Clinical Algorithm for Evidence-Based Tinnitus Management

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Keeping Things Legal

- No personal financial conflict of interest
- The opinions expressed do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government

Learning Objectives

- Upon completion, participants will be able to:
  - Differentiate patients on the basis of spontaneous, temporary, occasional, intermittent, or constant tinnitus
  - Determine if a patient's tinnitus warrants tinnitus-specific intervention
  - Conduct an audiologic assessment that includes a tinnitus assessment

What's the problem?

- Most AuD programs provide inadequate training in tinnitus management
- Many audiologists are uncertain what to do for patients who complain of tinnitus
- No accepted standards for audiologic tinnitus management
- **Net effect:** patients receive inconsistent tinnitus care from audiologists

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Purpose: *Provide audiologists with the background, terminology, procedures, and tools so they can efficiently integrate tinnitus management into their clinical practice*

Henry JA, Manning C. Clinical protocol to promote standardization of basic tinnitus services by audiologists. *American Journal of Audiology. (in press)*

Overview

1. Characteristics of tinnitus
2. Supporting evidence for audiologic tinnitus decision-tree
3. Tinnitus clinical decision-tree protocol for audiologists

1. Characteristics of tinnitus

- Temporal manifestations
- Functional effects
- Duration
- Other tinnitus attributes

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Temporal Manifestations – Time course of tinnitus dictates the need for clinical services

	Clinical Implications
• **Spontaneous** – Transient ear noise	Normal phenomenon
• **Temporary** – Associated with specific event • **Occasional** – Every few weeks/months	Educate about hearing conservation and monitor symptoms as appropriate
• **Intermittent** – Every day/week • **Constant**	Audiologic exam; Brief tinnitus counseling; Tinnitus intervention if needed

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Functional Effects – Perception vs. Reactions

- Critical distinction: *perception of* tinnitus vs. *reactions to* tinnitus
  - Perception: sensation of (phantom) sound
  - Reactions: functional effects
- ~80% of people with tinnitus only experience the perception
- ~20% also experience reactions and may require clinical intervention

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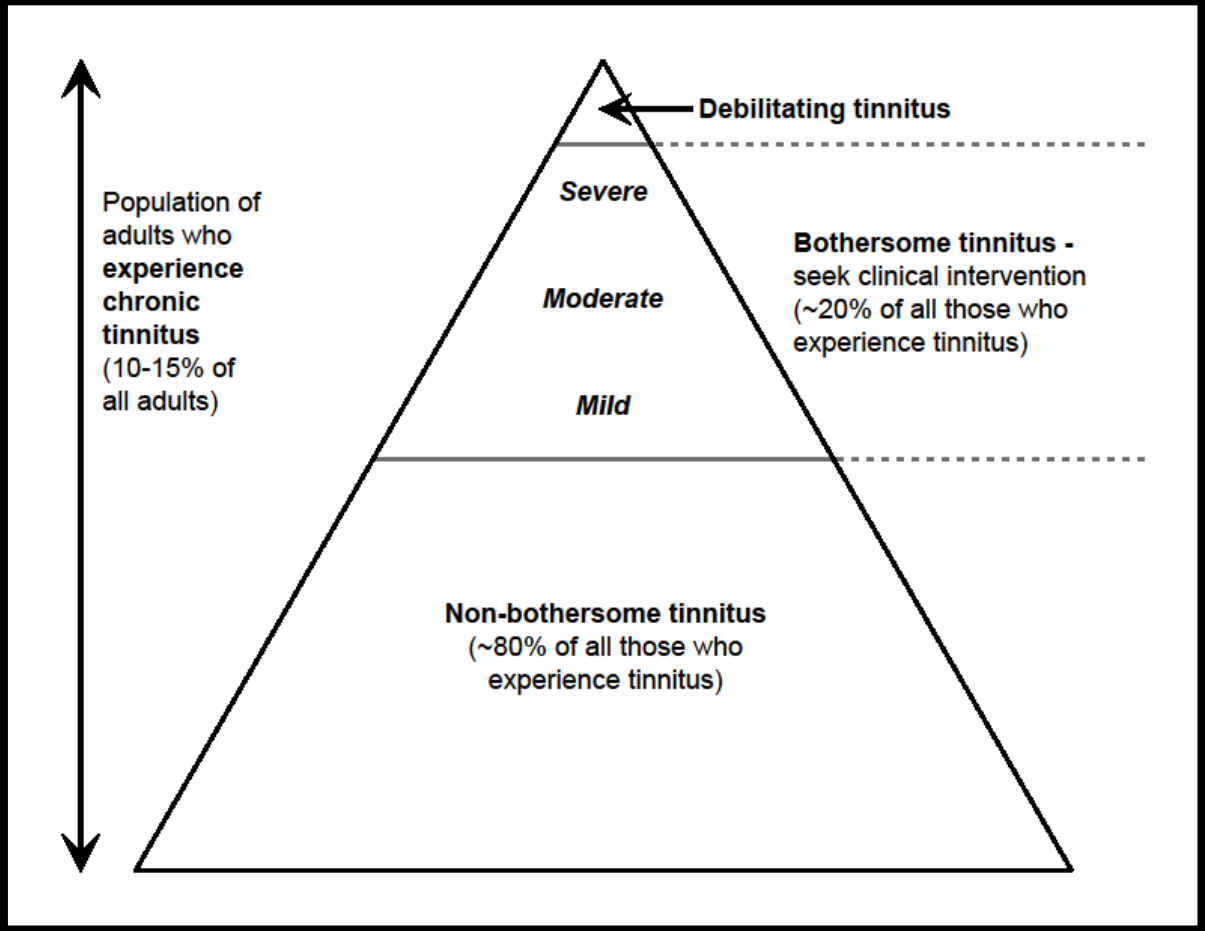
Functional Effects – *How bothersome?*

- Non-bothersome
- Bothersome
  - Mild
  - Moderate
  - Severe
  - Debilitating



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Functional Effects – *What are they?*

- Most prevalent reaction is sleep disturbance
- Other effects of tinnitus are generally emotional effects and concentration difficulties
- Tinnitus does not normally reduce hearing sensitivity, but it can distract from listening
- Can't treat perception, so intervention focuses on reducing reactions

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Functional Effects – Measuring outcomes

- Many validated tinnitus questionnaires
- Recommend (bias alert): Tinnitus Functional Index (TFI)
  - Rigorous development and validation process
  - Validated for sensitivity to outcomes of treatment (“responsiveness”)
- A standardized tinnitus outcome instrument is needed – TFI is a candidate

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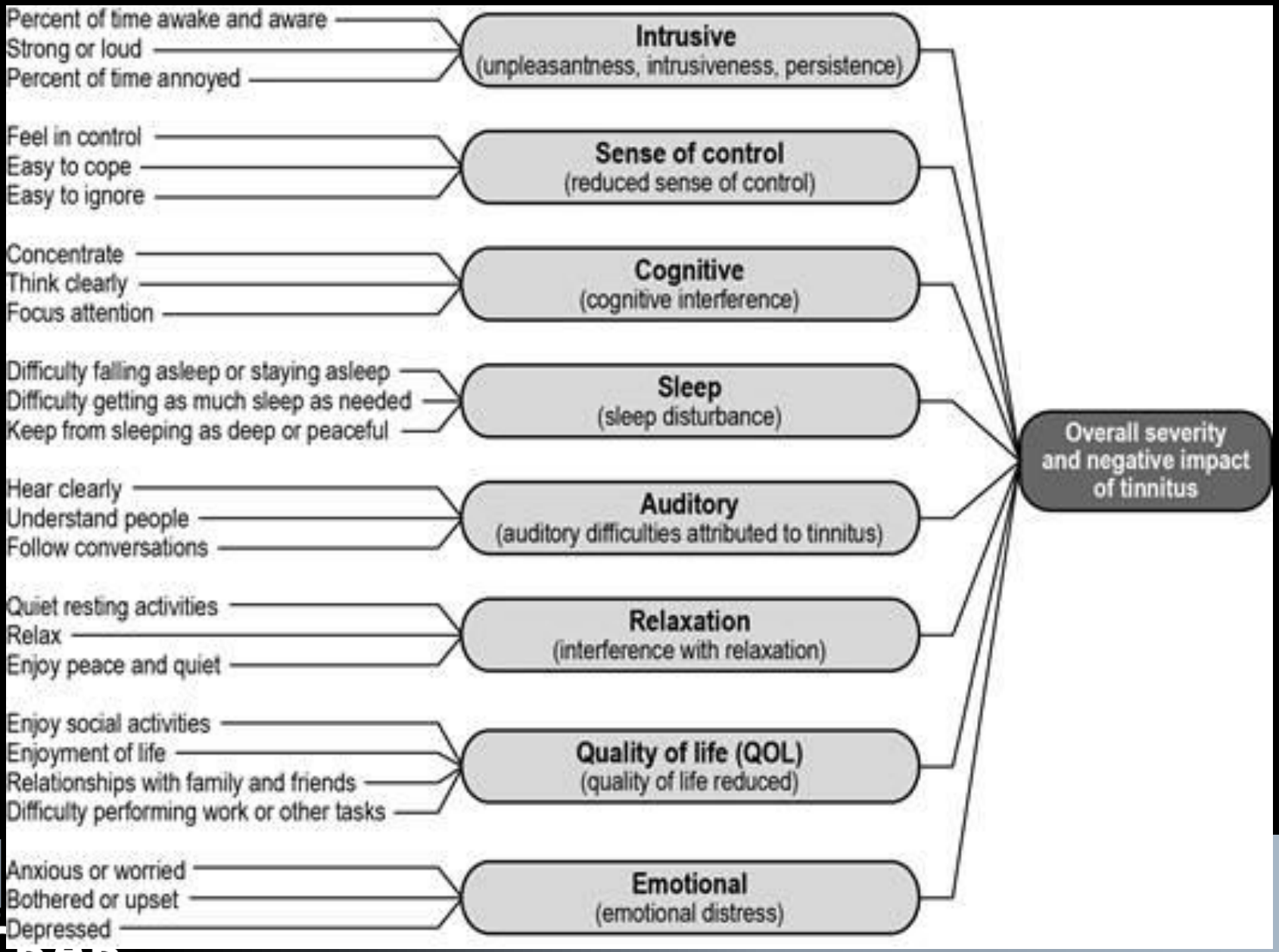
TFI: 8 Subscales



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TINNITUS FUNCTIONAL INDEX

Today's Date _____ (Month / Day / Year) Your Name _____ (Please Print)

Please read each question below carefully. To answer a question, select *ONE* of the numbers that is listed for that question, and draw a *CIRCLE* around it like this: (10%) or (1).

I — Over the PAST WEEK...

1. What percentage of your time awake were you consciously **AWARE OF** your tinnitus?

Never aware ► 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% ◄ *Always aware*

2. How **STRONG** or **LOUD** was your tinnitus?

Not at all strong or loud ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Extremely strong or loud*

3. What percentage of your time awake were you **ANNOYED** by your tinnitus?

None of the time ► 0% 10% 20% 30% 40% 50% 60% 70% 80% 90% 100% ◄ *All of the time*

SC — Over the PAST WEEK...

4. Did you feel **IN CONTROL** in regard to your tinnitus?

Very much in control ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Never in control*

5. How easy was it for you to **COPE** with your tinnitus?

Very easy to cope ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Impossible to cope*

6. How easy was it for you to **IGNORE** your tinnitus?

Very easy to ignore ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Impossible to ignore*

C — Over the PAST WEEK, how much did your tinnitus interfere with...

7. Your ability to **CONCENTRATE**?

Did not interfere ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Completely interfered*

8. Your ability to **THINK CLEARLY**?

Did not interfere ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Completely interfered*

9. Your ability to **FOCUS ATTENTION** on other things besides your tinnitus?

Did not interfere ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Completely interfered*

SL — Over the PAST WEEK...

10. How often did your tinnitus make it difficult to **FALL ASLEEP** or **STAY ASLEEP**?

Never had difficulty ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Always had difficulty*

11. How often did your tinnitus cause you difficulty in getting **AS MUCH SLEEP** as you needed?

Never had difficulty ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Always had difficulty*

12. How much of the time did your tinnitus keep you from **SLEEPING** as **DEEPLY** or as **PEACEFULLY** as you would have liked?

None of the time ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *All of the time*

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Please read each question below carefully. To answer a question, select *ONE* of the numbers that is listed for that question, and draw a *CIRCLE* around it like this: (10%) or (1).

A	Over the PAST WEEK, how much has your tinnitus interfered with...	*Did not interfere*										*Completely interfered*
	13. Your ability to **HEAR CLEARLY**?	0	1	2	3	4	5	6	7	8	9	10
	14. Your ability to **UNDERSTAND PEOPLE** who are talking?	0	1	2	3	4	5	6	7	8	9	10
	15. Your ability to **FOLLOW CONVERSATIONS** in a group or at meetings?	0	1	2	3	4	5	6	7	8	9	10

R	Over the PAST WEEK, how much has your tinnitus interfered with...	*Did not interfere*										*Completely interfered*
	16. Your **QUIET RESTING ACTIVITIES**?	0	1	2	3	4	5	6	7	8	9	10
	17. Your ability to **RELAX**?	0	1	2	3	4	5	6	7	8	9	10
	18. Your ability to enjoy "**PEACE AND QUIET**"?	0	1	2	3	4	5	6	7	8	9	10

Q	Over the PAST WEEK, how much has your tinnitus interfered with...	*Did not interfere*										*Completely interfered*
	19. Your enjoyment of **SOCIAL ACTIVITIES**?	0	1	2	3	4	5	6	7	8	9	10
	20. Your **ENJOYMENT OF LIFE**?	0	1	2	3	4	5	6	7	8	9	10
	21. Your **RELATIONSHIPS** with family, friends and other people?	0	1	2	3	4	5	6	7	8	9	10

22. How often did your tinnitus cause you to have difficulty performing your **WORK OR OTHER TASKS**, such as home maintenance, school work, or caring for children or others?

Never had difficulty ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Always had difficulty*

E	Over the PAST WEEK...

