TREATING TINNITUS BY TREATING HEAD AND NECK MYOFASCIAL DYSFUNCTION

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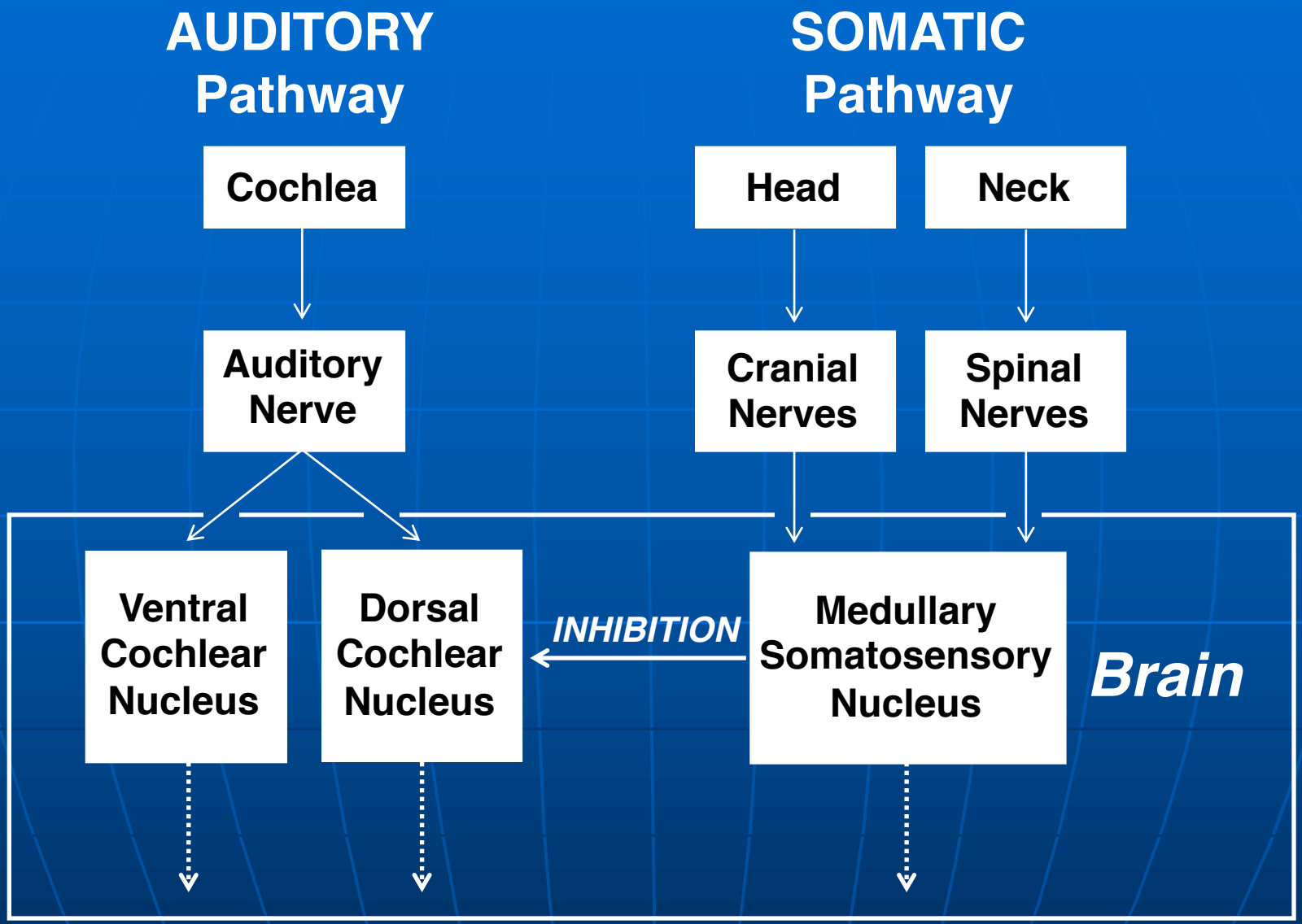
For more than 80 years it has been appreciated that jaw muscle myofascial dysfunction can cause tinnitus

[Costen Syndrome TMJ, TMD, : “Disturbed function of the temporomandibular joint”]

