disease. The three major groups—**Tension, Migraine**, and **Trigeminal Autonomic Cephalalgias (TACs)**—dominate primary care.

Red Flag Radar



Diagnostic Action Bar

First-line: Non-contrast CT Brain
>95% sensitive for SAH within 6 hours.
Available in all EDs. (MBS 56500)

Gold Standard: MRI Brain
Essential for posterior fossa/pituitary lesions. (MBS 63204)

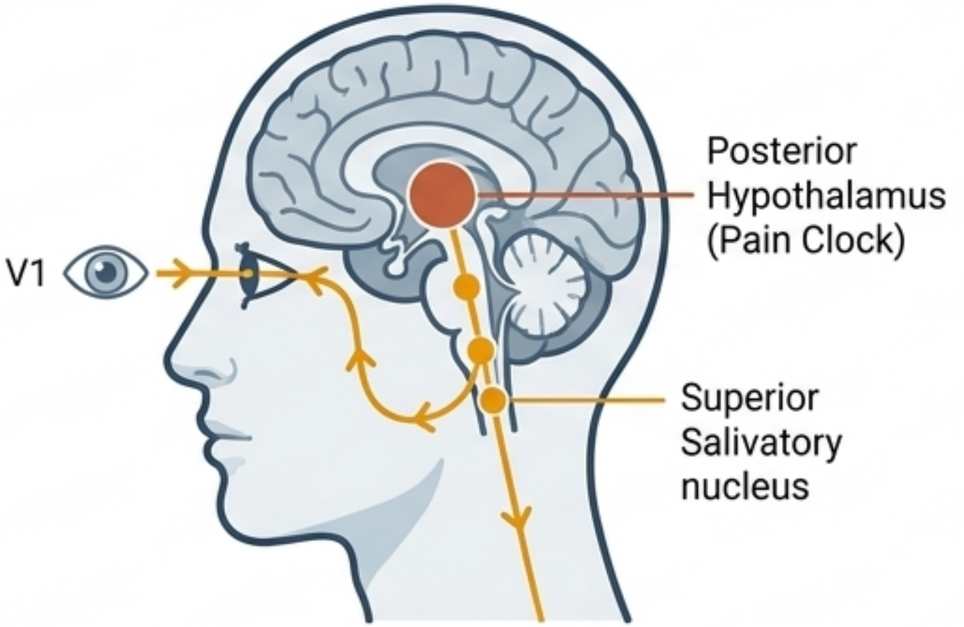
Pathophysiology Dual-Pane Diagram

Tension-Type Headache (TTH)

Mechanism: **Peripheral sensitisation**

Myofascial tenderness drives **central sensitisation** of second-order neurons in the trigeminal nucleus caudalis. No vascular/inflammatory component.