23. How **ANXIOUS** or **WORRIED** has your tinnitus made you feel?

Not at all anxious or worried ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Extremely anxious or worried*

24. How **BOTHERED** or **UPSET** have you been because of your tinnitus?

Not at all bothered or upset ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Extremely bothered or upset*

25. How **DEPRESSED** were you because of your tinnitus?

Not at all depressed ► 0 1 2 3 4 5 6 7 8 9 10 ◄ *Extremely depressed*

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Duration of Tinnitus

- Recent-onset: <6 mo
  - Acute
  - More likely to resolve on its own
    - Perception and/or reactions
- Persistent: ≥6 months
  - Chronic
  - More likely to be a permanent condition
    - Perception

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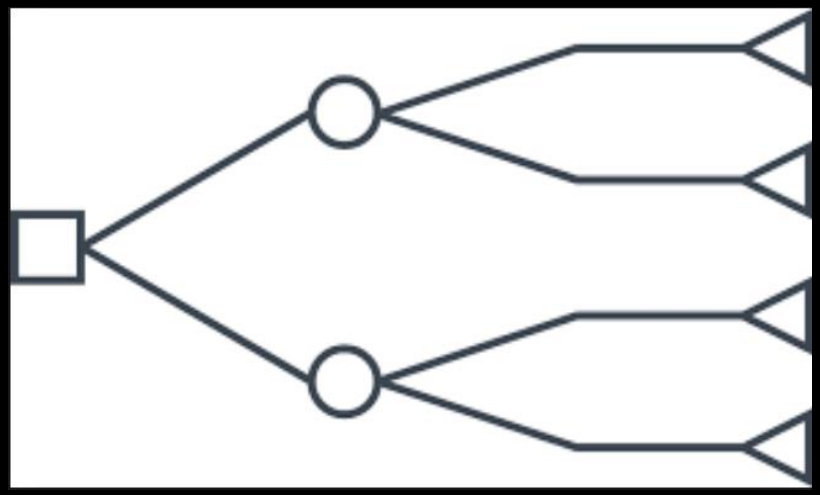
Other Tinnitus Attributes

- Loudness (0-10 scale)
  - Loudness fluctuations (frequency, intensity)
- Pitch (low, medium, high)
- Spectral quality (tonal, noisy, other)
- Number of sounds (1, 2, 3….)
- Lateralization (unilateral, bilateral, symmetric, asymmetric, in head, out of head)

2. Supporting Evidence for Audiologic Tinnitus Decision-Tree



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Sources of Supporting Evidence

- Primary evidence
  - 2 NCRAR RCTs (Henry et al 2015; 2017)
  - 20+ years of NCRAR tinnitus research developing and validating forms, questionnaires, and protocols
- Mostly consistent with:
  - Review of tinnitus clinical practice guidelines (Fuller et al 2017)
  - American Academy of Otolaryngology – Head & Neck Surgery Foundation (AAO-HNSF) Clinical Practice Guideline: Tinnitus (Tunkel et al 2014)

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NCRAR RCTs

- *"Do combination instruments reduce the effects of tinnitus compared to hearing aids?"*
- Trial 1: Funded by Starkey Hearing Technologies
  - 30 participants
  - All wore Xino Tinnitus devices for 3 months
  - Half had sound generator turned on; half turned off
  - Brief tinnitus counseling

Henry JA, Frederick M, Sell S, Griest S, Abrams H. Validation of a novel combination hearing aid and tinnitus therapy device. *Ear and Hearing* 36(1):42-52, 2015.

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Second NCRAR RCT

- Similar to first RCT except:
  - 55 participants
  - Devices manufactured by Phonak LLC
    - Audeo Q90 + Tinnitus Balance combination instrument
    - Lyric extended-wear hearing aid
  - Participants used devices for 4 months

Henry JA, McMillan G, Dann S, Bennett K, Griest S, Theodoroff S, Silverman S, Whichard S, Saunders G. Tinnitus management: Randomized controlled trial comparing extended-wear hearing aids, conventional hearing aids, and combination instruments. *Journal of the American Academy of Audiology,* 28(6):546-561, 2017.

Results

- TFI outcomes: Every device studied provided significant benefit, although there were no significant differences in outcomes between groups
- Both of the NCRAR RCTs similar in design and results to a third RCT (Dos Santos et al 2014)

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RCTs: Caveat

- All participants had hearing loss in addition to their bothersome tinnitus
- Because people often respond to questions about effects of tinnitus with respect to their hearing difficulties, some of the improvement would have resulted from improved hearing
- The clinical decision-tree addresses this concern

Review of Tinnitus Clinical Practice Guidelines (Fuller et al 2017)

- Systematic review of existing tinnitus guidelines
  - Had to meet criteria of *"describing and making recommendations on the assessment, diagnosis, and/or treatment of subjective tinnitus for adults (i.e., people aged 16 years or older)"*
- Five clinical guidelines for tinnitus met the criteria and were included in the review, including guidelines from Denmark, Germany, The Netherlands, Sweden, and United States

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Summary of Fuller et al (2017) Findings: Assessment

1. Conduct a physical exam to identify/rule out underlying causes of tinnitus
2. Conduct an audiologic assessment
3. Use a validated questionnaire to assess degree to which patient is bothered by tinnitus
4. For patients who are very bothered by tinnitus, consider referral to a mental health provider

- Lack of agreement re: imaging studies

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Summary of Fuller et al (2017) Findings: Intervention

1. Educate patients about tinnitus and options for management
2. Use hearing aids only if warranted for hearing loss
3. Cognitive-behavioral therapy (CBT) should be offered to patients with bothersome tinnitus
4. Medications and dietary supplements should not be used for tinnitus management

- Lack of agreement re: use of sound-based therapy or transcranial magnetic stimulation

AAO-HNSF Clinical Practice Guideline: Tinnitus

- Addressed three broad topics re: clinical practice
  1. Assessment
  2. Intervention/management
  3. Patient education
- All based on a systematic review, and consensus of a 23-member panel
  - Disclosure: J Henry on panel

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AAO-HNSF CPG: Assessment

- ✓ Case history and physical exam
- ✓ Prompt audiologic exam *if* tinnitus is unilateral, persistent, or associated with hearing difficulties
- ✓ Distinguish bothersome from non-bothersome tinnitus
- ✓ Conduct hearing aid evaluation (if warranted)

- X Do not do imaging (for most patients)
- ? Routine audiologic exam "optional" if tinnitus is recent-onset, symmetric, and not accompanied by hearing difficulties

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AAO-HNSF CPG: Intervention/Management

- ✓ Recommended Cognitive-Behavioral Therapy (CBT) for intervention

- ❖ Sound-based therapy "optional"

- ❖ Hearing aids "may be helpful"

- X Recommended against use of:
  - X Any drugs for tinnitus
  - X Any dietary supplements for tinnitus
  - X Transcranial magnetic stimulation (TMS)

- ? No opinion on acupuncture

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AAO-HNSF CPG: Patient Education

- ✓ Recommended: education and counseling to aid in decision making, by teaching:
  - ✓ Available management strategies
  - ✓ Natural history and prognosis
  - ✓ Association between hearing loss and tinnitus
  - ✓ Effects of lifestyle factors on tinnitus management
  - ✓ Hearing protection from noise
- ✓ Recommended: provide brochures, suggest self-help books, and refer to health care professionals who offer evidence-based tinnitus services

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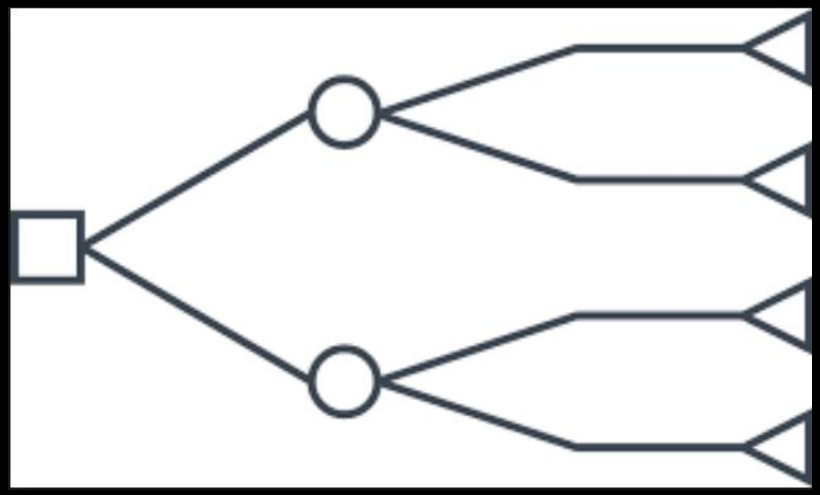
3. Tinnitus Clinical Decision-Tree for Audiologists



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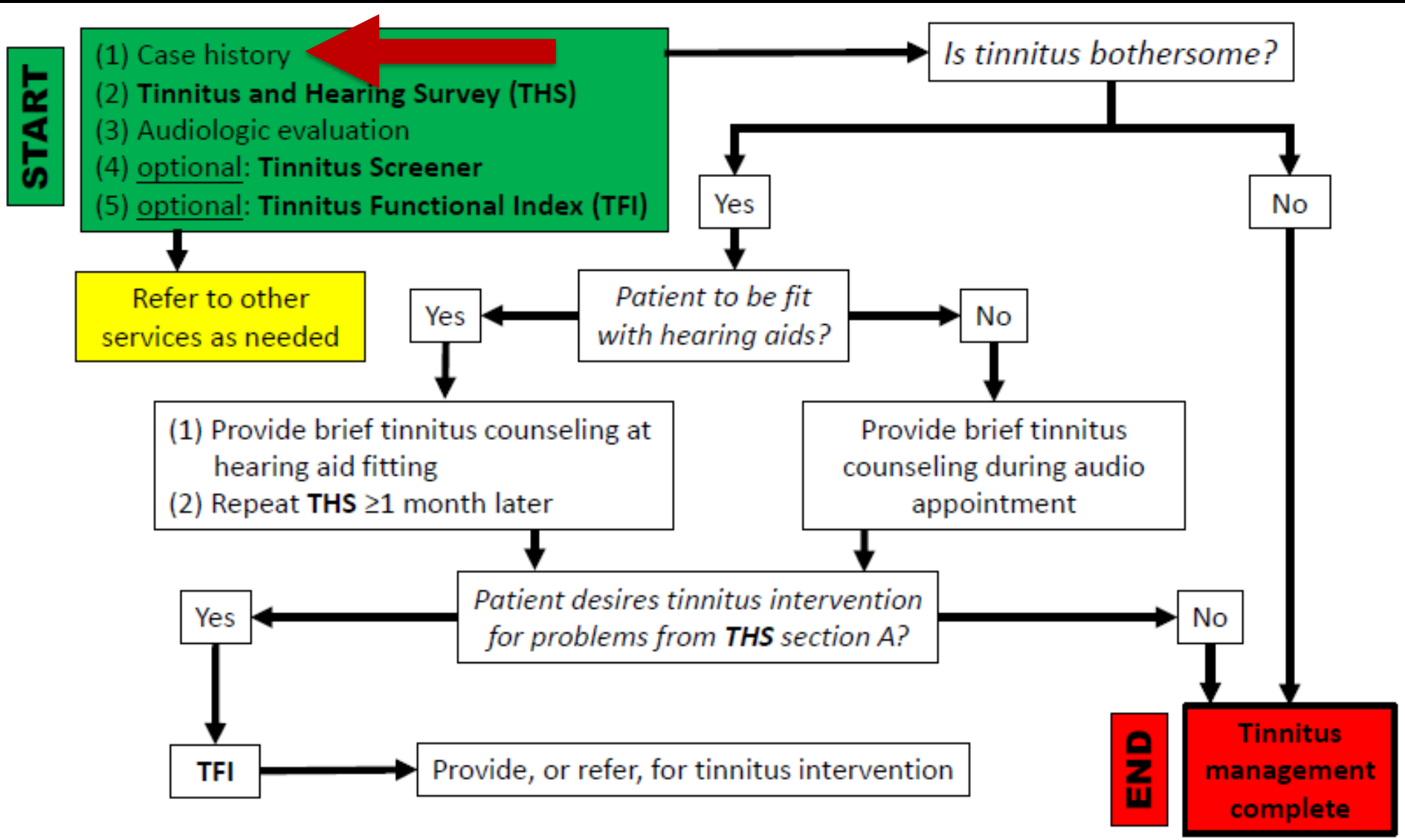
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(1) Case history
(2) Tinnitus and Hearing Survey (THS)
(3) Audiologic evaluation
(4) optional: Tinnitus Screener
(5) optional: Tinnitus Functional Index (TFI)
Is tinnitus bothersome?
Yes
No
Refer to other services as needed
Patient to be fit with hearing aids?
Yes
No
(1) Provide brief tinnitus counseling at hearing aid fitting
(2) Repeat THS ≥1 month later
Provide brief tinnitus counseling during audio appointment
Patient desires tinnitus intervention for problems from THS section A?
Yes
No
TFI
Provide, or refer, for tinnitus intervention
END
Tinnitus management complete

Case History

- Necessary to document any symptoms or conditions that would indicate special services or a referral
- Should target:
  - Unilateral, pulsatile, or new-onset tinnitus
  - Hearing difficulties (especially unilateral or asymmetric)
  - Sudden onset of hearing loss along with tinnitus
  - Noise exposure
  - Ototoxic medications
  - Balance disorders
- Symptoms of anxiety, depression, cognitive impairment, and sleep disturbance?

