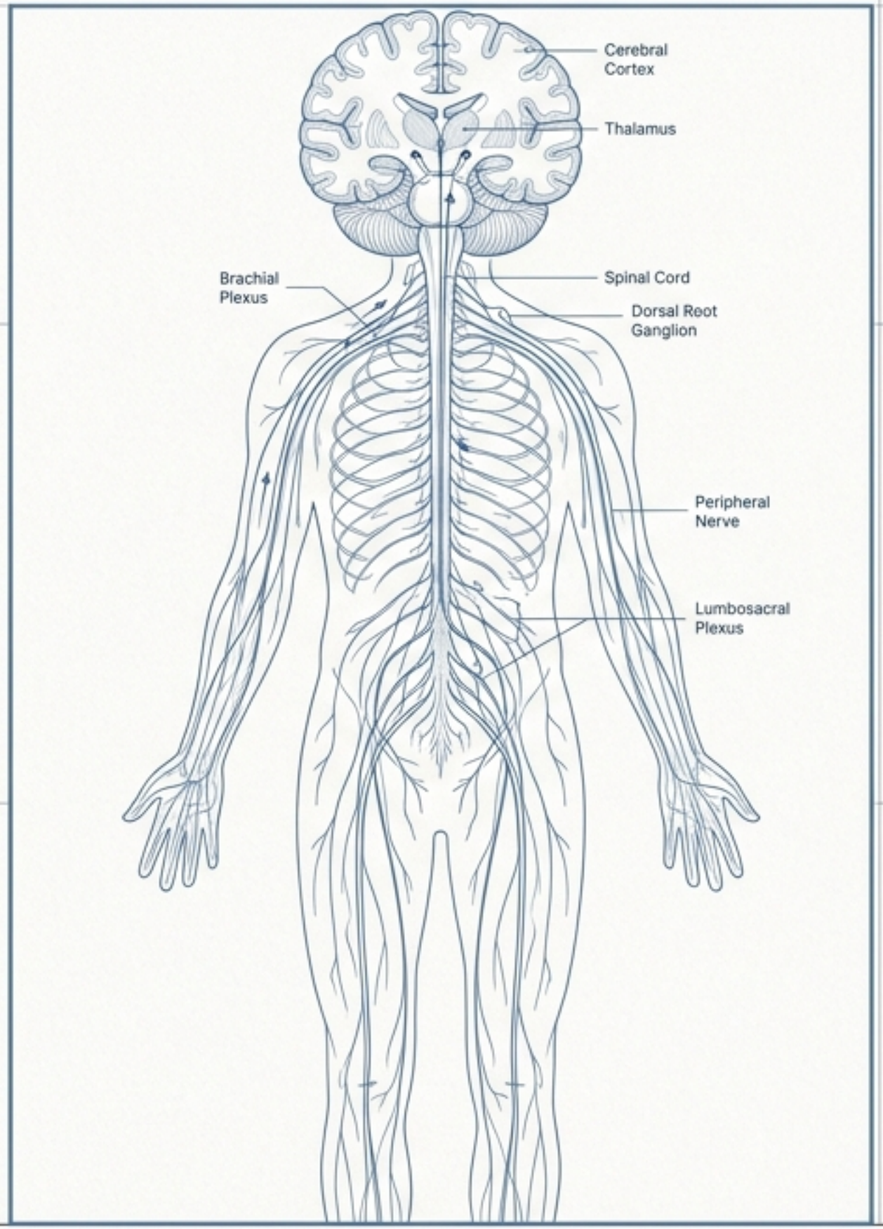
Neuropathic Pain Syndromes

Pain Syndınoms

The Clinical Playbook & Visual Reference Guide

Synthesised from Australian Guidelines
(Med2Date, eTG, RACGP, NPS MedicineWise)



The Australian Landscape

Prevalence

5–8%

of the Australian population

Patient Volume

~1.5 Million

Australians living with chronic neuropathic pain

Economic Impact

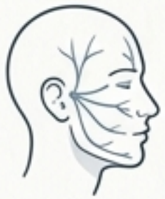
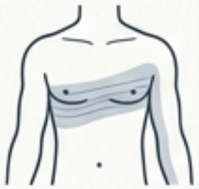
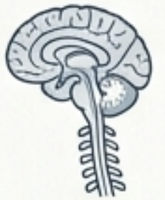
>$2.5 Billion