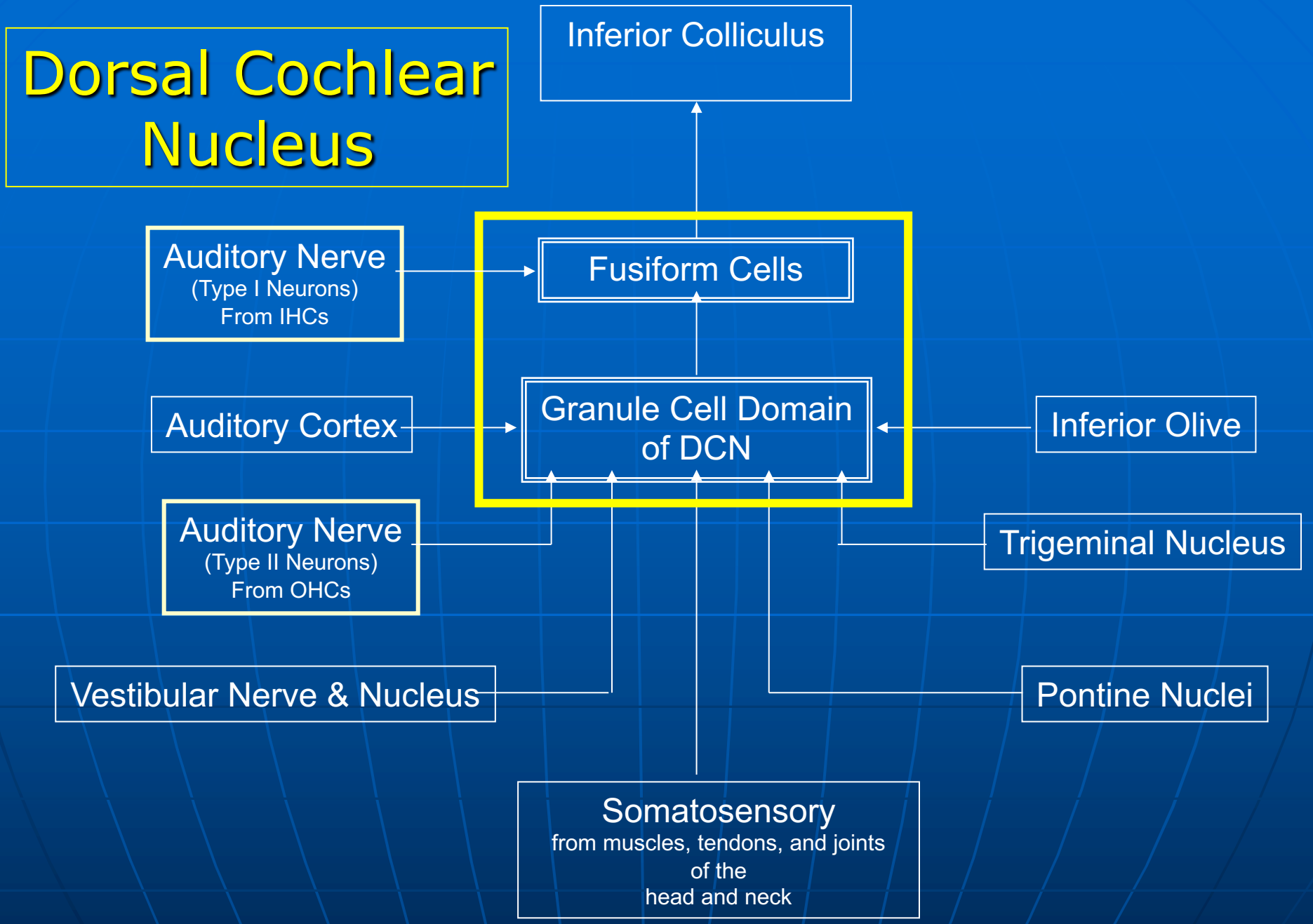
This concept was later extended to upper neck muscles by Travell and her colleagues

Neurology of Somatosensory Tinnitus



Levine, RA. (1999) Somatic (craniocervical) tinnitus and the dorsal cochlear nucleus (DCN) hypothesis

Dorsal Cochlear Nucleus



From anecdotal reports, it has long been known that treatment of trigger points can abolish tinnitus.

Wyant (1979): Repeatedly Injected Ipsilateral Splenius and Scalenes

No tinnitus for up to 4 months

Bjorne (1993) injected the lateral ptyergoid muscle and transiently abolished tinnitus in 11 patients with "disabling tinnitus without a cause."

Teachey (2015) recurrent unilateral PULSATILE tinnitus

can be abolished repeatedly with dry needling of his neck muscles [splenius and sternocleidomastoid]

Over the last 5 years, one of the authors (Levine) has been associated with two different facilities providing treatments for tinnitus using similar techniques but with very different populations.

This situation provides an opportunity for obtaining insights into the effectiveness of TREATING TINNITUS BY TREATING HEAD AND NECK MYOFASCIAL DYSFUNCTION where the prime modality is

NEEDLING OF HEAD AND NECK TRIGGER POINTS

FACILITIES

Facility A: gENT [Teachey and Wijtmans]:

A general ENT practice with more than 10 years of experience using this technique for a variety of ENT disorders, including tinnitus;

In many tinnitus is NOT the chief complaint; they have a wide range of ENT complaints: headaches, nose pain/pressure, "sinus pain," ear pain or blockage, dizziness, voice disorders

Facility B: ccTINN [Lerner]:

A myofascial pain treatment unit specializing in headaches and TINNITUS. All tinnitus referrals come from the hospital tinnitus clinic [Levine].