Duration of Tinnitus

- Recent onset = <6 mo
  - Acute
  - More likely to resolve on its own
- Persistent = ≥6 months
  - Chronic
  - More likely to be a permanent condition

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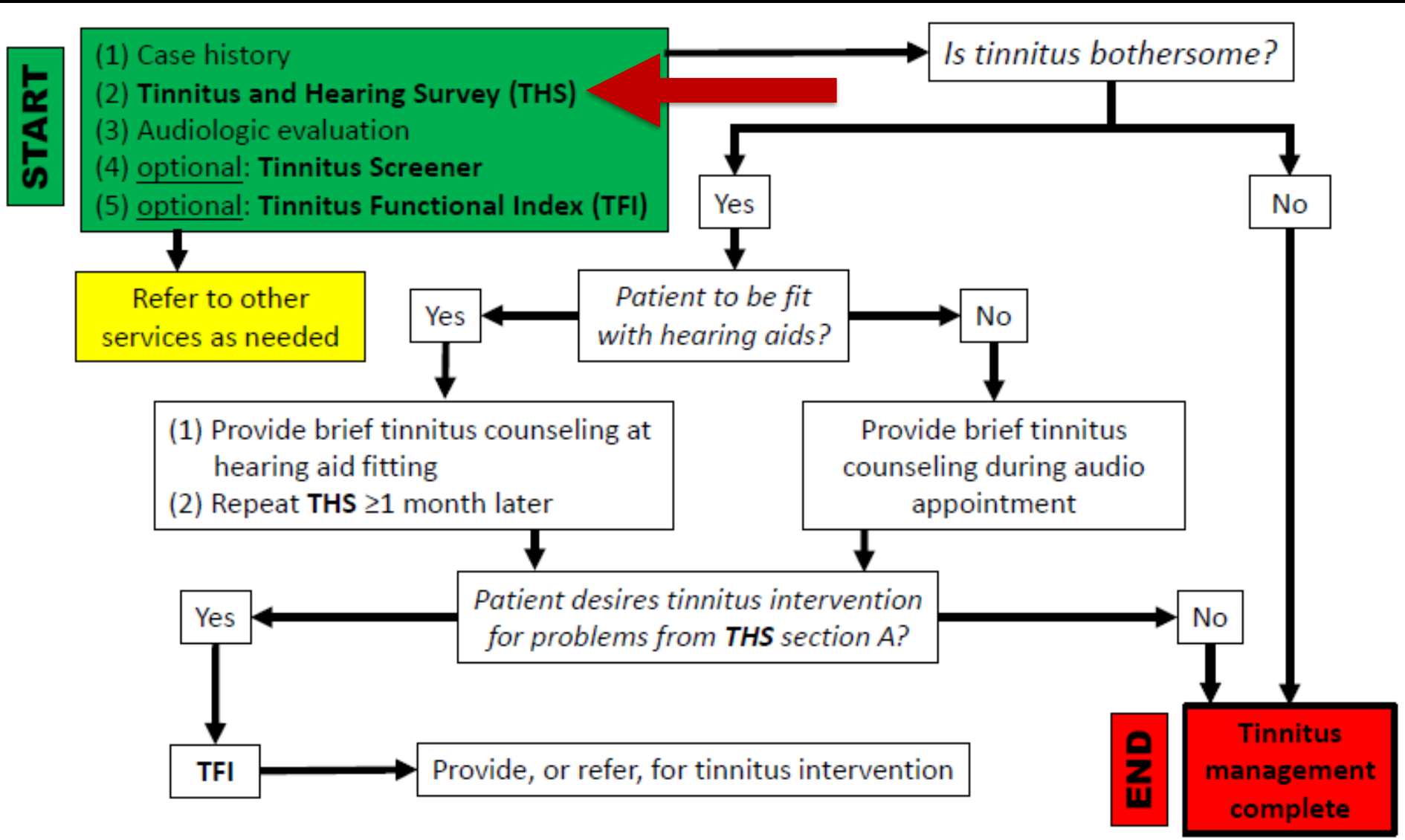
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Patient desires tinnitus intervention for problems from THS section A?
Yes
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TFI
Provide, or refer, for tinnitus intervention
END
Tinnitus management complete

Tinnitus and Hearing Survey

- Key to determining if a patient has tinnitus warranting tinnitus-specific intervention
- Three sections
  - Section A: Tinnitus
  - Section B: Hearing
  - Section C: Sound tolerance
- Note: Use of cutoff scores not recommended for decision making. Rather, this information is used to determine what services might be indicated re tinnitus and hearing loss.

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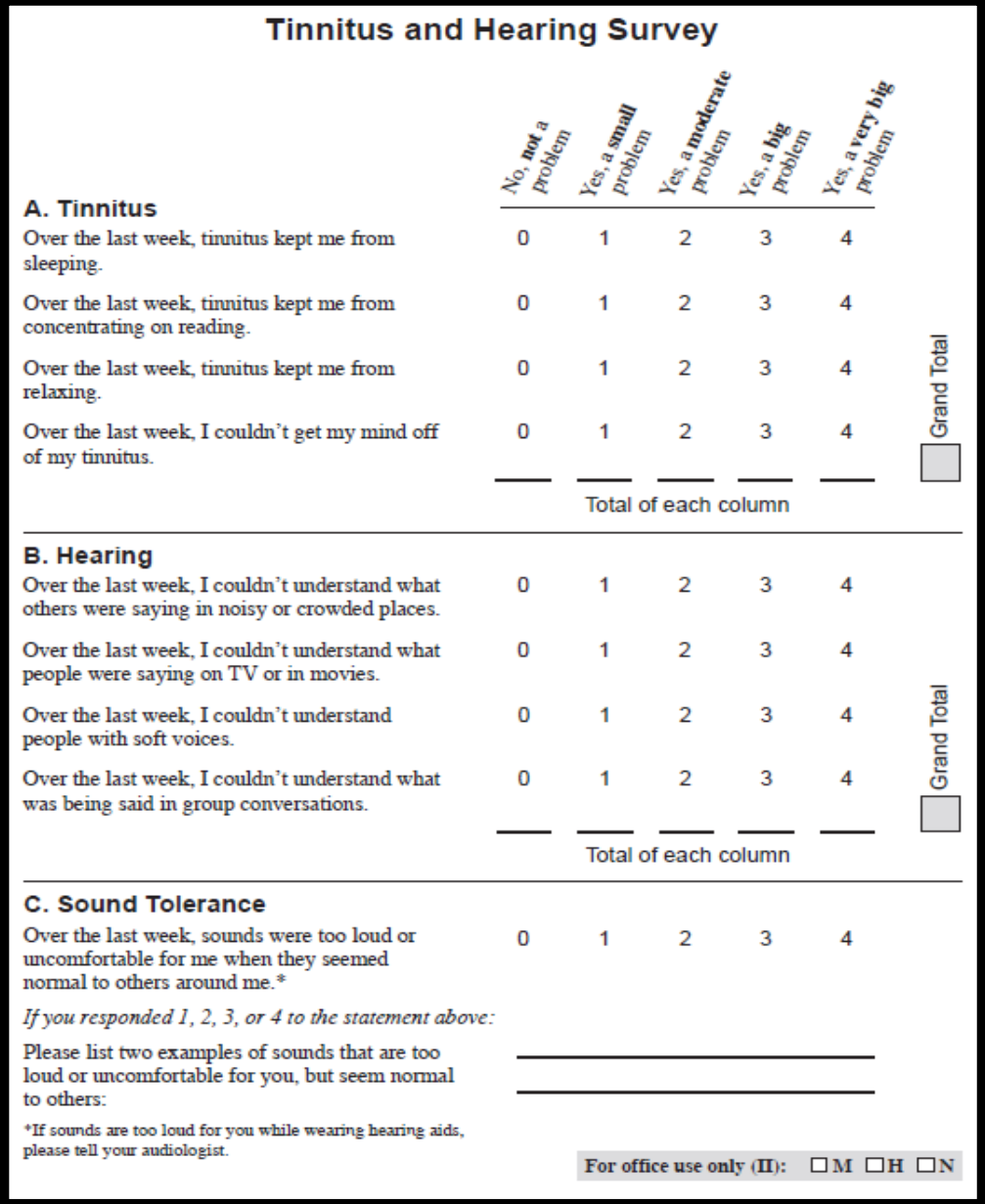
A. *Tinnitus problems not confused with hearing problems*

B. *Hearing problems not confused with tinnitus problems*

C. *Screen for sound tolerance problems*



Tinnitus and Hearing Survey

	No, **not** a problem	Yes, a **small** problem	Yes, a **moderate** problem	Yes, a **big** problem	Yes, a **very big** problem	
A. Tinnitus						
Over the last week, tinnitus kept me from sleeping.	0	1	2	3	4	
Over the last week, tinnitus kept me from concentrating on reading.	0	1	2	3	4	
Over the last week, tinnitus kept me from relaxing.	0	1	2	3	4	Grand Total
Over the last week, I couldn't get my mind off of my tinnitus.	0	1	2	3	4	☐
	___	___	___	___	___	
	Total of each column					
B. Hearing						
Over the last week, I couldn't understand what others were saying in noisy or crowded places.	0	1	2	3	4	
Over the last week, I couldn't understand what people were saying on TV or in movies.	0	1	2	3	4	
Over the last week, I couldn't understand people with soft voices.	0	1	2	3	4	Grand Total
Over the last week, I couldn't understand what was being said in group conversations.	0	1	2	3	4	☐
	___	___	___	___	___	
	Total of each column					
C. Sound Tolerance						
Over the last week, sounds were too loud or uncomfortable for me when they seemed normal to others around me.*	0	1	2	3	4	
If you responded 1, 2, 3, or 4 to the statement above:						
Please list two examples of sounds that are too loud or uncomfortable for you, but seem normal to others:	_____					
	_____					

*If sounds are too loud for you while wearing hearing aids, please tell your audiologist.

For office use only (II): ☐M ☐H ☐N

Henry JA, Zaugg TL, Griest S, Thielman E, Kaelin C, Carlson KF. Tinnitus and Hearing Survey: A screening and assessment tool to differentiate bothersome tinnitus from hearing difficulties. *American Journal of Audiology* 24(1):66-77, 2015.

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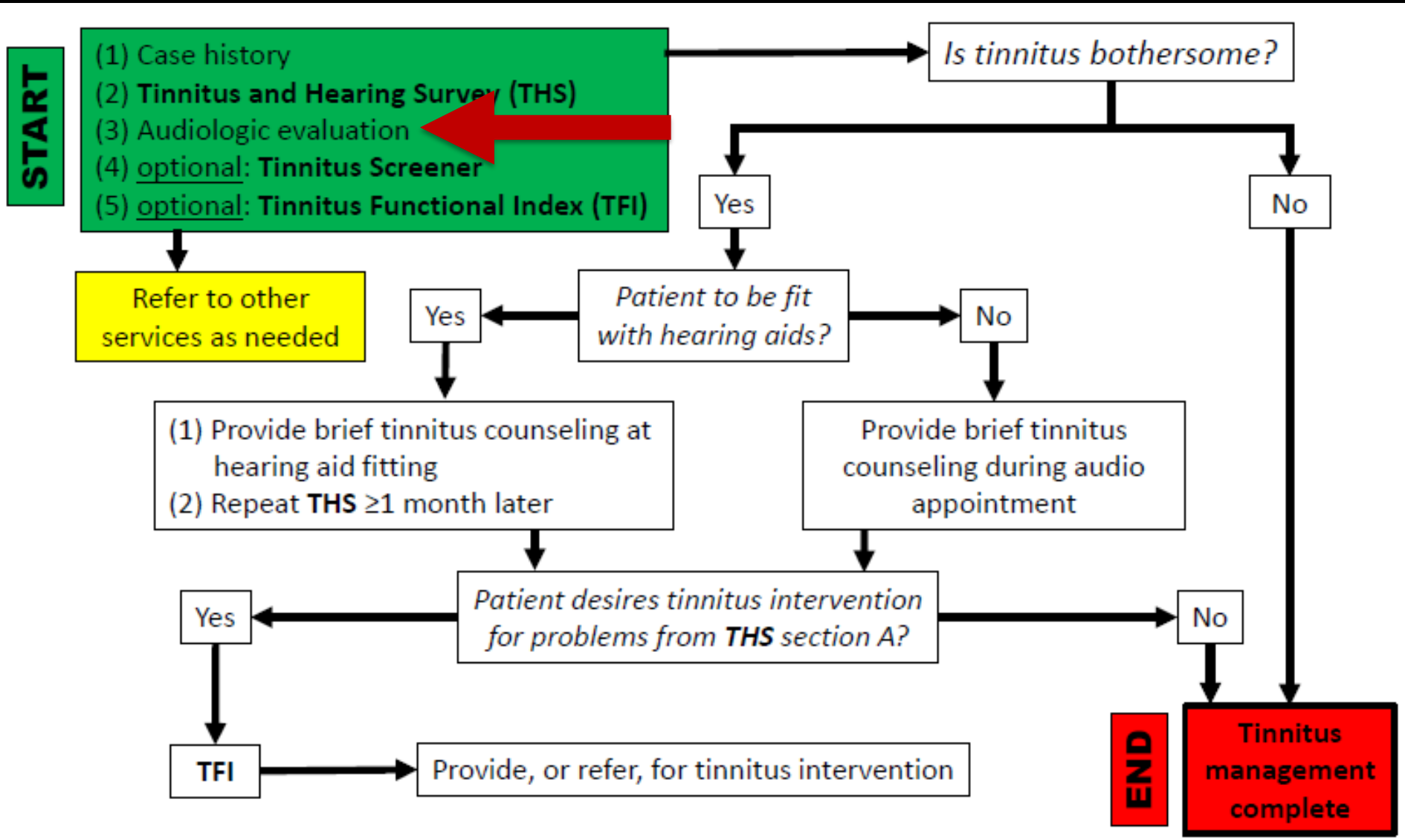
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Patient to be fit with hearing aids?
Yes
No
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(2) Repeat THS ≥1 month later
Provide brief tinnitus counseling during audio appointment
Patient desires tinnitus intervention for problems from THS section A?
Yes
No
TFI
Provide, or refer, for tinnitus intervention
END
Tinnitus management complete

Audiologic Evaluation

- Any person reporting the presence of tinnitus should receive a routine audiologic assessment
  - *Why?* Because 80-90% of people with tinnitus have hearing loss

!! *It is essential that any hearing problems are addressed prior to a patient receiving intervention for bothersome tinnitus*