AUD annually in direct and indirect costs

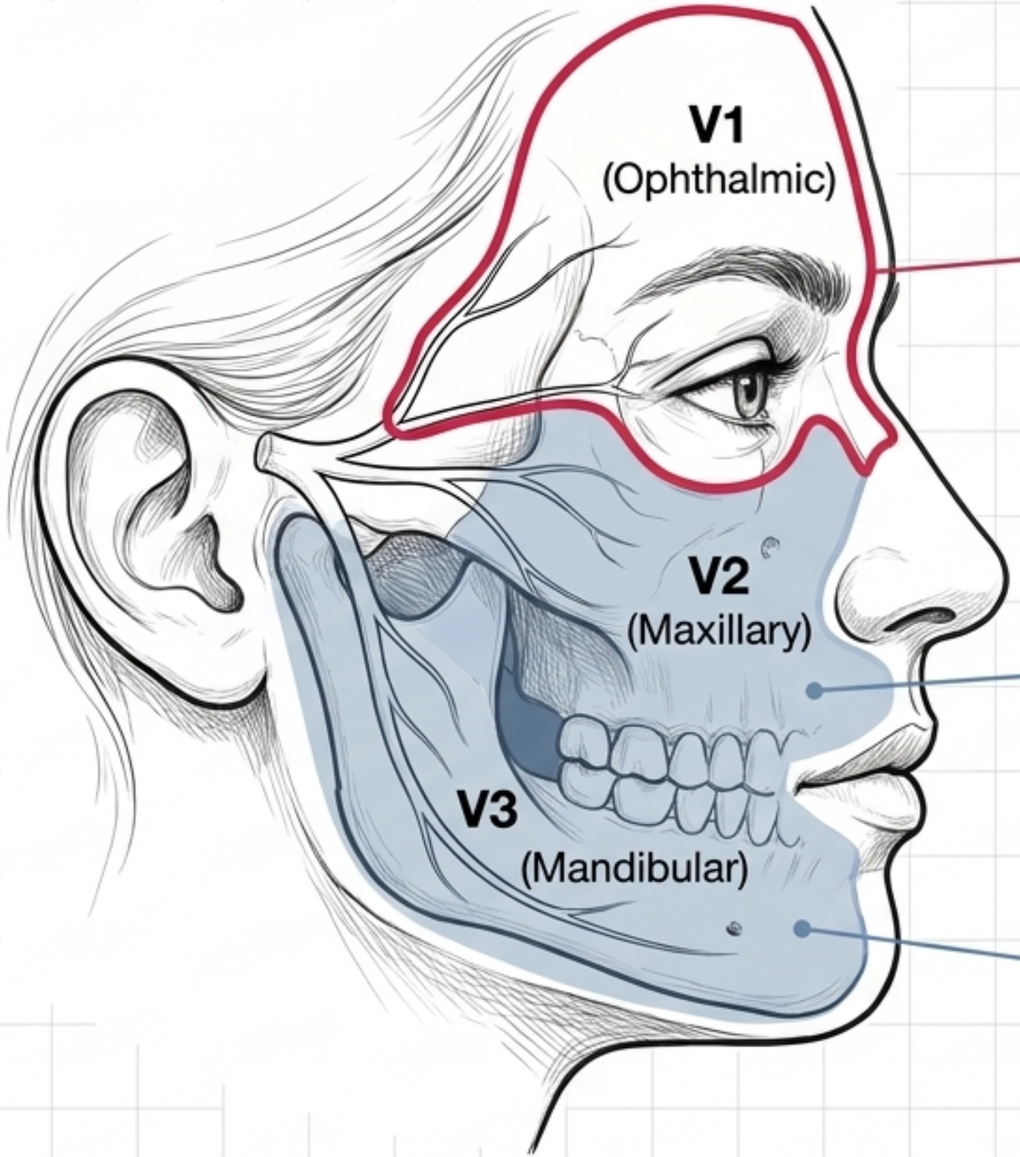
Key Insight: While diabetes-related peripheral neuropathy is the most common overall cause, Trigeminal Neuralgia (TN) and Postherpetic Neuralgia (PHN) are the most frequent discrete syndromes presenting to General Practice.

Core Definition	Pain caused by a lesion or disease of the somatosensory nervous system.