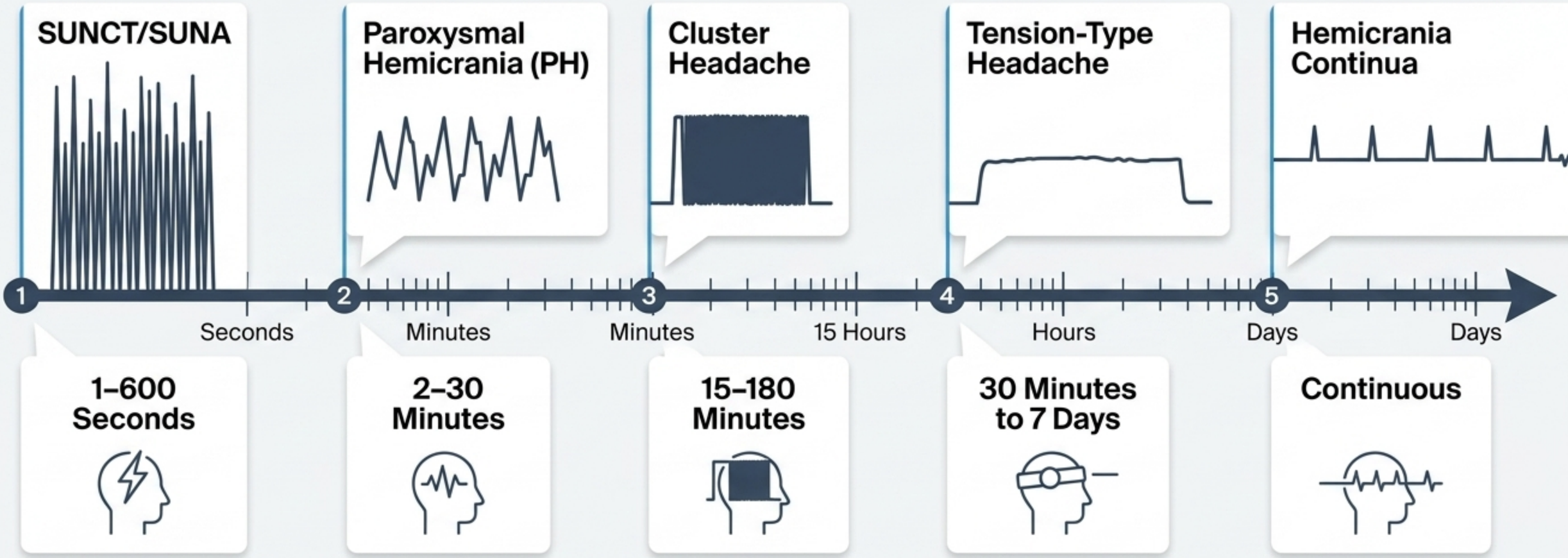
Trigeminal Autonomic Cephalalgias (TACs)



Mechanism: **The Trigeminal-Autonomic Reflex**

The posterior hypothalamus dictates striking **circadian periodicity**, driving the reflex loop that causes severe autonomic symptoms.

The Duration Ruler:
Time is the Ultimate Discriminator



Tension-Type Headache (TTH): Diagnostics, Therapies, and the Sliding Scale of Chronicity

Diagnostic Core Box

Tension-Type Diagnostic Core: Pressing/tightening (non-pulsating), bilateral, mild-to-moderate, no nausea, photo/phonophobia (not both).


Physio


CBT


Exercise


Ergonomics


Sleep Hygiene

Foundational therapies reduce frequency by 30–50%.

Sliding Scale

Left Segment	Middle Segment	Right Segment
Infrequent Episodic	**Frequent Episodic**	**Chronic**
<1 day/month. Low MOH risk. Managed via self-care.	**1–14 days/month.** High quality-of-life impact. Escalating MOH risk. GP managed.	**≥15 days/month for >3 months** Central sensitisation dominates. GP + Neurologist co-management required.

Acute TTH Treatment: Simple Analgesics

Paracetamol

1000 mg PO (max 4g/day)
Renal: extend interval if eGFR <50.
PBS General Benefit.

Ibuprofen

200–400 mg PO (max 2400mg Rx)
Renal: avoid if eGFR <30.
PBS General Benefit.

Aspirin

600–900 mg PO (max 4g/day)
Not recommended <16yrs.
Soluble preferred.

Naproxen

250–500 mg PO (max 1000mg/day)
Renal: avoid if eGFR <30.
PBS General Benefit.

Medication-Overuse Headache (MOH) Alert: Regular use of simple analgesics ≥15 days/month (or triptans ≥10 days/month) risks MOH. Withdrawal is essential.

Breaking the Cycle: Chronic TTH Prophylaxis

[Amitriptyline] + **[CBT & Physiotherapy]** = **[Superior Outcomes]**

Combination is superior to either strategy alone.

First-Line: **Amitriptyline (TCA)**

Dose: Start 10 mg nocte, titrate by 10 mg every 2-4 wks (Target: 25–75 mg).

Cautions: Sedation, anticholinergic effects.
⚠ Avoid in cardiac conduction disease.

Duration: 6–12 months.