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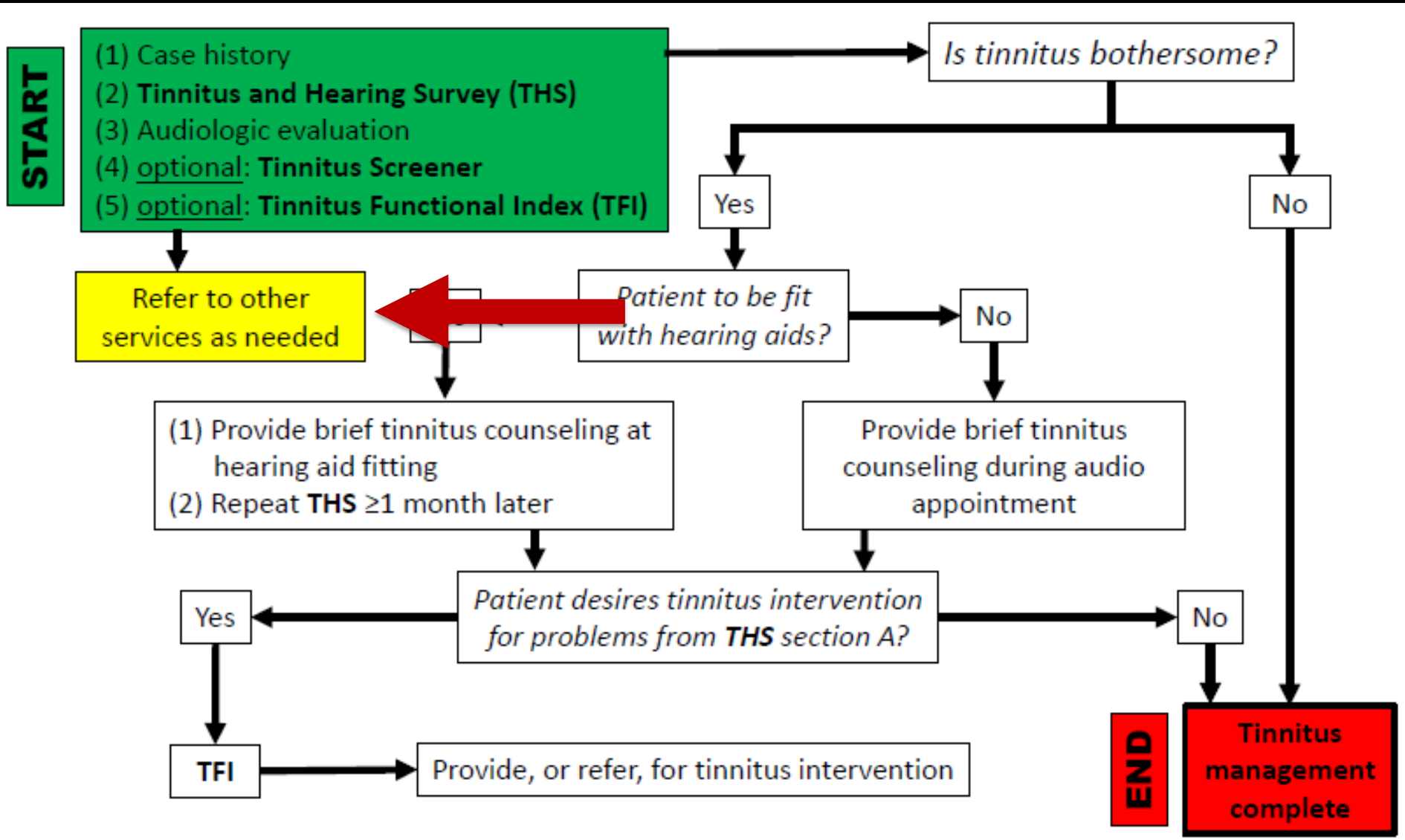
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Patient desires tinnitus intervention for problems from THS section A?
Yes
No
TFI
Provide, or refer, for tinnitus intervention
END
Tinnitus management complete

Referral

- Great majority of patients reporting tinnitus have primary tinnitus, i.e., tinnitus that is idiopathic and may or may not be associated with sensorineural hearing loss (SNHL)
- Some patients have tinnitus suspected as secondary, i.e., the tinnitus appears to be associated with a specific underlying cause (other than SNHL) or an identifiable organic condition
- Secondary tinnitus can be a symptom of auditory system disorders or nonauditory system disorders

Henry JA, Zaugg TL, Myers PJ, Kendall CJ, Michaelides EM. A triage guide for tinnitus. *The Journal of Family Practice* 59(7):389-393, 2010

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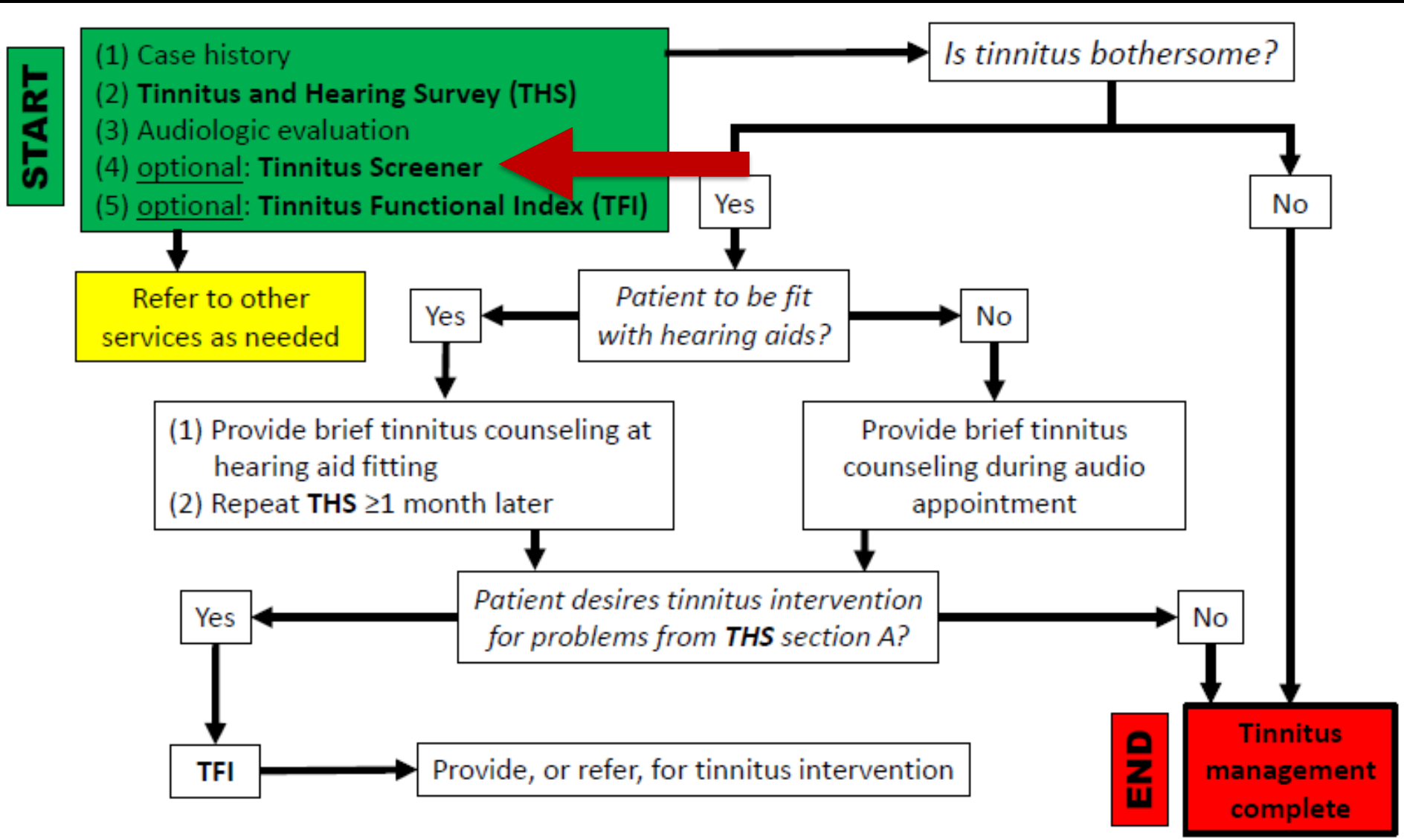
Referral

- AAO-HNSF: all patients with tinnitus should receive a physical exam to identify potentially treatable secondary tinnitus and any symptoms of serious disease associated with the tinnitus
  - Best practice, but maybe not feasible
  - At least refer to ENT if secondary tinnitus is suspected, or if symptoms are unilateral
- Urgent referral (same-day) to ENT recommended if sudden SNHL within previous 30 days
- Other referrals may be necessary/emergent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Provide brief tinnitus counseling during audio appointment
Patient desires tinnitus intervention for problems from THS section A?
Yes
No
TFI
Provide, or refer, for tinnitus intervention
END
Tinnitus management complete

Tinnitus Screener

- Optional—can be used if it is uncertain whether a patient's tinnitus warrants a full assessment
- Only "intermittent" or "constant" tinnitus would indicate the need for a full assessment

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Tinnitus Screener

Tinnitus is ringing, buzzing, humming or other noises in your ears or head.

During the PAST YEAR:

1. Have you experienced tinnitus lasting more than 2 - 3 minutes?	
○ NO: **STOP HERE**	**No Tinnitus** ← Spontaneous
○ YES: **GO TO #2**	
2. Have you experienced tinnitus for at least 6 months?	
○ NO: **GO TO #3**	**Acute Tinnitus** ← Recent-onset
○ YES: **GO TO #3**	**Chronic Tinnitus** ← Persistent
3. In a quiet room, can you hear tinnitus?	
○ Always: **STOP HERE**	**Constant Tinnitus**
○ Usually: **STOP HERE**	**Constant Tinnitus**
○ Sometimes/Occasionally: **GO TO #4**	
4. When you heard tinnitus this past year, was it caused by a recent event? (Examples: loud concert, head cold, allergies, some medications)	
○ NO: **GO TO #6**	
○ YES, Sometimes: **GO TO #5**	
○ YES, Always: **GO TO #5**	**Temporary Tinnitus**
5. Does your tinnitus seem to "come and go" on its own, in addition to being caused by a recent event(s)?	
○ NO: **STOP HERE**	**Temporary Tinnitus**
○ YES: **GO TO #6**	
6. Do you experience tinnitus on a:	
○ Daily or weekly basis: **STOP HERE**	**Intermittent Tinnitus**
○ Monthly or yearly basis: **STOP HERE**	**Occasional Tinnitus**

Henry JA, Griest S, Austin D, Helt W, Gordon J, Thielman E, Theodoroff SM, Lewis MS, Blankenship C, Zaugg TL, Carlson K. Tinnitus Screener: Results from first 100 participants in epidemiology study. *American Journal of Audiology.* 25(2):153-60, 2016.

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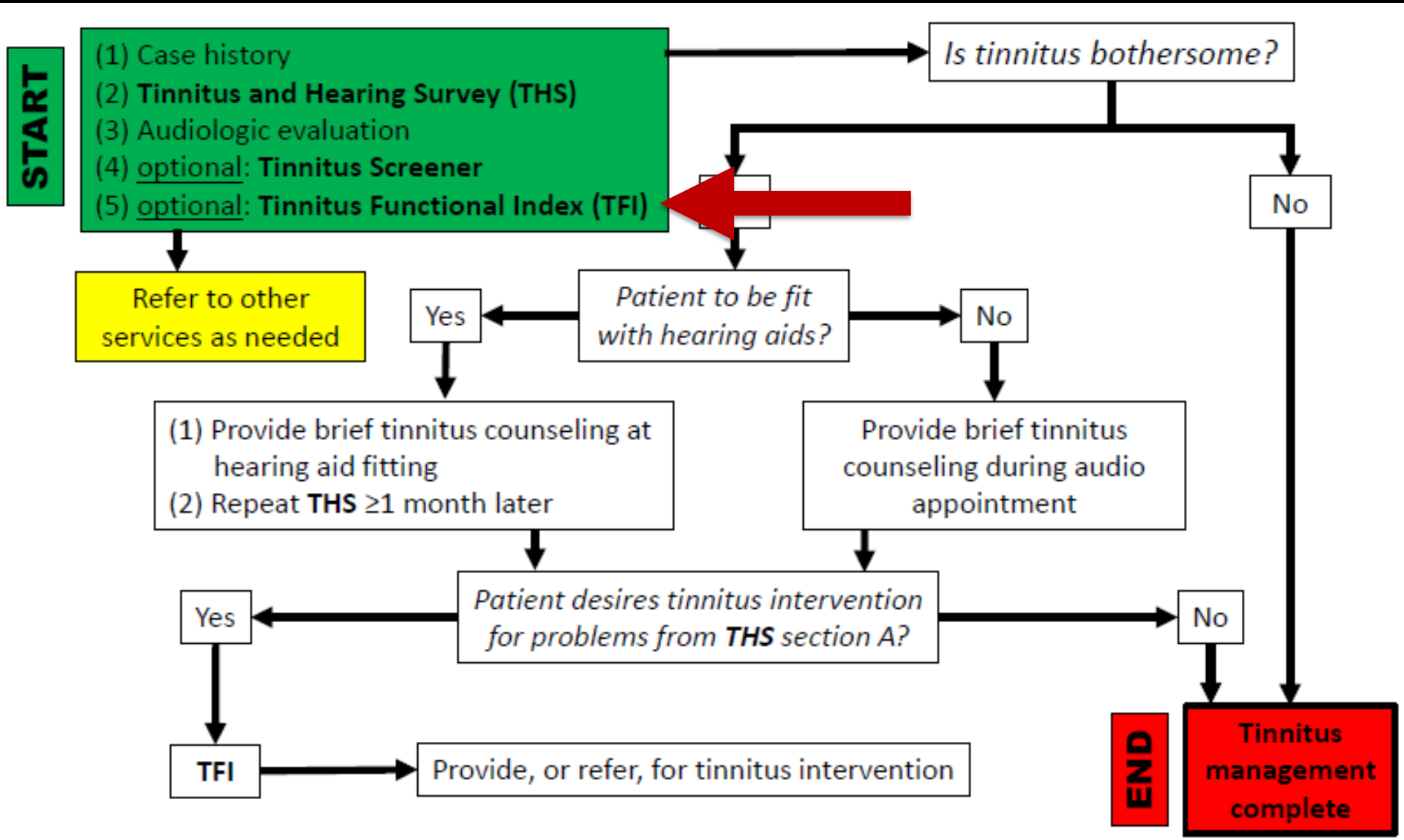
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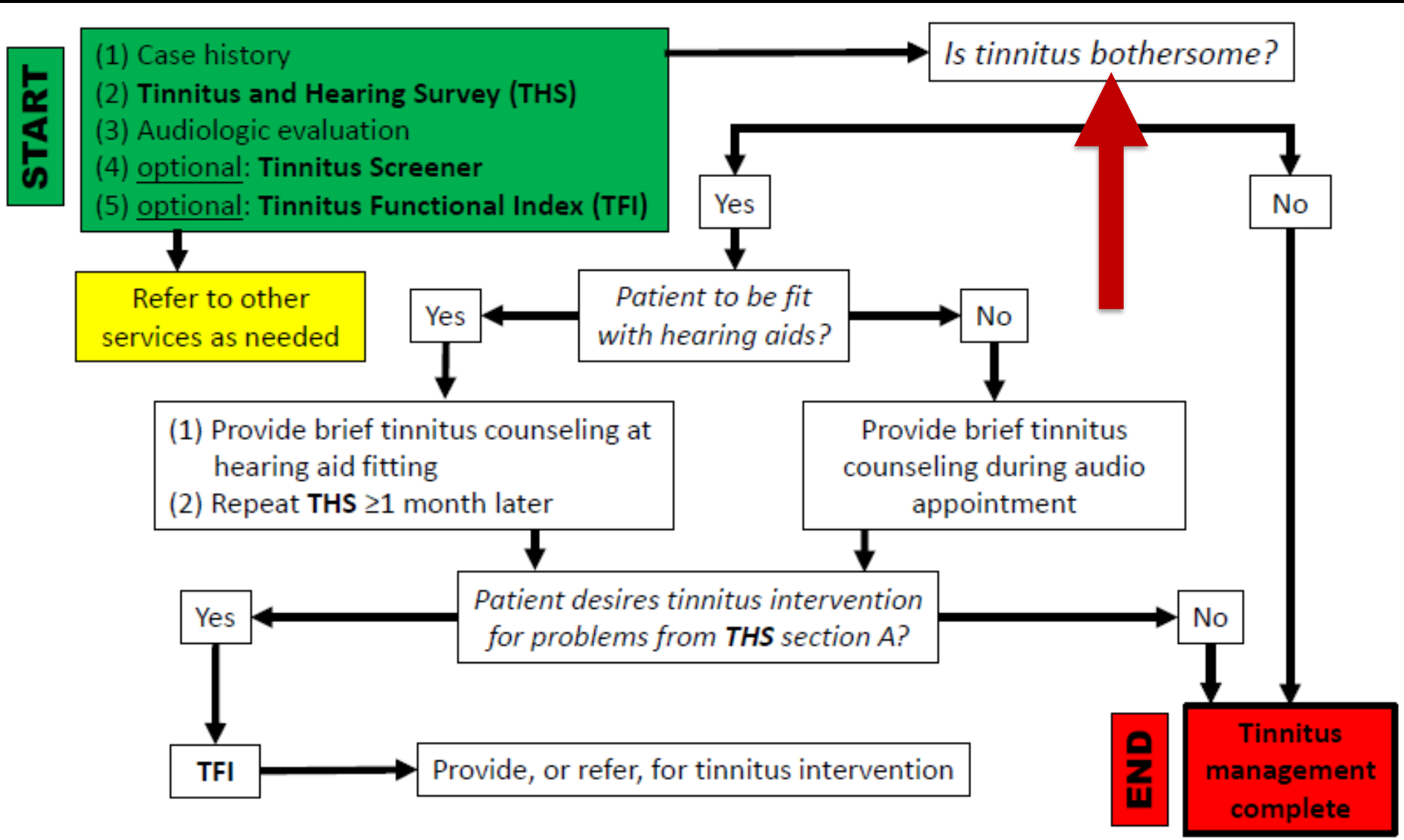
END
Tinnitus management complete