Diagnostic Matrix: The Core Syndromes

 Trigeminal Neuralgia (TN)	 Postherpetic Neuralgia (PHN)	 Central Neuropathic Pain (CNP)
Onset & Quality Sudden, brief (seconds to 2 mins), electric-shock or lancinating.	**Onset & Quality** Persisting **≥90 days post-herpes zoster rash.** Burning, aching, severe allodynia.	**Onset & Quality** **Delayed onset post-stroke** or insidious in MS. Constant burning, freezing, or squeezing.
Anatomical Distribution **Unilateral facial** (V2/V3 most common). Triggered by innocuous stimuli.	Anatomical Distribution **Unilateral, dermatomal** (often thoracic or ophthalmic).	Anatomical Distribution **Contralateral body** (stroke) or variable/spasmodic (MS).
First-Line Target **Sodium channel blockers** (Carbamazepine).	**First-Line Target** **Alpha-2-delta ligands** (Gabapentinoids) / TCAs / Topicals.	**First-Line Target** **Pregabalin / Duloxetine / Amitriptyline.**

Trigeminal Neuralgia: Clinical Presentation



Diagnostic Criteria Snapshot

- **Paroxysmal attacks** (fraction of a second to 2 minutes).
- **Severe, sharp, stabbing** intensity.
- **Precipitated** by light touch, chewing, wind.
- **No radiation** beyond trigeminal distribution.

Classical TN

Neurovascular compression (usually superior cerebellar artery).

Secondary TN

Identifiable underlying disease (MS, tumour) accounts for ~15% of cases.

Trigeminal Neuralgia: Clinical Red Flags

Alert Indicators

- Age of onset <40 years
- Bilateral trigeminal symptoms
- Sensory deficits on examination (decreased pinprick/light touch)
- Persistent aching/burning background pain between paroxysms
- Involvement of V1 (Ophthalmic division)
- Associated neurological signs (hearing loss, ataxia, diplopia)
- Failure to respond to carbamazepine trial

Urgent MRI Brain Required

Trigeminal Protocol (MBS 63074/63075) to exclude secondary aetiologies.

Trigeminal Neuralgia: Treatment Pathway

First-Line Therapy

Carbamazepine (Level A)
Start 100mg BD, max 1200mg/day.

Alternative: Oxcarbazepine (max 2400mg/day, better tolerability).

WARNING: Check HLA-B*1502 in Southeast Asian/Indian patients (SJS risk). Monitor FBC and Sodium.

Second-Line Options

Baclofen
Max 80mg/day.

Lamotrigine
Slow titration mandatory.

Refractory / Interventional

Microvascular Decompression (MVD)
70–80% pain-free at 5 years. Available at major tertiary centres.

Alternatives: Percutaneous procedures, Gamma Knife.

Postherpetic Neuralgia: Risk & Prevention

Risk Dashboard

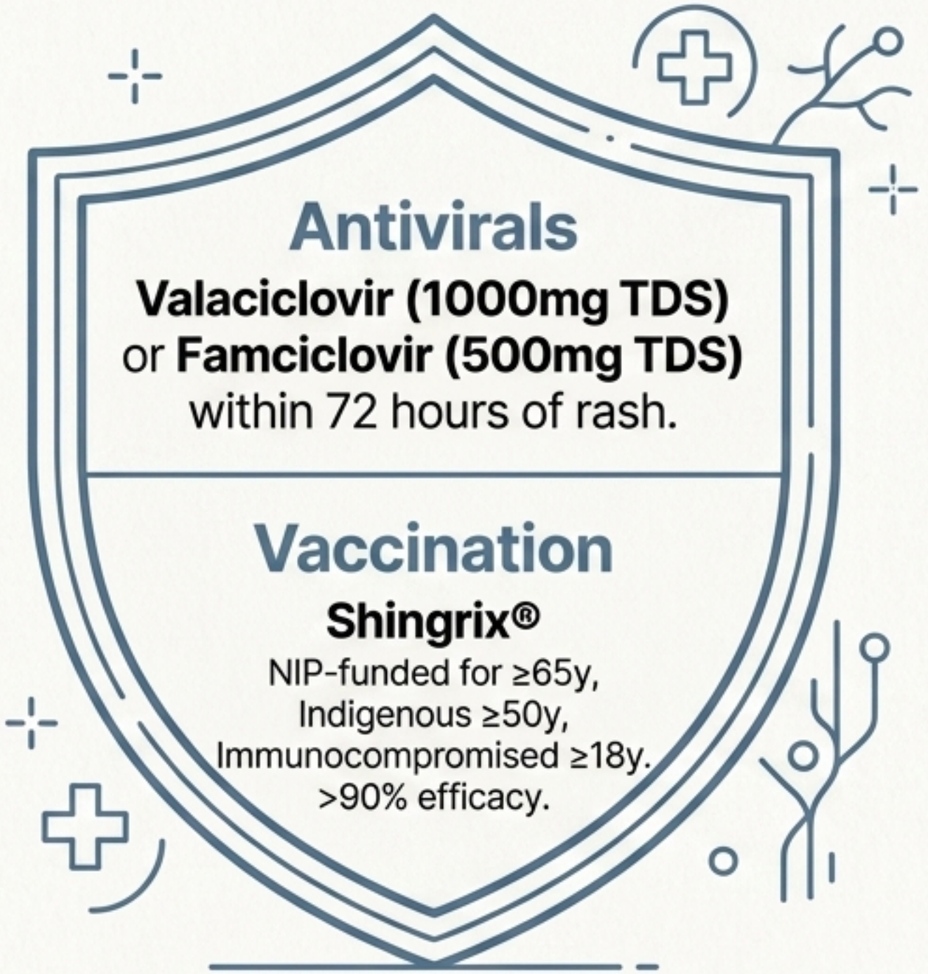
Age: Risk **doubles each decade after 50.**