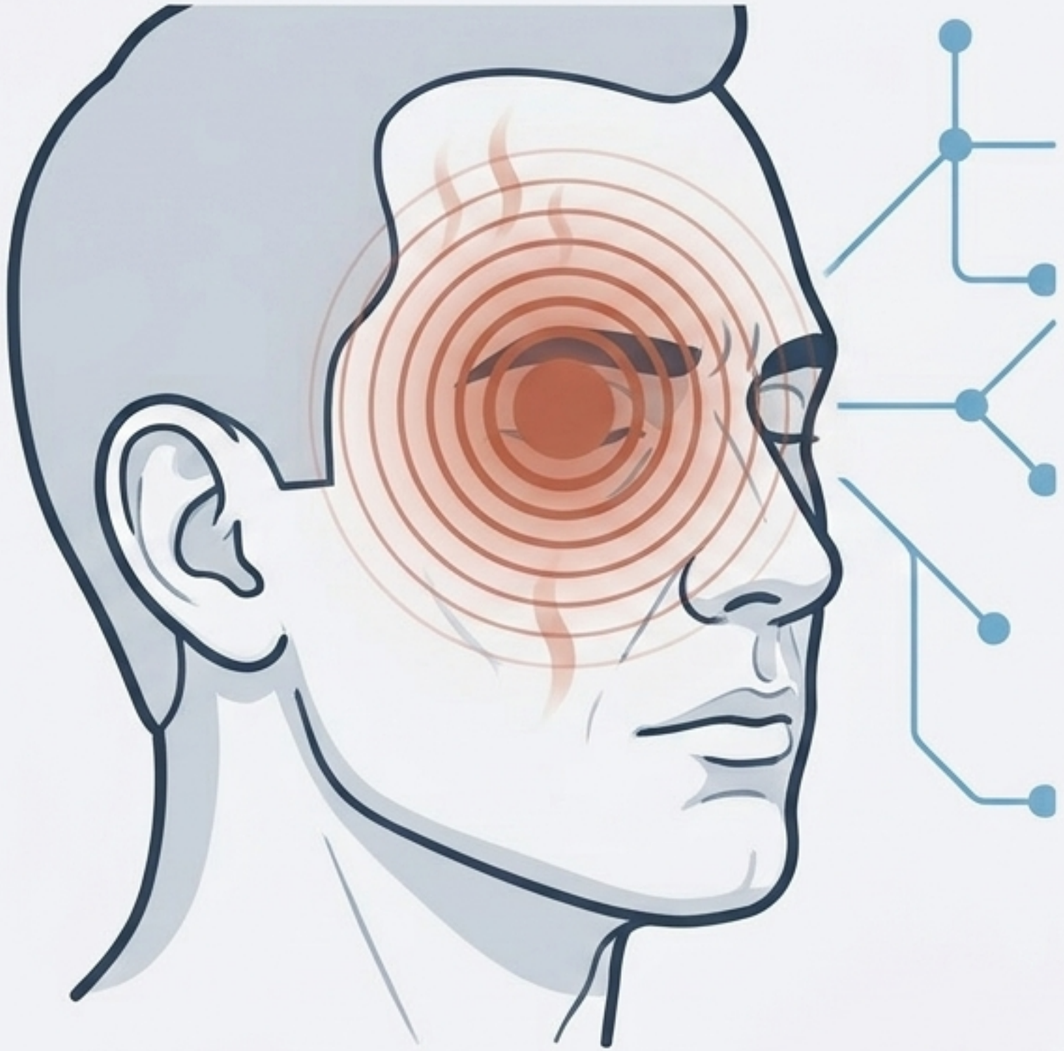
Second-Line: **Venlafaxine (SNRI)**

Dose: Start 37.5 mg mane, titrate to 75–150 mg.

Cautions:
⚠ BP monitoring, avoid MAOIs.

Duration: Minimum 6 months.