Tinnitus Functional Index (TFI)

- Recommended for any patient whose hearing needs have been met and is scheduled to receive tinnitus-specific intervention
- Not recommended as part of basic assessment because patients often blame hearing problems on their tinnitus, which results in responses to tinnitus questions reflecting hearing problems

TFI: Optional for Intake Assessment

- Responses can be helpful in identifying the specific tinnitus problem(s) and addressing it with counseling during the appointment
  - TFI especially useful for this purpose because it contains eight subscales
    - Intrusive, Sense of Control, Concentration, Sleep, Auditory, Relaxation, Quality of Life, and Emotional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Flowchart Questions

- Is Tinnitus Bothersome?
  - Determined through use of the Tinnitus and Hearing Survey

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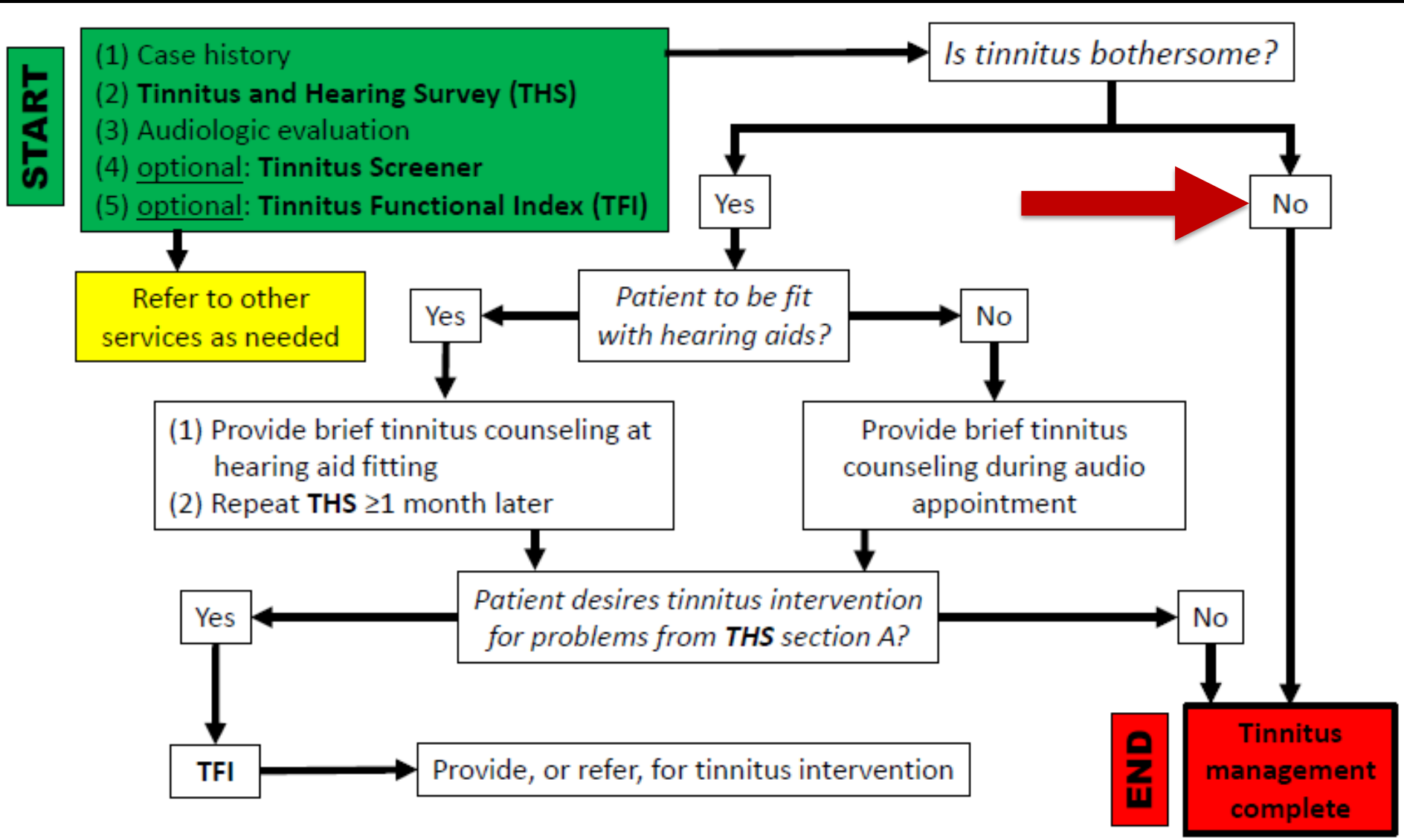
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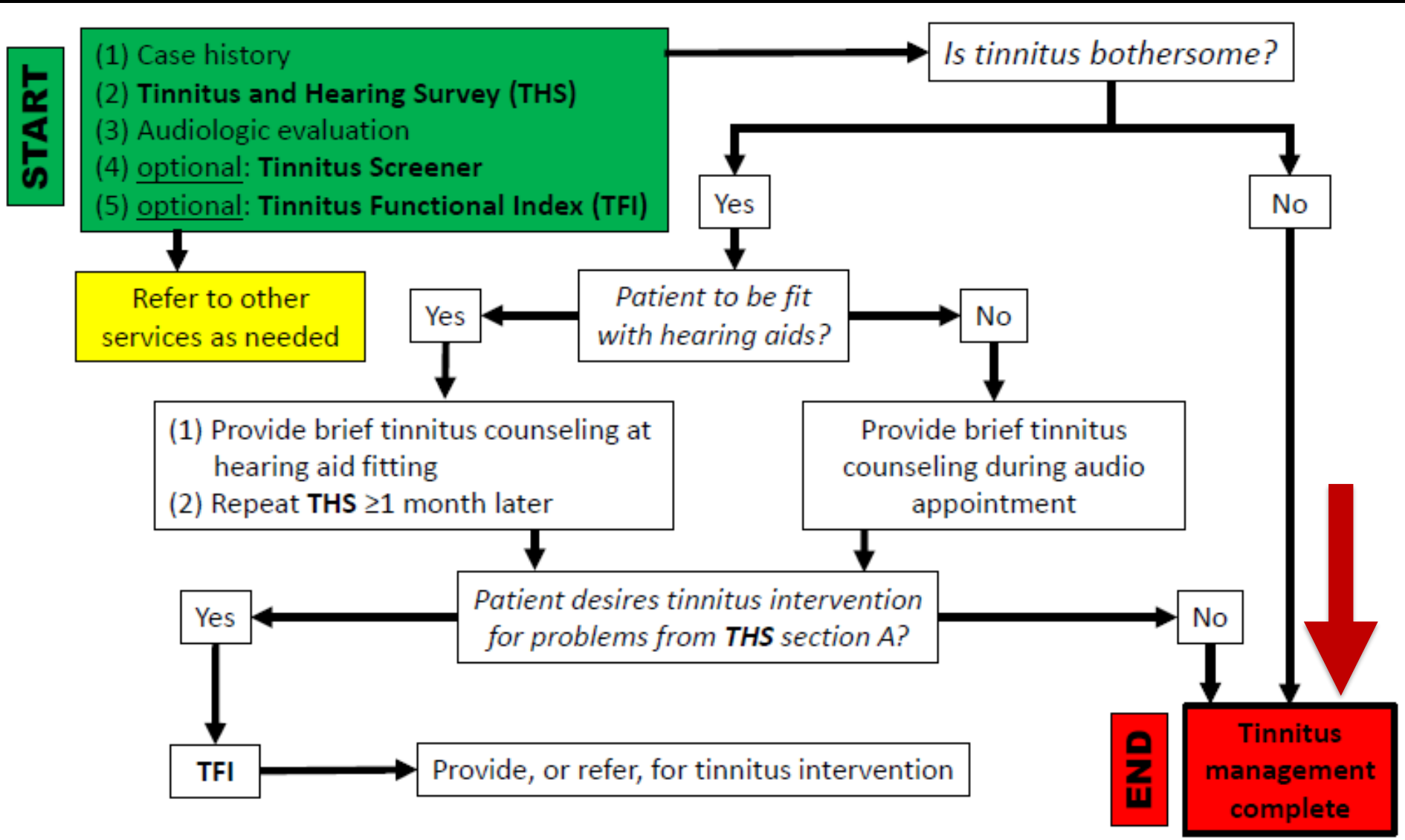
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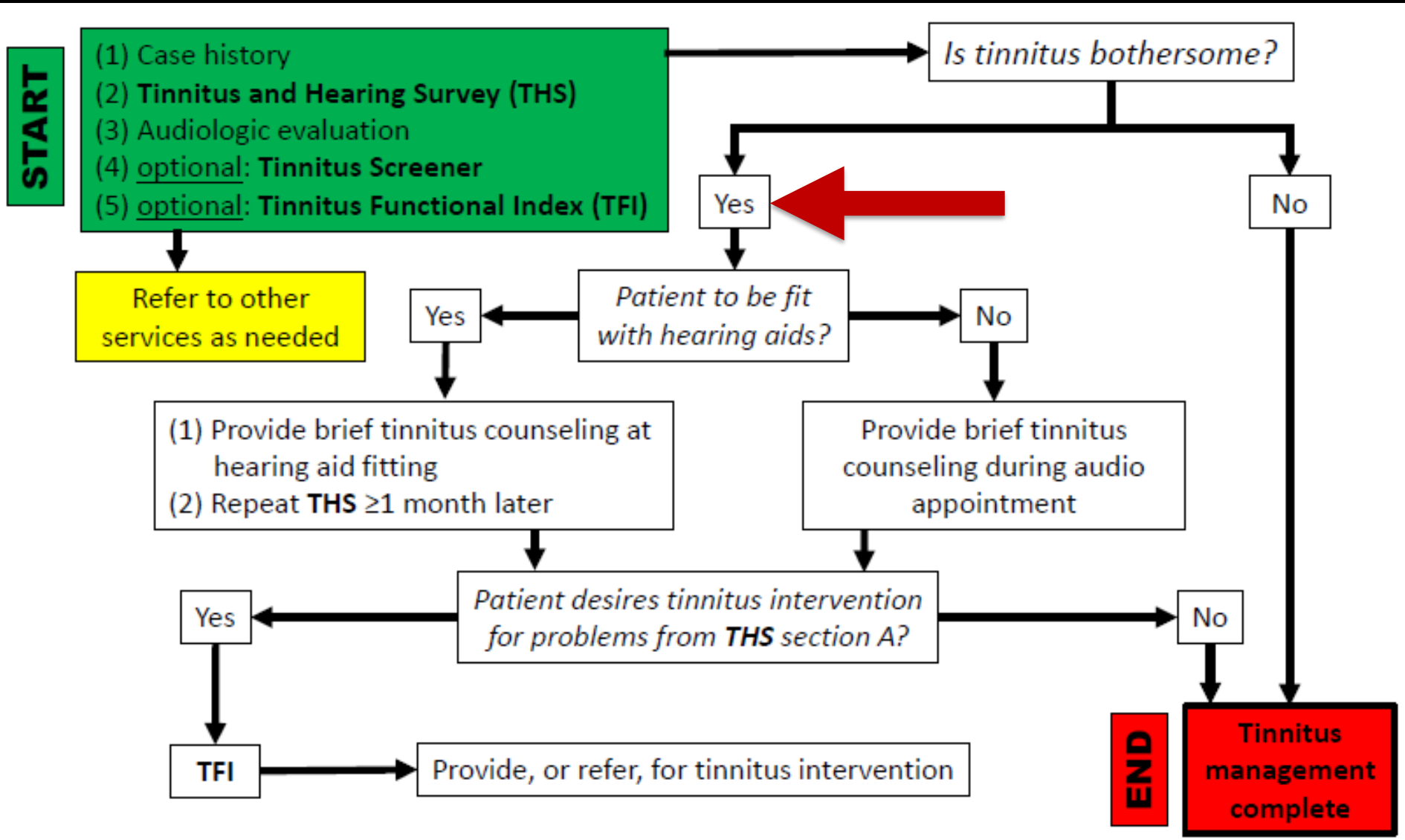
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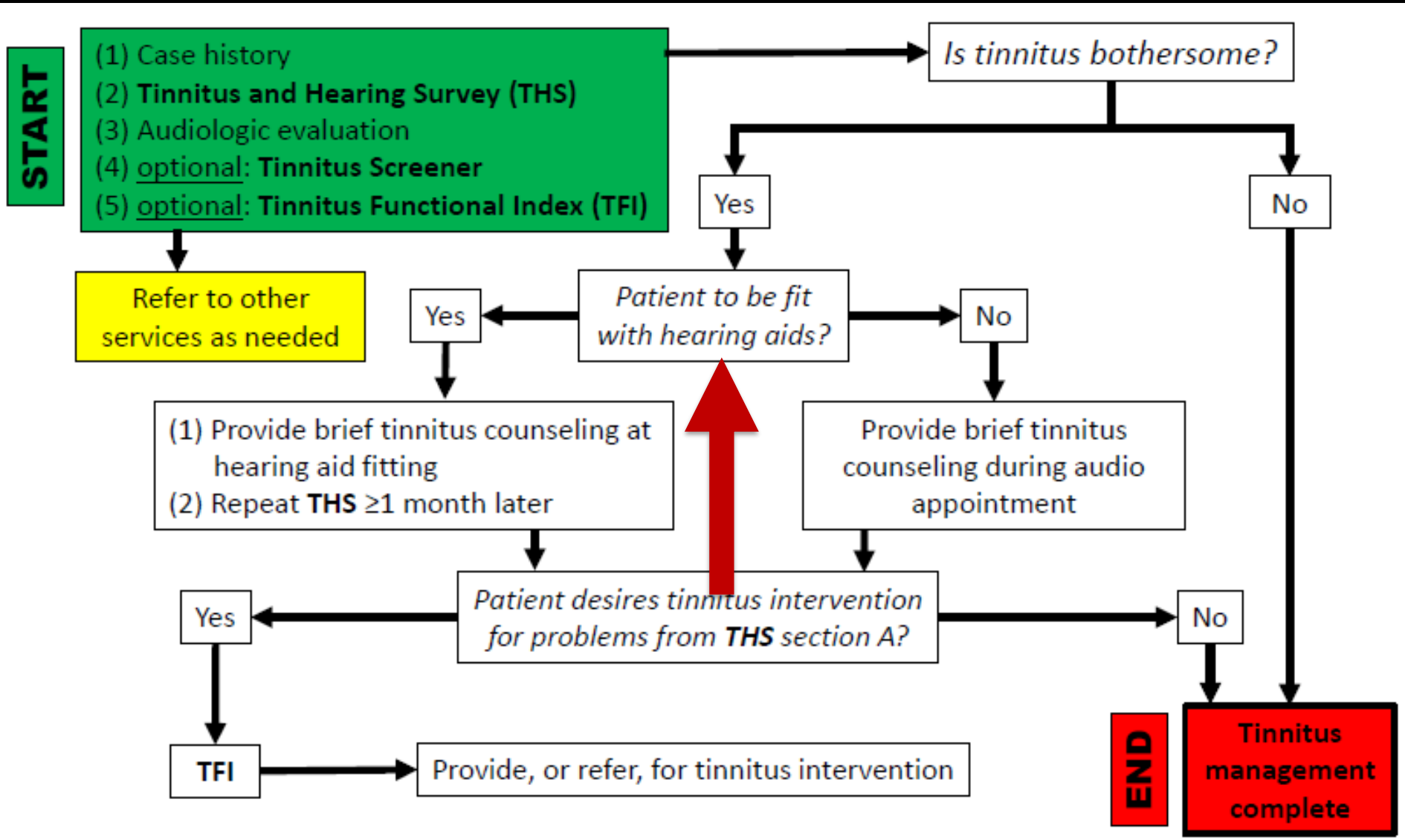
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Tinnitus management complete