Acute Pain: **VAS ≥7/10 yields OR 3.2.**

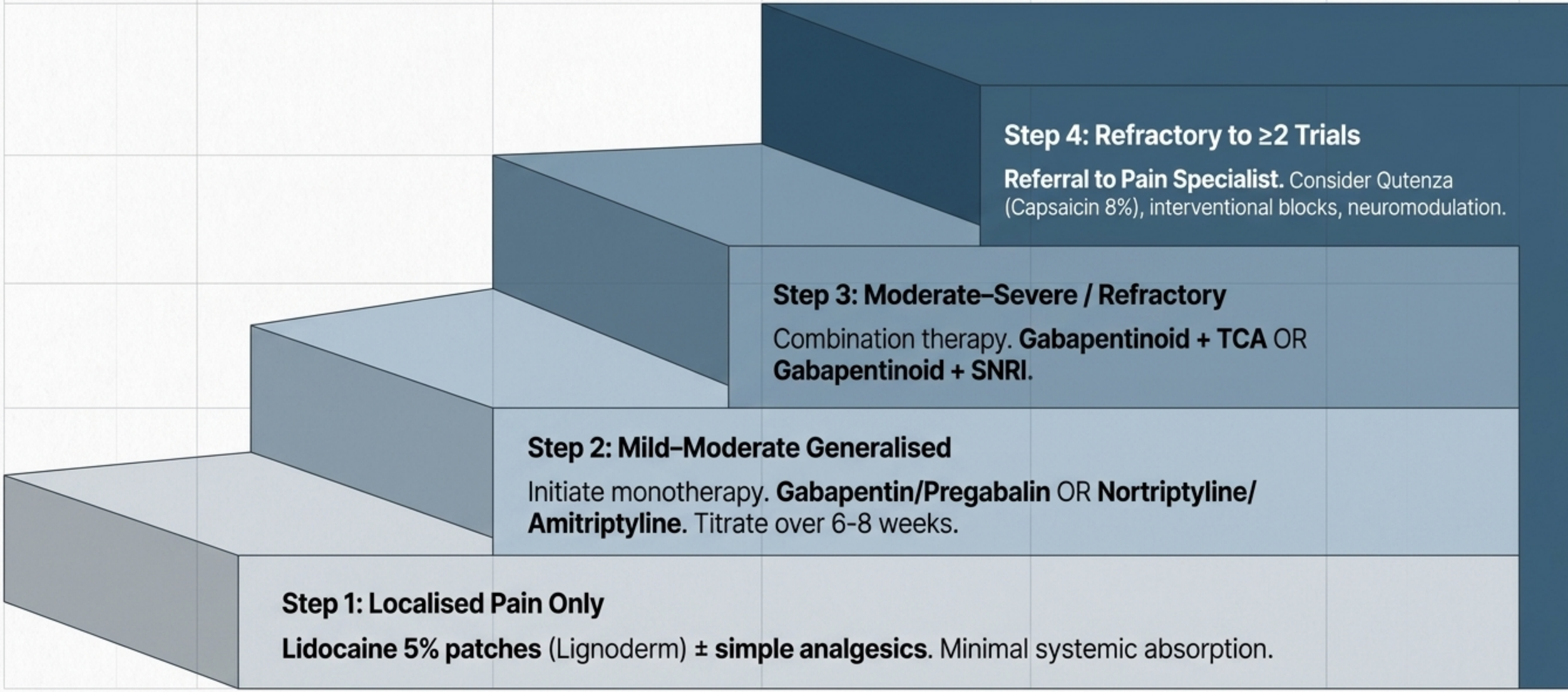
Rash Severity: Haemorrhagic/vesicular **yields OR 2.8.**

