AAN Summary of Evidence-based Guideline for **CLINICIANS**

TRIGEMINAL NEURALGIA

This is a summary of the American Academy of Neurology (AAN) guideline regarding recommended use and best practices for diagnosis and treatment of patients with trigeminal neuralgia (TN).

Please refer to the full guideline for detailed findings and supporting evidence for diagnosis and treatment of trigeminal neuralgia at www.aan.com.

DIAGNOSISTIC	
1. How often does routine neuroimaging (CT, MRI) identify a structural cause (excluding vascular contact with compression of the fifth cranial nerve)?	
Weak evidence	Weak evidence indicates that for patients with TN, routine imaging may be considered to identify a cause in up to 15 percent of patients. (STN) **(Level C†)**.
Clinical context	The initial diagnostic evaluation of a patient with TN naturally focuses on those clinical characteristics known to identify patients with symptomatic trigeminal neuralgia (STN). Those characteristics include the presence of trigeminal sensory deficits and bilateral involvement.
2. Which clinical or laboratory features accurately identify patients with STN?	
Good evidence	Good evidence indicates that measuring trigeminal reflexes in a qualified electrophysiological laboratory should be considered useful for distinguishing STN from classic trigeminal neuralgia (CTN) **(Level B)**.
Clinical context	If after the initial evaluation the clinician remains suspicious of STN, further testing is desirable. Based upon cost, local expertise and availability, and patient preferences, obtaining trigeminal reflex testing or head imaging are both reasonable next steps.
3. Does high-resolution MRI accurately identify patients with neurovascular compression?	
Insufficient evidence	There is insufficient evidence to support or refute the usefulness of MRI to identify vascular contact in CTN or to indicate the most reliable MRI technique **(Level U)**.
Clinical context	Because of a high diagnostic accuracy, MRI might reasonably be foregone in a patient with normal trigeminal reflexes.

PHARMACOLOGICAL TREATMENT	
1. Which drugs effectively treat CTN pain?	
Strong evidence	Strong evidence supports that carbamazepine should be offered to treat CTN pain **(Level A)**.
Good evidence	Good evidence supports that oxcarbazepine should be considered to treat CTN pain **(Level B)**.
Clinical context	The two drugs to consider as first-line therapy in TN are CBZ (200-1200 mg/day) and OXC (600-1800 mg/day). Although the evidence for CBZ is stronger than for OXC, the latter may pose fewer safety concerns.
Weak evidence	Weak evidence supports that baclofen, lamotrigine, and pimozide may be considered to treat CTN pain **(Level C)**.
Good evidence	Good evidence supports that topical ophthalmic anesthesia should not be considered to treat CTN pain **(Level B)**.
Clinical context	There is little evidence to guide the clinician on the treatment of TN patients who fail first-line therapy. Some evidence supports add-on therapy with lamotrigine or a switch to baclofen (pimozide being no longer in use).
2. Which drugs effectively treat STN pain?	
Insufficient evidence	There is insufficient evidence to support or refute the effectiveness of any medication in treating pain in STN **(Level U)**.

Clinical context	The effect of other drugs commonly used in neuropathic pain is unknown. There are no published studies directly comparing polytherapy with monotherapy.
3. Is there evidence of efficacy of intravenous administration of drugs in acute exacerbations of TN?	
Insufficient evidence	There is insufficient evidence to support or refute the efficacy of intravenous medications for the treatment of pain from TN **(Level U)**.

SURGICAL TREATMENT	
1. When should surgery be considered?	
Insufficient evidence	There is insufficient evidence to allow conclusions as to when surgery should be offered **(Level U)**.
Clinical context	Referral for a surgical consultation seems reasonable in TN patients refractory to medical therapy. Some TN experts believe TN patients failing to respond to first-line therapy are unlikely to respond to alternative medications and suggest early surgical referral.
2. Which surgical technique gives the longest pain-free period with the fewest complications and good quality of life?	
Weak evidence	There is weak evidence to support that early surgical therapy may be considered for patients with TN refractory medical therapy **(Level C)**.
Weak evidence	For patients with TN refractory to medical therapy, Gasserian ganglion percutaneous techniques, gamma knife, and microvascular decompression may be considered **(Level C)**.
3. Which surgical techniques should be used in patients with multiple sclerosis?	
Insufficient evidence	There is insufficient evidence to support or refute the effectiveness of the surgical management of TN in patients with MS **(Level U)**.