In everyone (a)tinnitus IS the chief complaint and (b) tinnitus was felt to have a major somatic component

METHODS

Facility A: gENT [Teachey and Wijtmans]:

METHODS: weekly trigger point INJECTIONS for a minimum of 5 weeks Typically strenocleidomastoid and upper trapezius.

If responsive, then continue until tinnitus plateaus.

Rate tinnitus by its VAS loudness

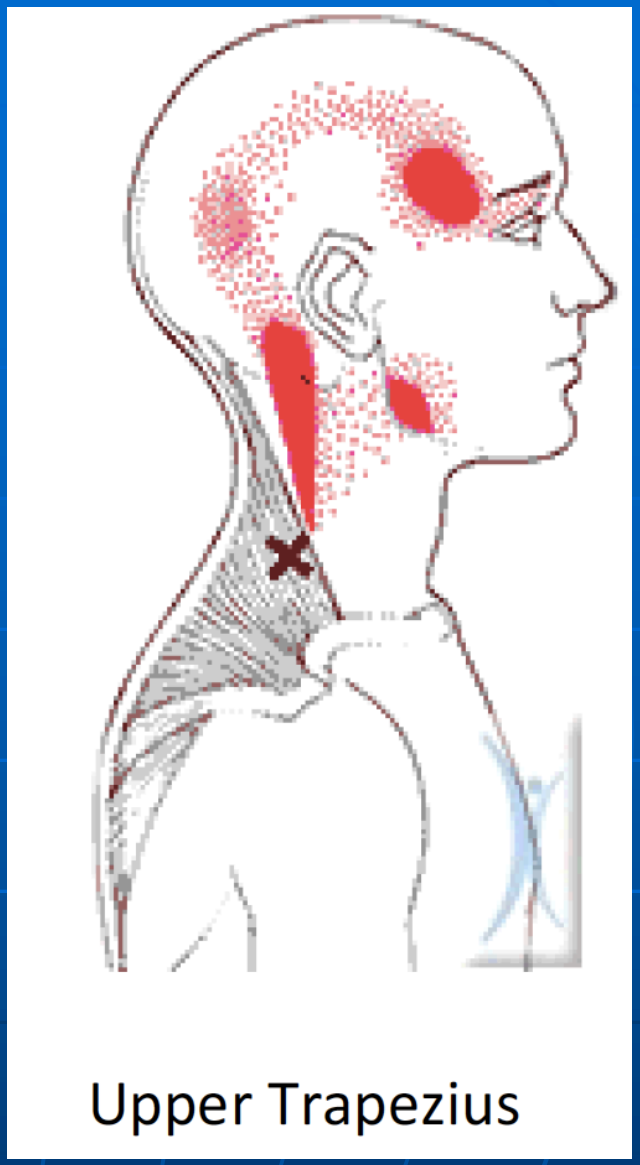
Facility B: ccTINN [Lerner]:

METHODS: weekly trigger point "DRY NEEDLING" for a minimum of 5 weeks Typically strenocleidomastoid and upper trapezius.

If responsive, then continue until tinnitus plateaus.

Rate tinnitus by its VAS loudness

Sternocleidomastoid



Upper Trapezius

RESULTS

Facility A: gENT [Teachey and Wijtmans]:

RESULTS: 135 subjects in past 4 years
~ 25% No Tinnitus
~ 25% Major quieting (>50% by VAS)

~ 50% No benefit

Facility B: ccTINN [Lerner]:

RESULTS: 43 subjects in past 2 years

~ 5% No Tinnitus
~ 35% Major quieting (>50% by VAS)

~ 60% No benefit

DISCUSSION

Facility A: gENT:	Facility B: ccTINN:
~ 25% No Tinnitus	~ 5% No Tinnitus
~ 50% No benefit	~ 60% No benefit

Why such different results?

1. Different techniques [injection vs "dry needling"]
2. Different populations [whether or not tinnitus is the chief complaint]

The poorer results from ccTINN are consistent with gENT's [Teachey & Wijtman] impression from treating people with the full spectrum of concern regarding their tinnitus that

the poorest responders are those whose tinnitus is their major concern.