Comorbidities: **Diabetes** yields **OR 1.5–2.0.**

Prevention Strategy



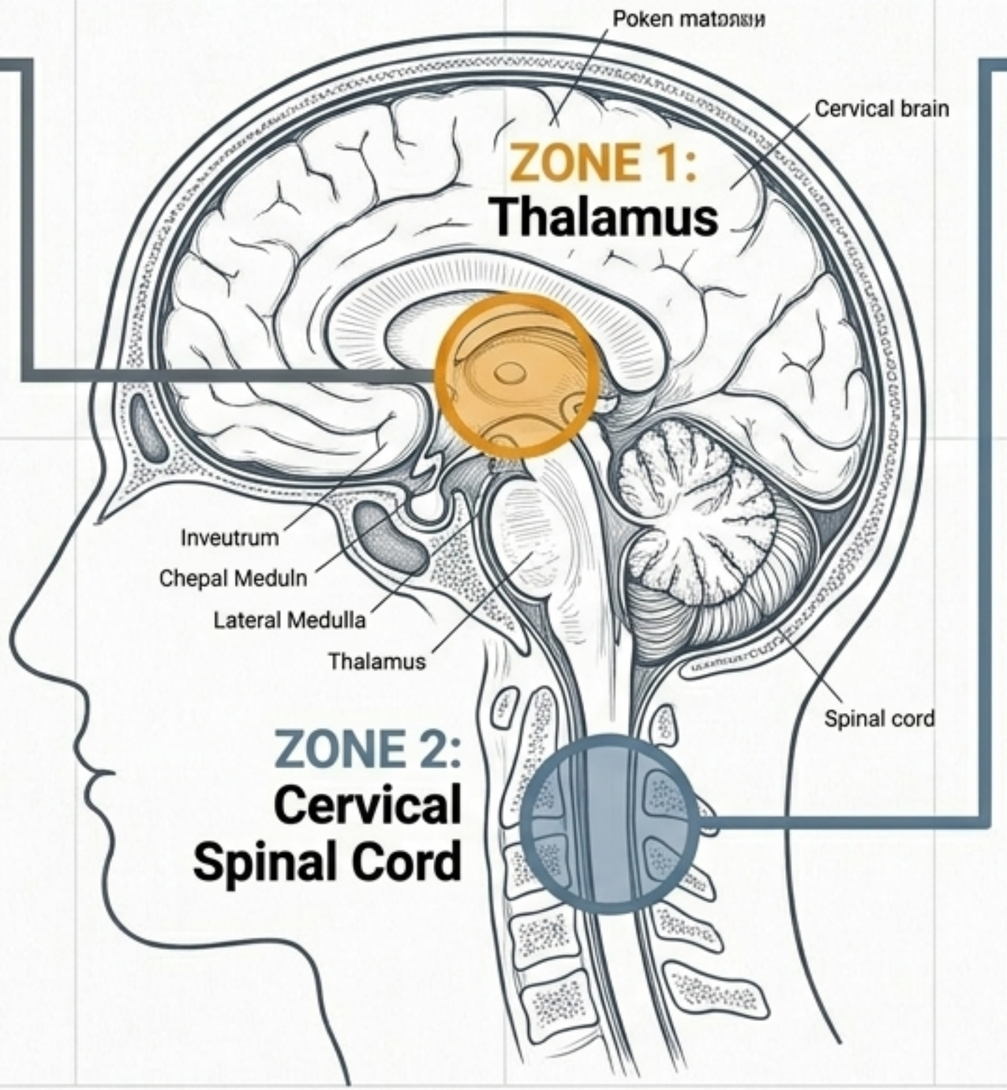
Postherpetic Neuralgia: Stepped Care Approach



Central Neuropathic Pain: Aetiologies

Central Post-Stroke Pain (CPSP)

- Location: Thalamus / Lateral Medulla.
- Develops weeks/months post-stroke.
- Constant burning/aching contralateral to lesion.
- Diagnosis of exclusion.