The TAC Arena: Cluster Headache Profile



Clinical Profile Checklist

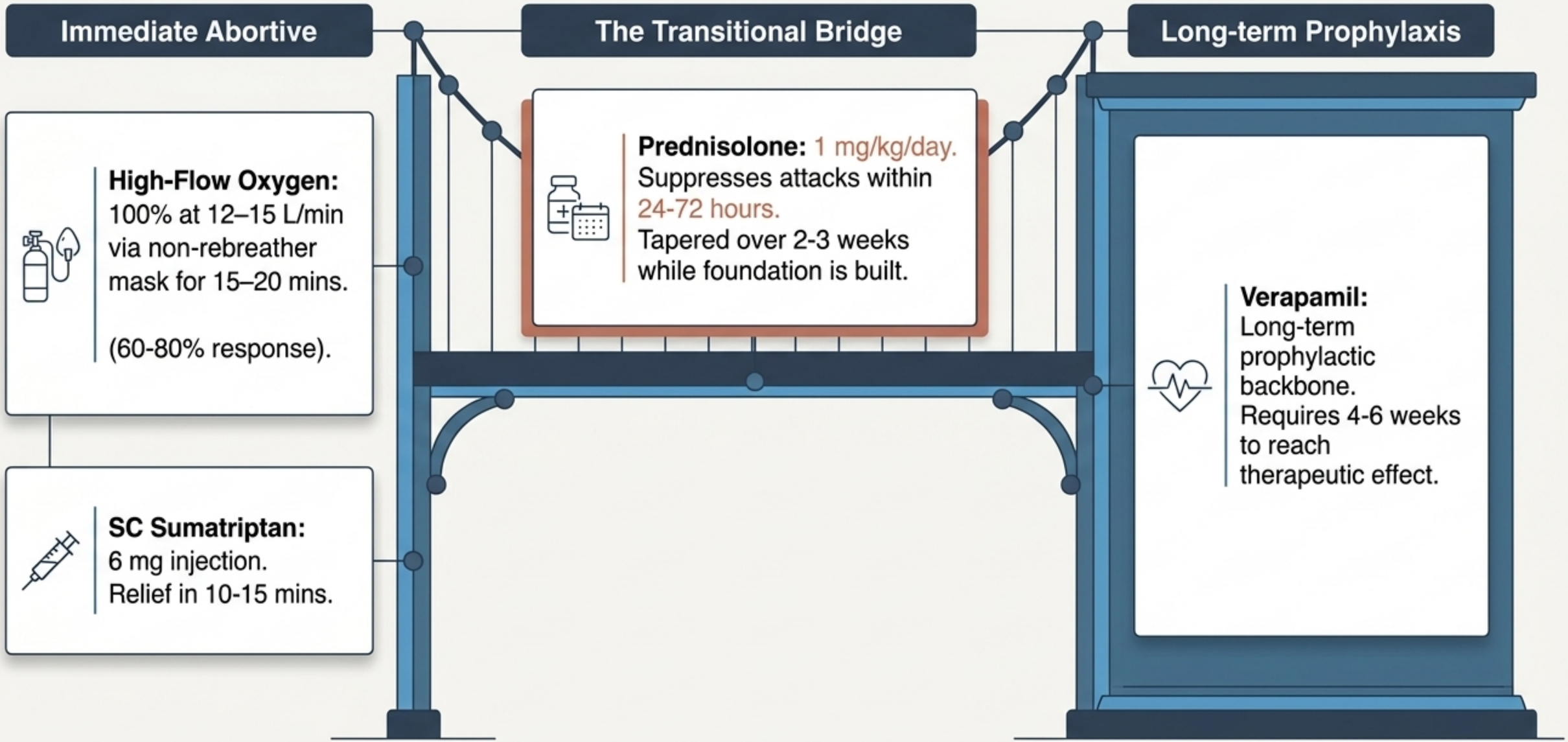
- **Pain:** Excruciating, stabbing, strictly unilateral.
- **Autonomic Features:** Ipsilateral tearing, rhinorrhoea, miosis, ptosis (Horner syndrome).
- **Behavior:** Patients are highly agitated, restless, and unable to lie still (crucial differentiator from migraine).

80%
Episodic
(remissions ≥1 month)

20%
Chronic
(no remission)

Suicidality Risk: Highest rate of suicidal ideation of any primary headache. **Mandatory depression screening** required.

Cluster Headache: The Treatment Bridge



Prophylactic Backbone: Verapamil Protocol

Rx Verapamil

Start 80 mg TDS (240 mg/day).
Titrate up by 80 mg/day every 2 weeks.
Can reach up to 960 mg/day.