Patient to be Fit with Hearing Aids?

- Determined through use of the Tinnitus and Hearing Survey
- Joint decision involving both patient and audiologist
- Option of fitting combination instruments rather than hearing aids
  - If combination instruments are fit only use amplification at first
  - Activate the sound generator at a later time, and only if necessary

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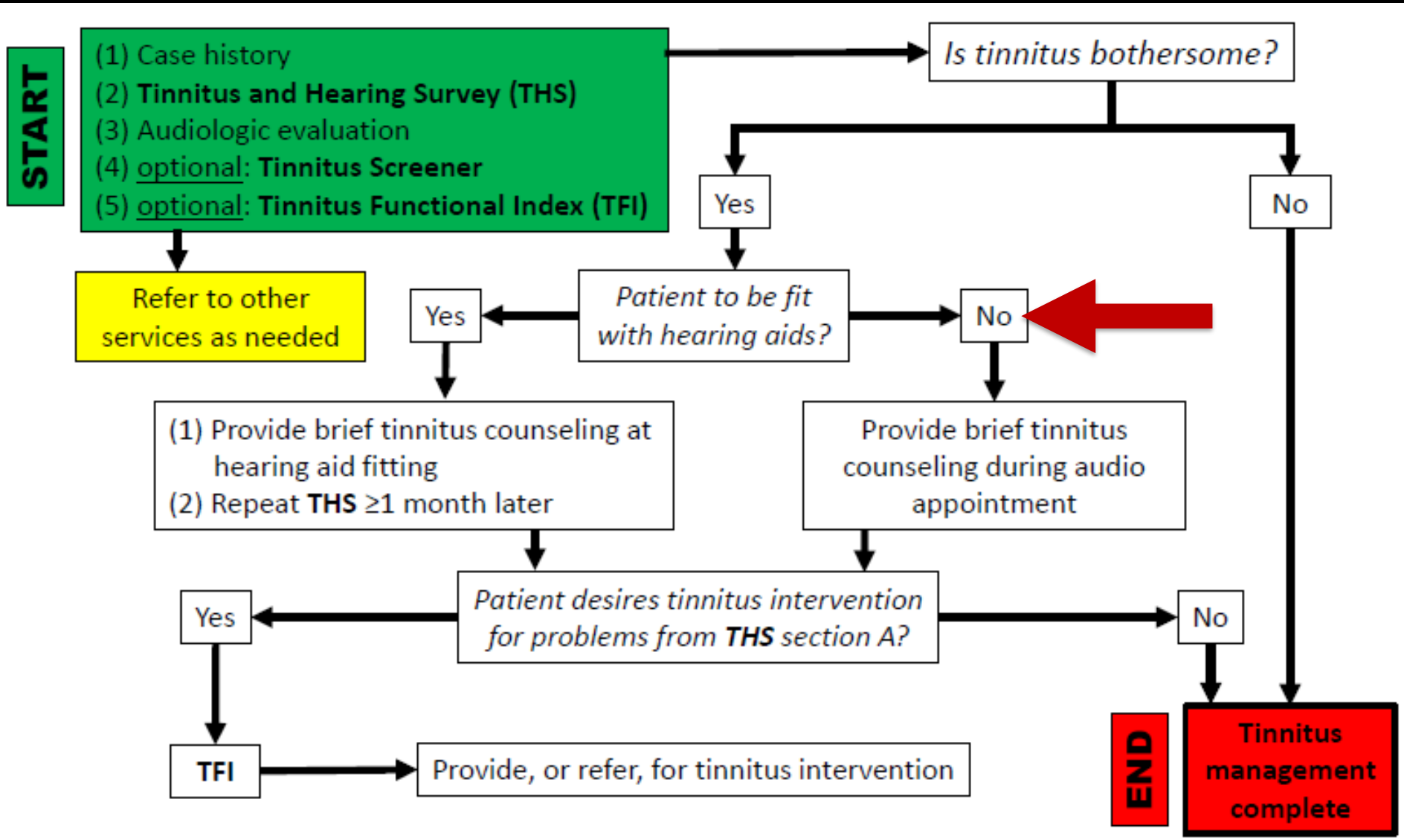
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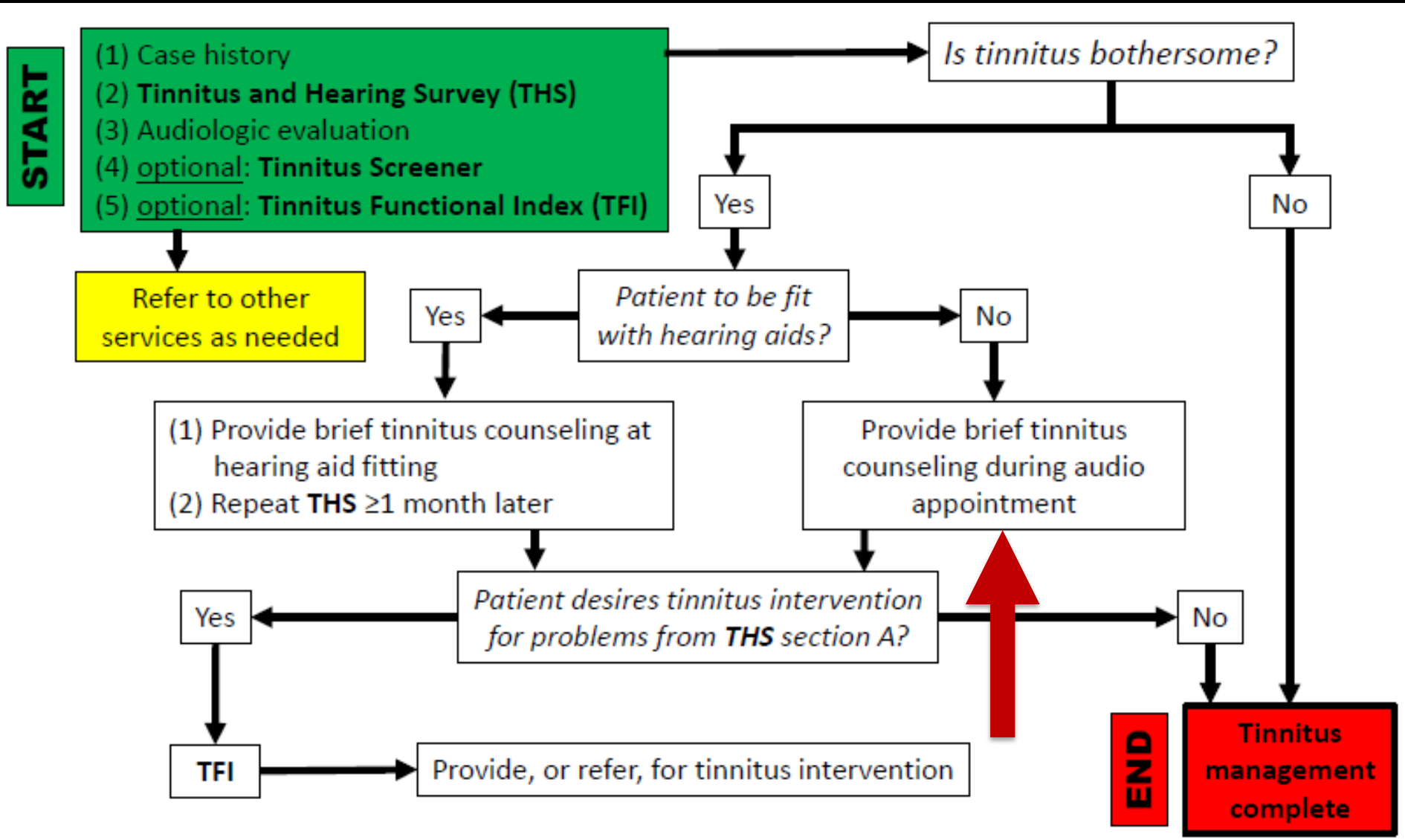
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AAO-HNSF CPG: Patient Education

- ✓ Recommended: education and counseling to aid in decision making, by teaching:
  - ✓ Available management strategies
  - ✓ Natural history and prognosis
  - ✓ Association between hearing loss and tinnitus
  - ✓ Effects of lifestyle factors on tinnitus management
  - ✓ Hearing protection from noise
- ✓ Recommended: provide brochures, suggest self-help books, and refer to health care professionals who offer evidence-based tinnitus services