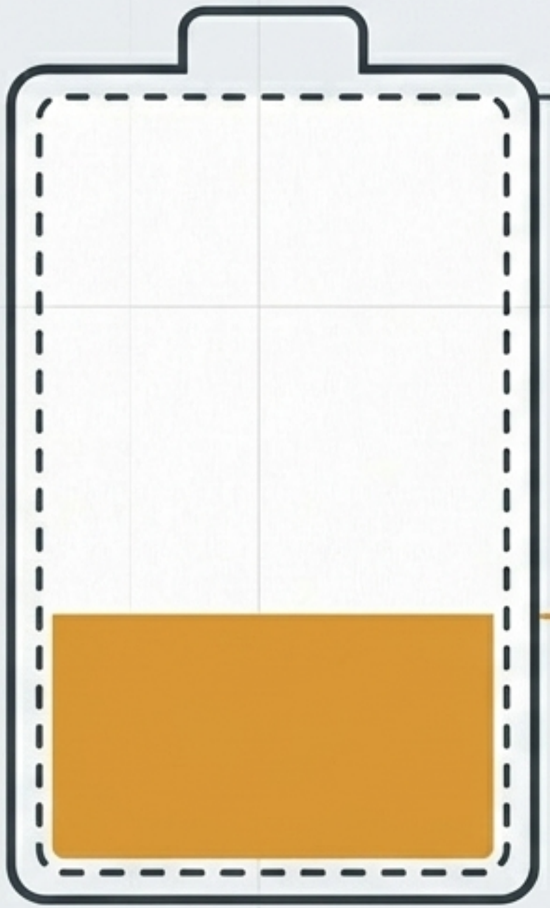


MS-Related Central Pain

- Location: Cervical cord / periventricular white matter.
- Affects 25-50% of MS patients.
- Band-like squeezing, Lhermitte's phenomenon, tonic spasms.
- TN in a young person = suspect MS.

Central Neuropathic Pain: Managing Expectations

Battery Charge



Patient Desire:
100% Pain-Free

Clinical Success Threshold:
≥30% Reduction

The Clinical Reality

- Evidence for CNP is weaker; NNT is 5.6 to 8.
- Only 30–40% of patients achieve ≥50% pain reduction.

Redefining Treatment Goals

Shift focus from complete pain elimination to:

- Improved sleep architecture
- Restored physical function and rehabilitation participation
- Reduced psychological distress

Pharmacology Highlights

Pregabalin (First-line, Level B for MS), Duloxetine (Level C), Amitriptyline (Level C), Lamotrigine (Level C for CPSP).

The Pharmacology Matrix

	Initial Dose	Target Dose	Key Cautions	Organ Adjustments
Gabapentinoids (Gabapentin / Pregabalin)	Gaba: 300mg day 1. Prega: 75mg BD.	Gaba: 1800-3600mg. Prega: max 600mg.	Sedation, weight gain, dizziness.	Strict renal dose reduction. Dialysable.
TCAs (Nortriptyline / Amitriptyline)	10–25mg nocte.	25–150mg nocte.	Anticholinergic. Avoid QTc >470ms.	No specific renal. Avoid in elderly.
Na+ Blockers (Carbamazepine / Oxcarbazepine)	Carb: 100mg BD. Oxcarb: 150mg BD.	Carb: max 1200mg. Oxcarb: max 2400mg.	Hyponatraemia, SJS (HLA-B*1502).	Avoid in severe hepatic impairment.
Topicals (Lidocaine 5% Patch)	Up to 3 patches for 12hrs.	As above.	Application site reactions.	None (minimal systemic absorption).

Suspected Neuropathic Pain

Suspected TN	Suspected CNP / Young TN	Distal Symmetrical Presentation	Diagnostic Uncertainty
Action: MRI Brain (Trigeminal Protocol)	**Action:** MRI Spine/ Brain with Gadolinium	**Action:** HbA1c, B12, TSH, Serum Protein Electrophoresis	**Action:** Nerve Conduction Studies / EMG
Goal: Exclude neurovascular compression or MS.	**Goal:** Assess for demyelinating plaques/stroke.	**Goal:** Screen for peripheral neuropathies.	**Goal:** Differentiate peripheral vs central.