1. Baseline:

12-lead ECG.

2. Escalation:

Repeat ECG before every 80 mg increment.

3. Maintenance:

ECG every 6 months.

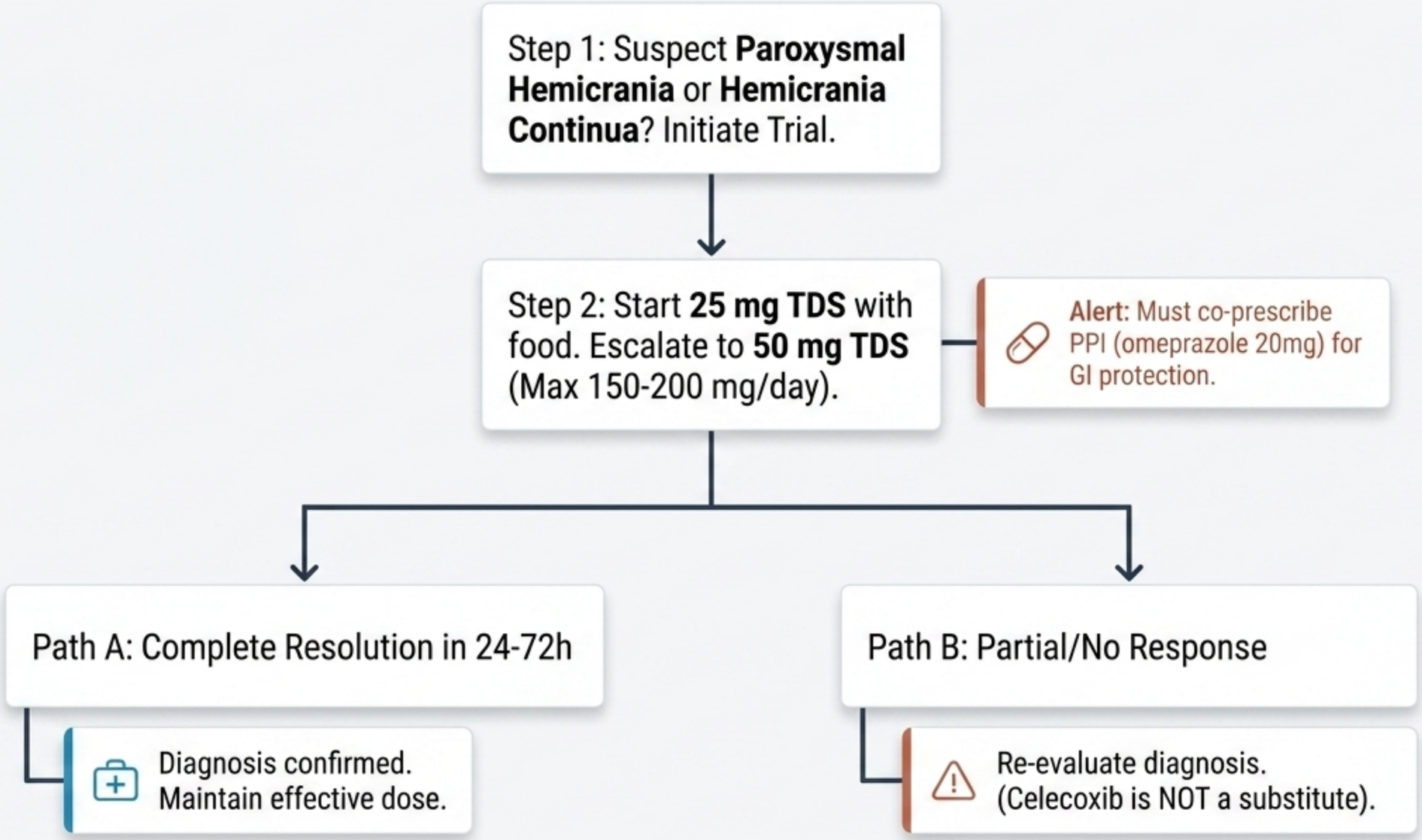
Stop/Hold Criteria

- Heart rate <50 bpm
- Systolic BP <90 mmHg
- PR interval >0.20s
- New heart block