This guideline summary is evidence-based. The AAN uses the following definitions for the level of recommendations and classification of evidence for therapeutic intervention, prognosis, and screening.

†Classification of Recommendations: A = Established as effective, ineffective, or harmful (or established as useful/predictive or not useful/predictive) for the given condition in the specified population. (Level A rating requires at least two consistent Class I studies.*) **B** = Probably effective, ineffective, or harmful (or probably useful/predictive or not useful/predictive) for the given condition in the specified population. (Level B rating requires at least one Class I study or two consistent Class II studies.) **C** = Possibly effective, ineffective, or harmful (or possibly useful/predictive or not useful/predictive) for the given condition in the specified population. (Level C rating requires at least one Class II study or two consistent Class III studies.) **U** = Data inadequate or conflicting; given current knowledge, treatment (test, predictor) is unproven. (Studies not meeting criteria for Class I–III).

*In exceptional cases, one convincing Class I study may suffice for an "A" recommendation if (1) all criteria are met and/or (2) the magnitude of effect is large (relative rate improved outcome > 5 and the lower limit of the confidence interval is > 2).

AAN Classification of Evidence for Therapeutic Intervention: Class I: Randomized, controlled clinical trial with masked or objective outcome assessment, in a representative population. Relevant baseline characteristics are presented and substantially equivalent among treatment groups or there is appropriate statistical adjustment for differences. The following are required: (a) concealed allocation; (b) primary outcome(s) clearly defined; (c) exclusion/inclusion criteria clearly defined; and (d) adequate accounting for drop-outs (with at least 80% of enrolled subjects completing the study) and cross-overs with numbers sufficiently low to have minimal potential for bias. **Class II:** Prospective matched group cohort study in a representative population with masked outcome assessment that meets b-d above OR a RCT in a representative population that lacks one criteria a-d. **Class III:** All other controlled trials (including well-defined natural history controls or patients serving as own controls) in a representative population, where outcome is independently assessed, or independently derived by objective outcome measurement.** **Class IV:** Studies not meeting Class I, II, or III criteria, including consensus, expert opinion, or a case report.

** Objective outcome measurement: An outcome measure that is unlikely to be affected by an observer's (patient, treating physician, investigator) expectation or bias (e.g., blood tests, administrative outcome data).

AAN Classification for Rating of a Diagnostic Article: Class I: A cohort study with prospective data collection of a broad spectrum of persons with the suspected condition, using an acceptable reference standard for case definition. The diagnostic test is objective or performed and interpreted without knowledge of the patient's clinical status. Study results allow calculation of measures of diagnostic accuracy. **Class II:** A case control study of a broad spectrum of persons with the condition established by an acceptable reference standard compared to a broad spectrum of controls or a cohort study where a broad spectrum of persons with the suspected condition where the data was collected retrospectively. The diagnostic test is objective or performed and interpreted without knowledge of disease status. Study results allow calculation of measures of diagnostic accuracy. **Class III:** A case control study or cohort study where either persons with the condition or controls are of a narrow spectrum. The condition is established by an acceptable reference standard. The reference standard and diagnostic test are objective or performed and interpreted by different observers. Study results allow calculation of measures of diagnostic accuracy. **Class IV:** Studies not meeting Class I, II or III criteria, including consensus, expert opinion, or a case report.

AAN Classification for Rating of a Screening Article: Class I: A statistical, population-based sample of patients studied at a uniform point in time (usually early) during the course of the condition. All patients undergo the intervention of interest. The outcome, if not objective, is determined in an evaluation that is masked to the patients' clinical presentations. **Class II:** A statistical, non-referral-clinic-based sample of patients studied at a uniform point in time (usually early) during the course of the condition. Most patients undergo the intervention of interest. The outcome, if not objective, is determined in an evaluation that is masked to the patients' clinical presentations. **Class III:** A sample of patients studied during the course of the condition. Some patients undergo the intervention of interest. The outcome, if not objective, is determined in an evaluation by someone other than the treating physician. **Class IV:** Studies not meeting Class I, II or III criteria, including consensus, expert opinion, or a case report.

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