Structured Monitoring Timeline

Baseline

- Check ECG (>40y or TCAs)
- FBC/Na+ (for Carbamazepine/Oxcarbazepine)
- Baseline NRS (0-10), PSQI (Sleep)

Weeks 2-4

- Repeat FBC/Na+
- Assess adverse effects (sedation, oedema, anticholinergic burden)

Weeks 8-12

- Minimum trial duration reached
- Assess Patient Global Impression of Change (PGIC)
- Target: ‘Much improved’

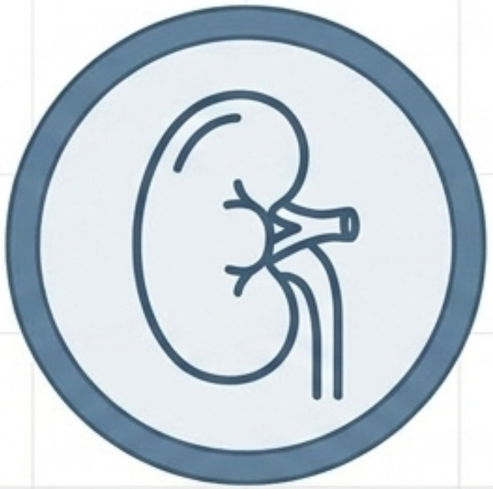
Clinical Rule of Thumb

Adequate medication trials require a 2-3 month commitment per agent before concluding lack of efficacy.

Special Populations: Age & Organ Impairment

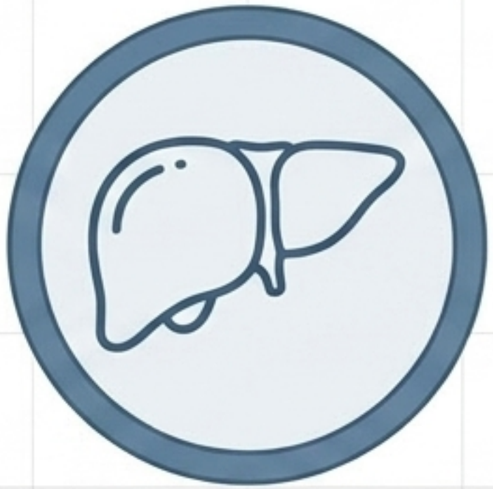
Older Adults (>65 years)

- Nortriptyline preferred over Amitriptyline (lower anticholinergic burden).
- Gabapentinoids: Start low, go slow. High fall/dizziness risk.
- Topical Lidocaine is first-line for localized pain (no systemic effects).



Renal Impairment

- Gabapentin/Pregabalin require mandatory dose reduction (eGFR <60). Both are dialysable (supplement post-HD).
- Carb/Oxcarb: Monitor sodium closely (CKD compounds hyponatraemia risk).



Hepatic Impairment

- Gabapentin/Pregabalin are NOT hepatically metabolised (safe to use).
- Avoid Carbamazepine, Oxcarbazepine, and Duloxetine in severe impairment.

Special Populations: Lifecycle & Immunity

Pregnancy

- **Carbamazepine** is Category D (neural tube/cleft risk).
- **Gabapentinoids** Category B3 (avoid).
- **Lidocaine 5%** Category A (safe for localised pain).

Paediatrics

- **Gabapentin** TGA-approved from 6 years (max 50mg/kg/day).
- **Amitriptyline** off-label use requires baseline ECG monitoring.

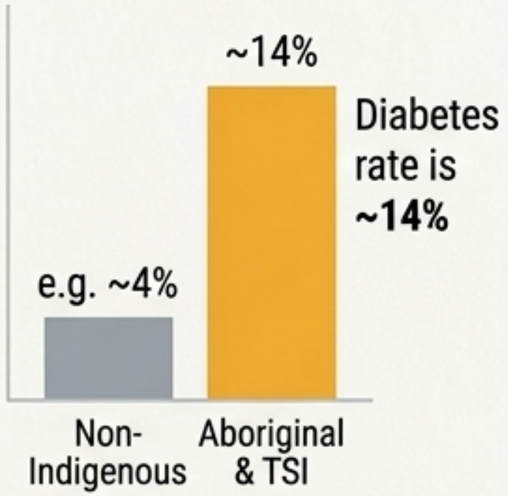
Immunocompromised

- Highly elevated **Herpes Zoster** risk.
- **Shingrix®** is NIP-funded for adults ≥18y.
- Beware potent CYP3A4 induction by Carbamazepine (interacts with tacrolimus/immunosuppressants).