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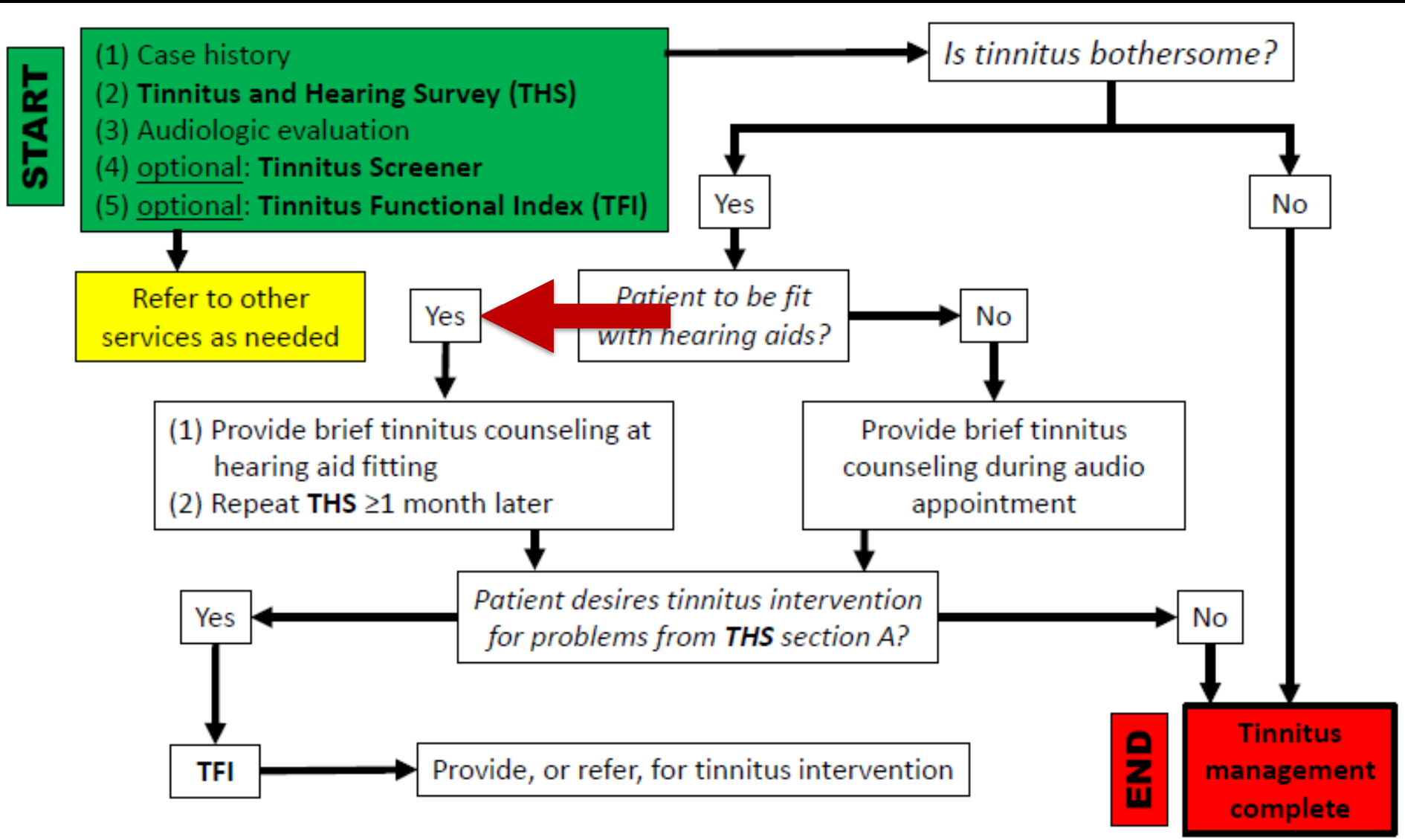
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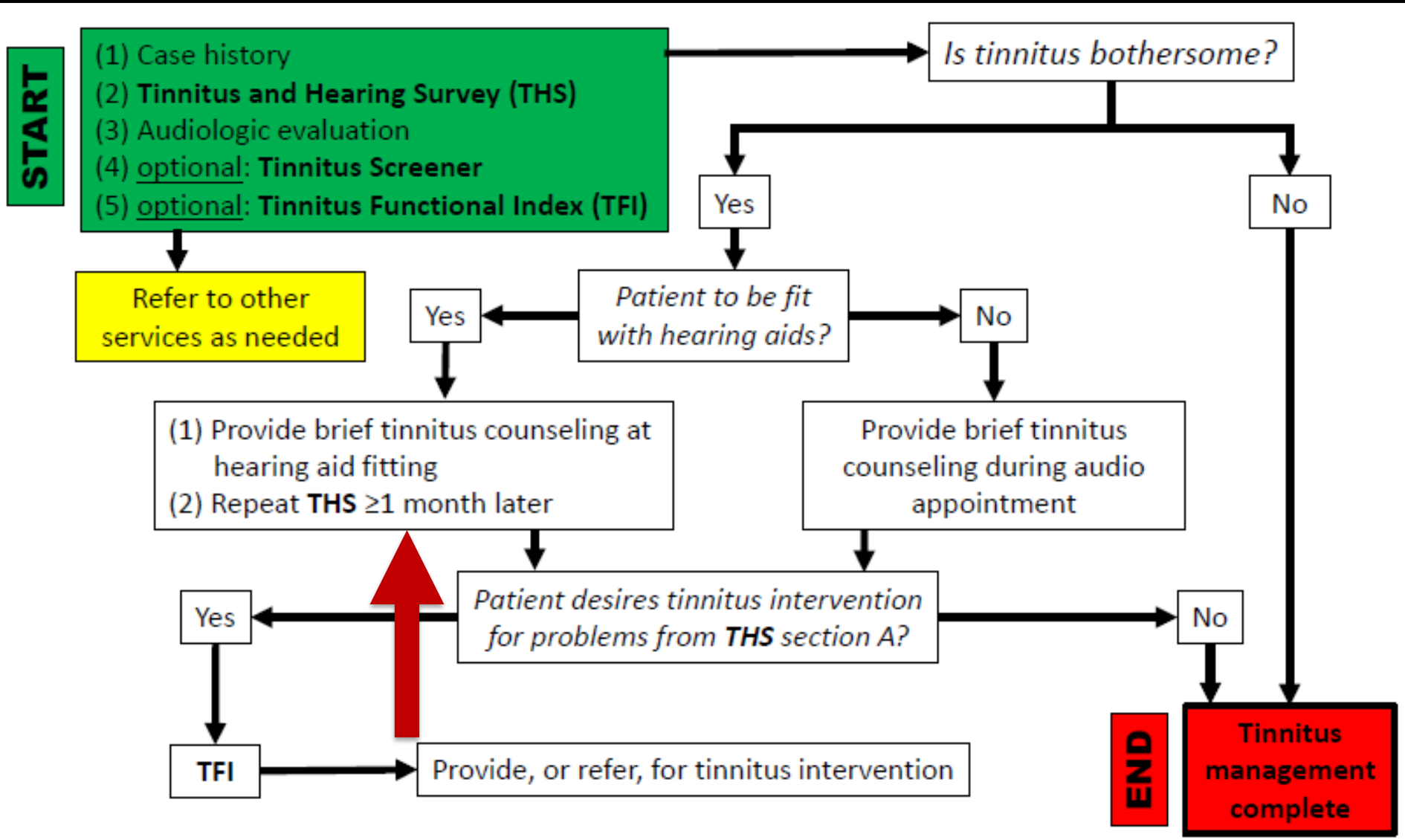
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Patient to be Fit with Hearing Aids? Follow-up if “yes”

- Patients should wear ear-level devices for at least 1 month, then return for a device check and repeat Tinnitus and Hearing Survey
- Patients asked if they would like to receive intervention for the types of problems described in the Tinnitus section (Section A)

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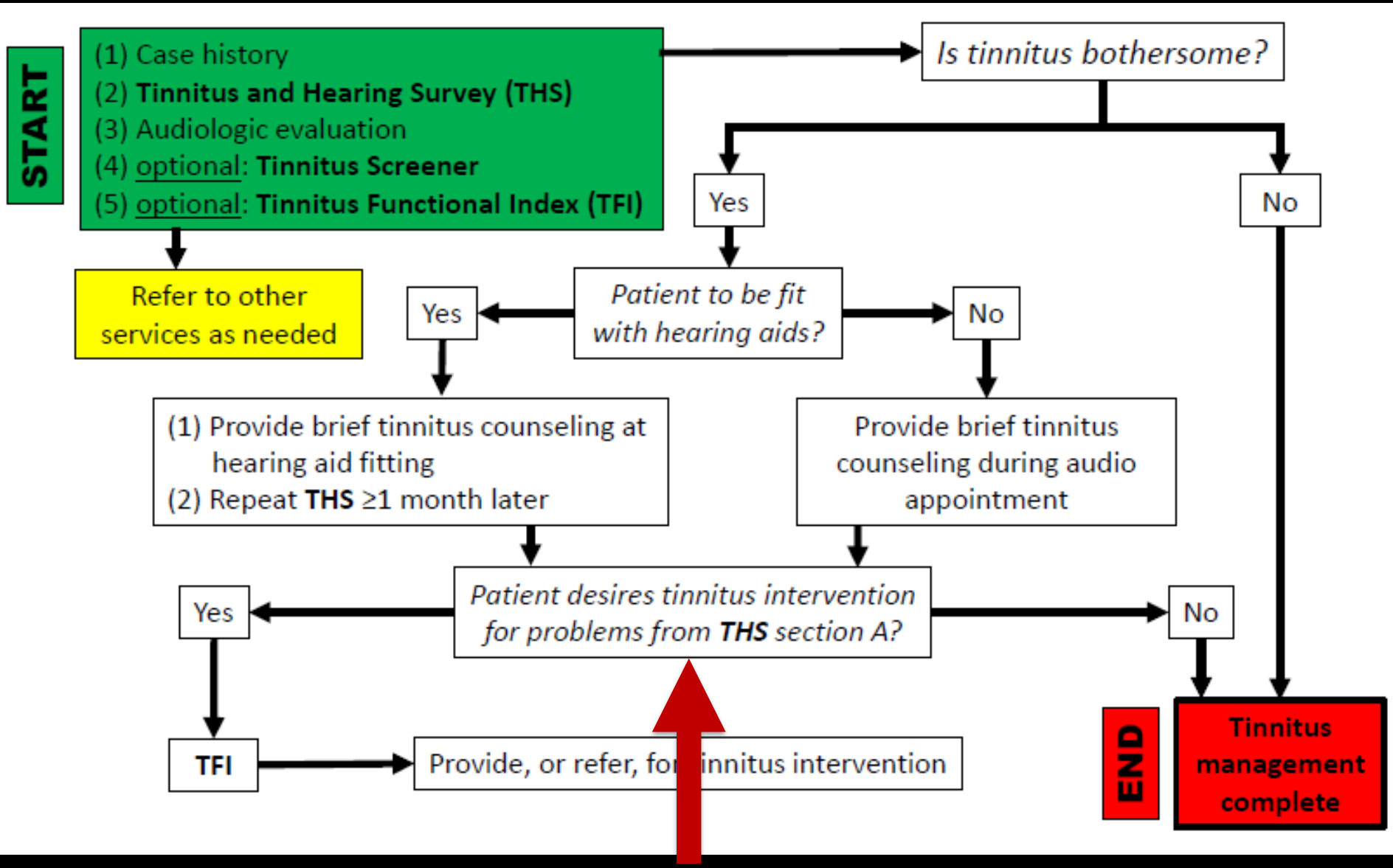
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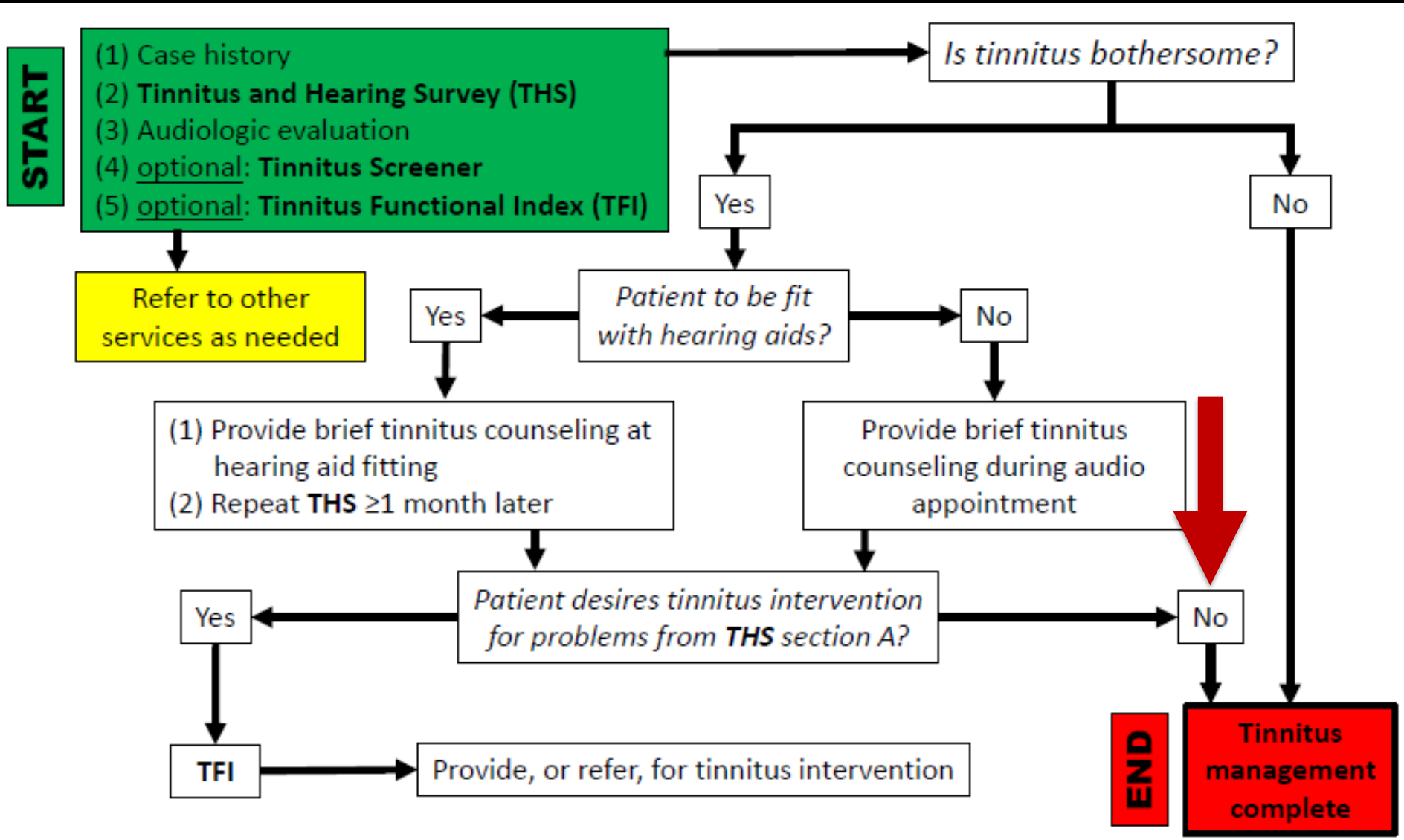
Patient Desires Tinnitus Intervention for Problems from THS Section A?