The TAC Differentiation Matrix

Feature	Cluster	Paroxysmal Hemicrania (PH)	SUNCT	Hemicrania Continua (HC)
Duration	15-180m	2-30m	1-600s	Continuous
Frequency	1-8/day	≥5/day	Up to hundreds/day	Continuous
Behavior	Very restless	Restless	No restlessness	Mild restlessness
Gender Profile	M>F 3:1	F>M 2:1	M>F	F>M
Indomethacin Response	None	**Absolute**	None	**Absolute**

The Indomethacin Test Flowchart



The Extreme Extremity: SUNCT & SUNA

Clinical Profile

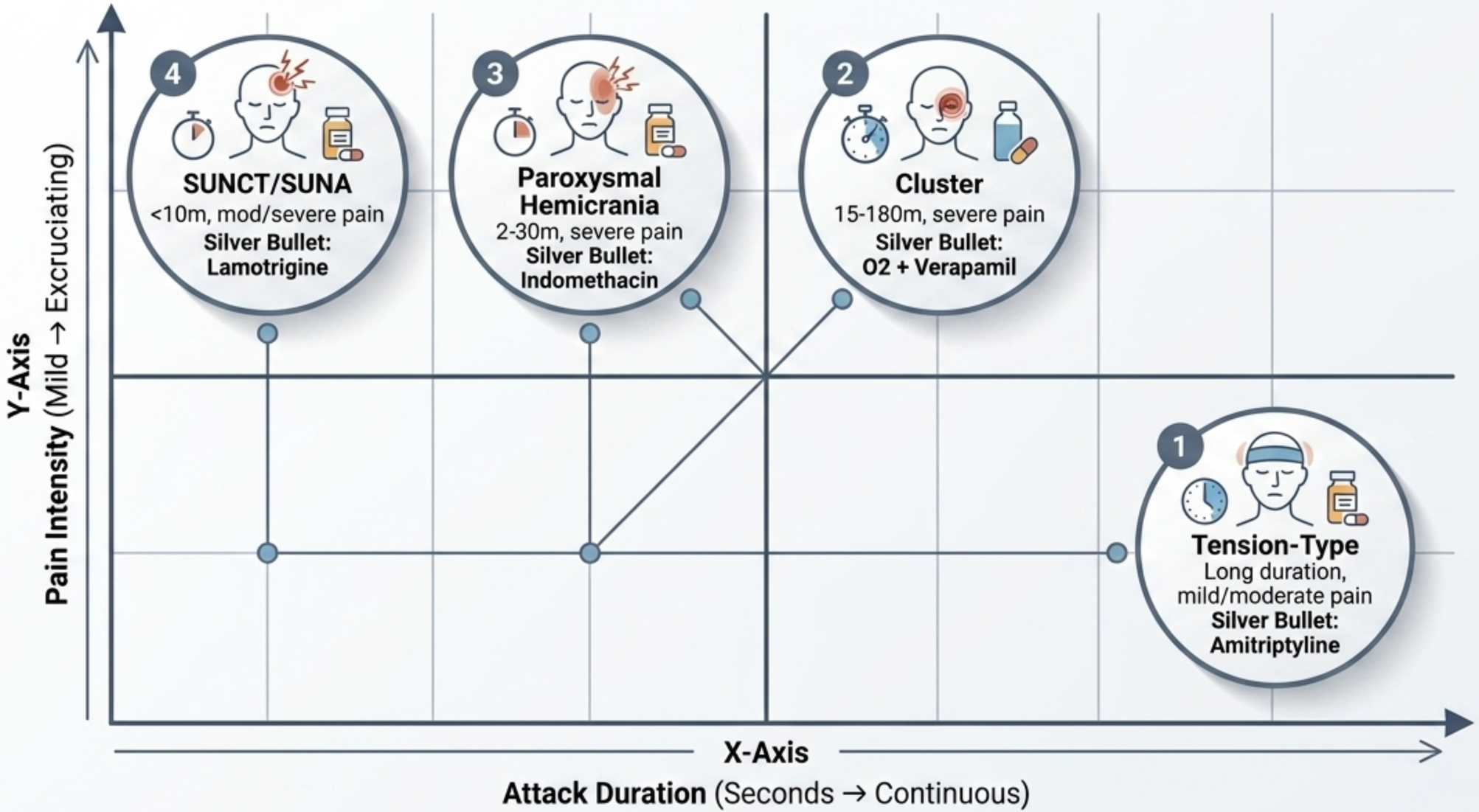
- **SUNCT:** Conjunctival injection AND tearing.
- **SUNA:** Limited autonomic signs.
- Attacks last 1–600 seconds, occurring hundreds of times daily.