The Clinical Context

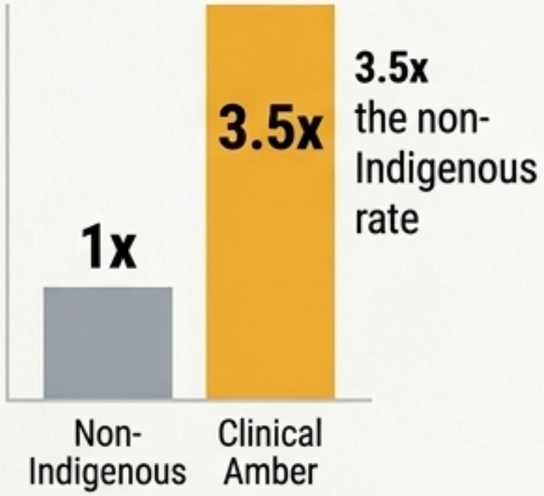
Disproportionate burden driven by Type 2 Diabetes prevalence.

Diabetes Rate



Diabetes Rate

Rate Multiplier



Rate Multiplier

- Neuropathy frequently presents at much younger ages.

Access & Care Models

Logistical Support

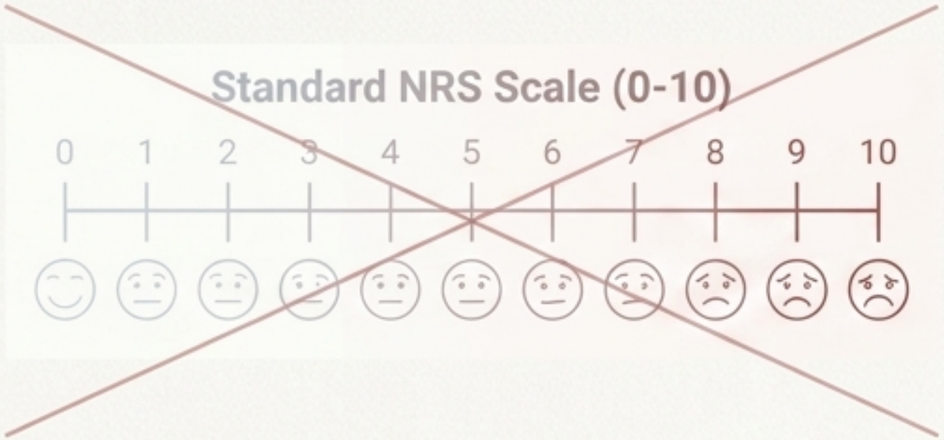
- **Closing the Gap** PBS Co-**Payment Measure** reduces financial barriers.
- **Section 100** supply arrangements established for remote areas.

Prevention

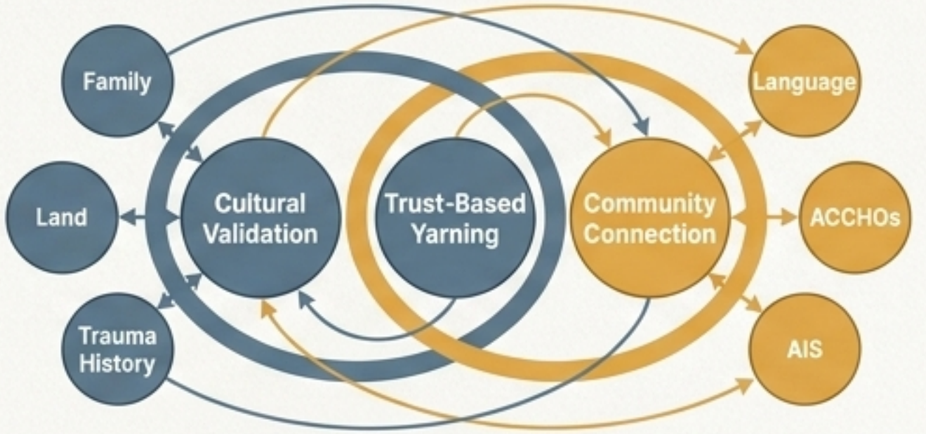
- **Shingrix®** NIP-funded for Indigenous adults ≥50 years.
- **Proactive recall** via ACCHOs highly recommended.

Culturally Safe Assessment

Standard NRS scales (0-10) may fail to capture the holistic impact of pain in Indigenous communities.



Linear & Limited



Holistic & Interconnected

Holistic Assessment Integration

- Adopt culturally validated tools (e.g., Aboriginal and Torres Strait Islander Pain Assessment Tool).
- Utilize yarning-based history-taking to build trust and understanding.
- Engage Aboriginal Interpreter Services (AIS) where language barriers exist.
- Care must be integrated with ACCHOs to address social determinants (housing, trauma, transport).

Multidisciplinary Escalation Network

Escalation Triggers

Failure of 2 adequate trials | Diagnostic uncertainty | Opioid dependence