- If “no,” then audiologic management with respect to tinnitus is complete
- If “yes,” then the patient should complete the TFI
- TFI assessment serves as baseline to assess outcomes of any intervention that is provided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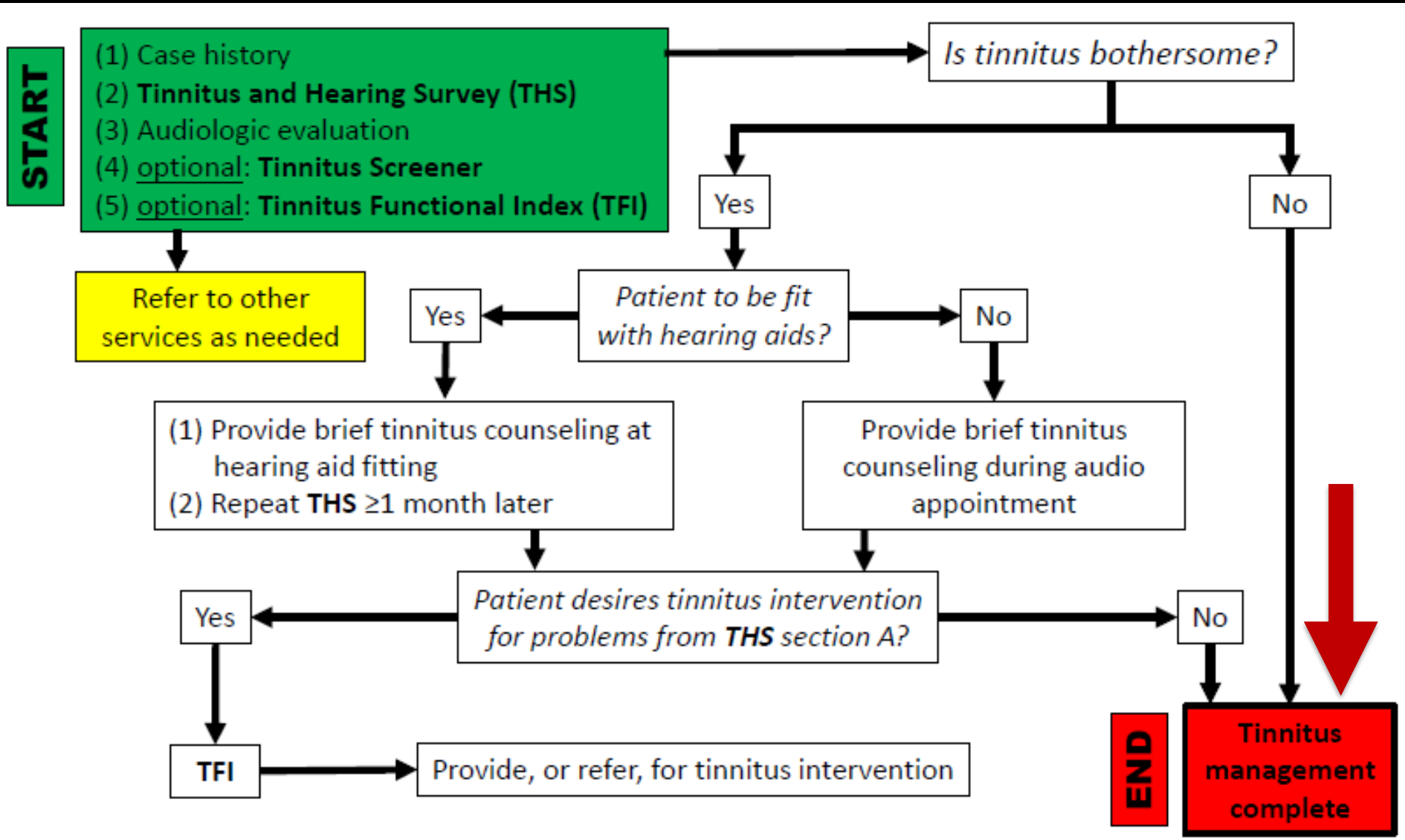
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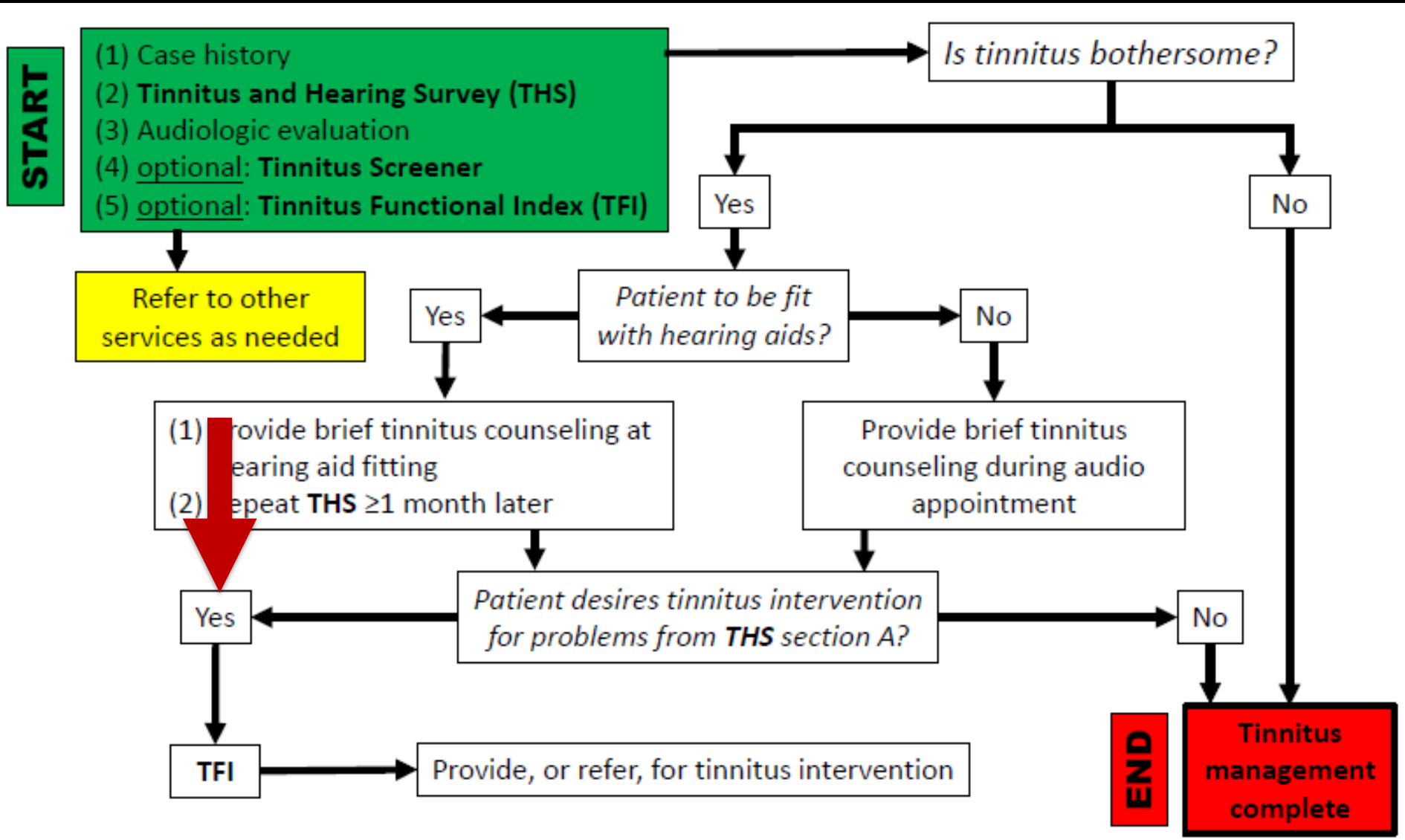
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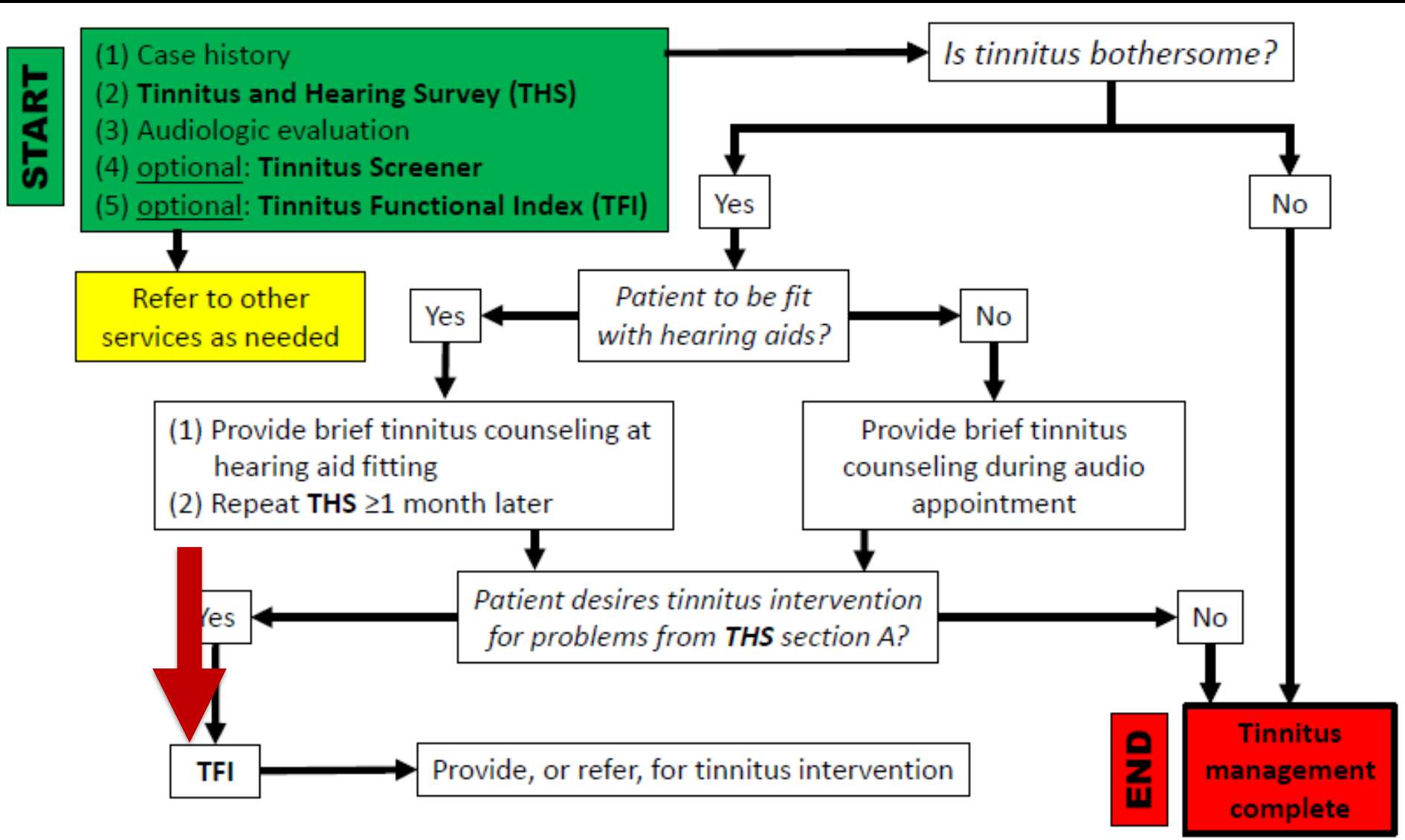
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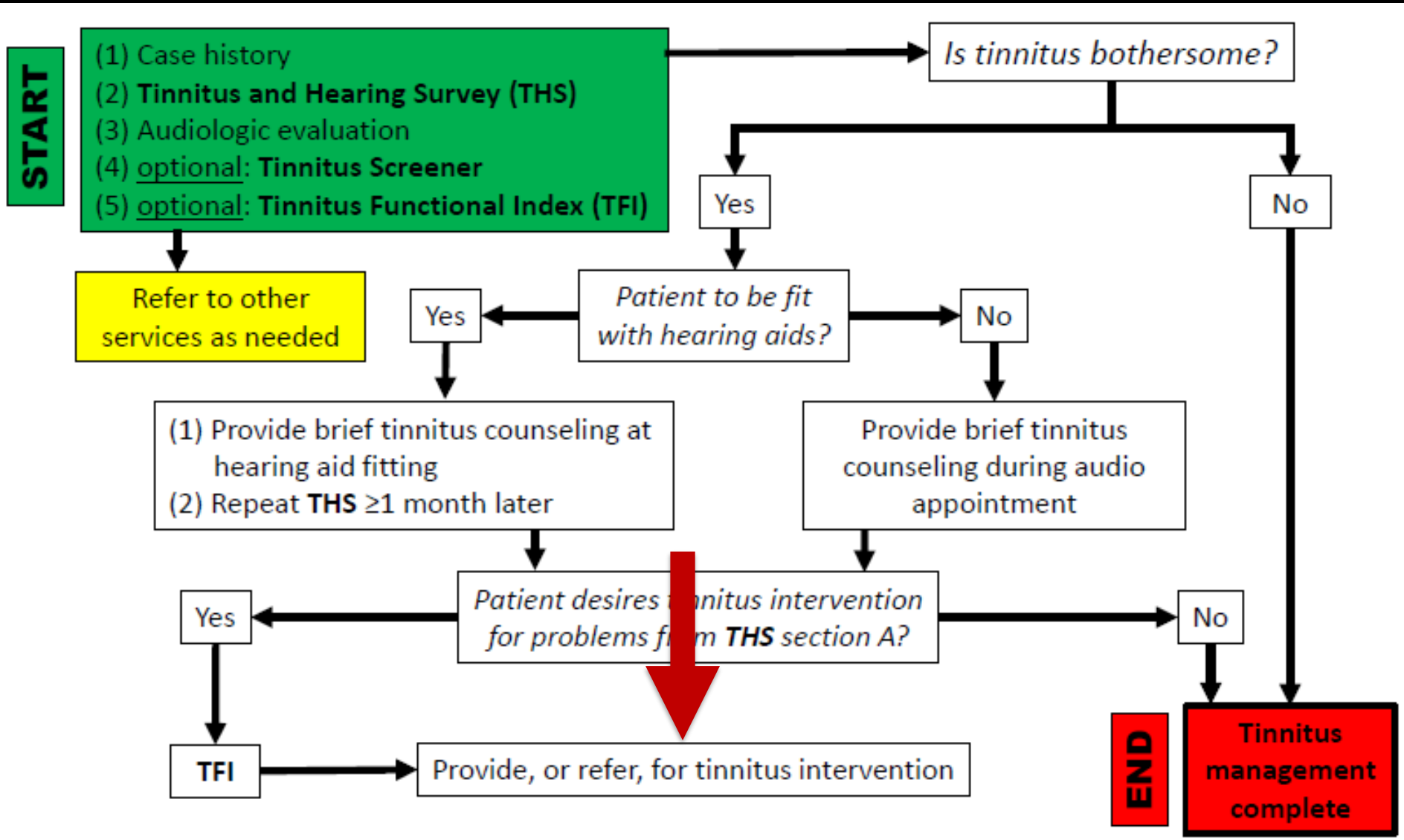
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Decision-Tree: Summary

- This decision-tree protocol describes what is done during the PTM Level 2 Audiologic Evaluation
- Procedures are research-based
- The decision-tree protocol has the potential to promote standardization of tinnitus practice across audiologists

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Further Tinnitus-Specific Services

- Systematic reviews support CBT as the most evidence-based method of tinnitus intervention
- Other Mental Health options: ACT, Mindfulness
- Counseling options for audiologists: PTM, TRT, TAT

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PTM Level 3 Skills Education

- 5 sessions of teaching self-care skills to manage reactions to tinnitus
  - 2 sessions: audiologist teaches specific strategies for using sound as therapy
  - 3 sessions: mental health provider teaches coping skills that are used with Cognitive-Behavioral Therapy (CBT)
- Patients instructed to match appropriate skills to their most problematic tinnitus situation
  - Results in 2 “action plans”—one to use sound in a specific manner; the other to use a CBT coping skill

PTM Level 3 “Action Plans”

- Starting point for utilizing or adapting different skills to attempt to mitigate effects of tinnitus
- Overall intent: provide patients with the tools to enable them to self-manage any situation when tinnitus affects their functional health—for a lifetime if necessary
- Level 3 has been evaluated in a randomized controlled trial

Henry JA, Thielman EJ, Zaugg TL, et al. Randomized controlled trial in clinical settings to evaluate effectiveness of coping skills education used with Progressive Tinnitus Management. *Journal of Speech Language and Hearing Research,* 60(5):1378-1397, 2017., 2017.

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Conclusions

- Clinical services should be evidence-based
- Lack of standards for tinnitus management means patients are vulnerable to being overcharged and under-treated
  - At the very least, both patients and providers should be aware of, and adhere to, the AAO-HNSF guidelines
- Clinical algorithm involves minimal effort and provides evidence-based care

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Thanks to These and Many Other Contributors

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- Kathleen Carlson, PhD
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