CONCLUSIONS

There is a clear benefit of trigger point needling (for about half of tinnitus patients)

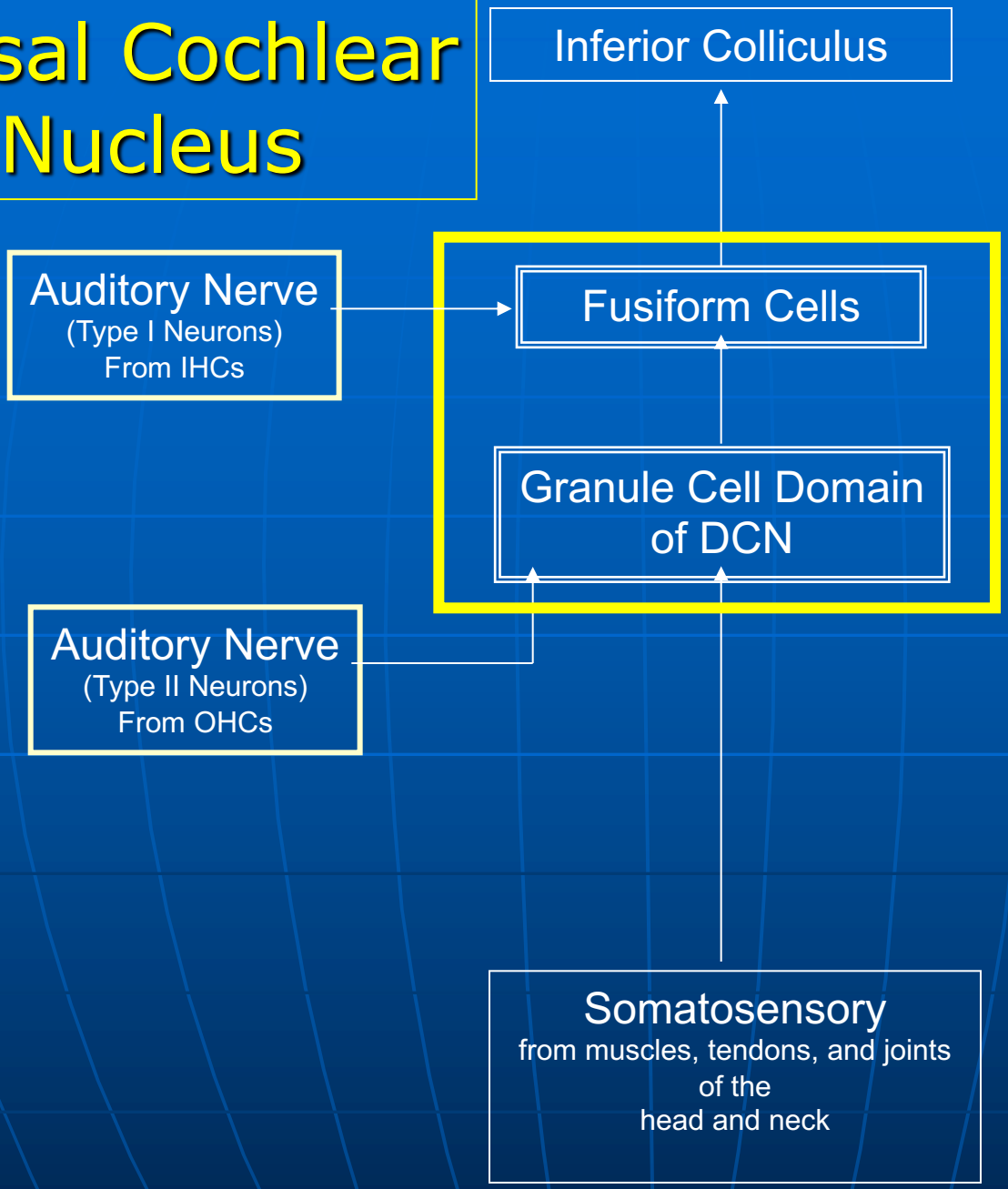
1.confirms the major role of head and neck myofascial dysfunction in the etiology of tinnitus

2.suggests that head and neck myofascial dysfunction may be as major a cause of tinnitus as hearing loss.

3.is consistent with "tinnitus" animal models which have shown that elevated spontaneous rates occur ONLY in DCN somatosensory responsive cells

1. (fusiform cells of the dorsal cochlear nucleus) [Dehmel S, Eisinger D, Shore SE (2012)].

Dorsal Cochlear Nucleus



CONCLUSIONS

The failure or modest response of those most troubled by their tinnitus suggests that

1.other factors besides head and neck myofascial dysfunction are in play (in these patients)

2.A more comprehensive approach for these patients is needed (in addition to or in place of needling of their trigger points)

1. such as the addition of other modalities
    1. Attention shifting techniques
    2. Sound therapy
    3. Facet blocks
    4. Et cetera

SUMMARY

There is a clear benefit of trigger point needling for tinnitus (for about half of tinnitus patients)

Those least likely to respond are those most troubled by their tinnitus

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