Treatment Strategy

- **First-line: Lamotrigine** (titrate 25mg to 100-200mg/day).
- **Acute rescue: IV lidocaine** (specialist setting).

The Golden Rule: Always Refer. SUNCT/SUNA are highly complex, rare, and mandate specialist-initiated therapy.

The Diagnostic Keypad: Unlocking Primary Headaches



Synthesis: In primary headaches, specific timeframes and intensity profiles perfectly dictate the pharmacological key.

Clinical Nuances: Special Populations

Pregnancy

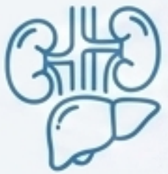
Paracetamol safe. Avoid **Aspirin**/NSAIDs in 3rd trimester. Oxygen safe. **Amitriptyline/Verapamil** are Category C.

Paediatrics

TTH common >7 yrs (**Paracetamol 15mg/kg, Ibuprofen 5-10mg/kg**). Prophylaxis strictly off-label. Cluster extremely rare before puberty.

Elderly (≥65)

Avoid NSAIDs. High anticholinergic risk with Amitriptyline (Beers criteria). High bradycardia risk with Verapamil (start lower).



Renal / Hepatic

NSAIDs contraindicated if eGFR <30. Indomethacin contraindicated in dialysis. Verapamil bioavailability spikes in hepatic impairment.

Aboriginal and Torres Strait Islander Care

The Reality

Higher burden of headache disorders driven by comorbidities and geographic barriers to specialist neurological services.

Strategic Adaptations

Access
Utilize Medicare-funded **telehealth**; coordinate with RFDS outreach clinics and ACCHOs.

Pharmacology
Leverage **'Close the Gap'** PBS co-payments for affordability.

Oxygen Logistics
Actively facilitate state-based **home oxygen programs**; ensure remote clinics have emergency O2.

Holistic Care
Screen for OTC analgesic overuse and comorbid depression; utilize ATAPS for mental health support.

Operational Roadmap: Long-Term Monitoring

Baseline

- Confirm ICHD-3 criteria.
- Score HIT-6/MIDAS.
- Start headache diary.

2–4 Weeks

- Check diary.
- Assess MOH thresholds (Simple **≥15 days**, Triptans **≥10 days**).
- Run Verapamil ECGs.

8–12 Weeks

- Target: **≥50% reduction** in headache days.
- Adjust prophylactic doses.

6–12 Months

- Re-score HIT-6.
- Consider trial off prophylaxis via gradual taper if controlled.

MOH Intervention

Complete withdrawal of the overused agent is required.

Warn patients: headache will worsen for 2-4 weeks before improving.

Bridge with naproxen or prednisolone.

The Master Reference Table

Headache Type	First-Line Acute	First-Line Prophylaxis	Key Clinical Rule
Episodic TTH	**Paracetamol** 1g / **Ibuprofen** 400mg	None	Limit to <15 days/mo.
Chronic TTH	Acute as rescue	**Amitriptyline** 10-75mg	Combine with CBT/Physio.
Cluster	O2 12-15 L/min + SC **Sumatriptan**	**Verapamil**	Mandatory ECGs. Prednisolone bridge.
Paroxysmal Hemicrania	**Indomethacin** 25-50mg TDS	**Indomethacin**	Absolute response = diagnostic.
SUNCT / SUNA	**IV Lidocaine**	**Lamotrigine**	Always refer to specialist.