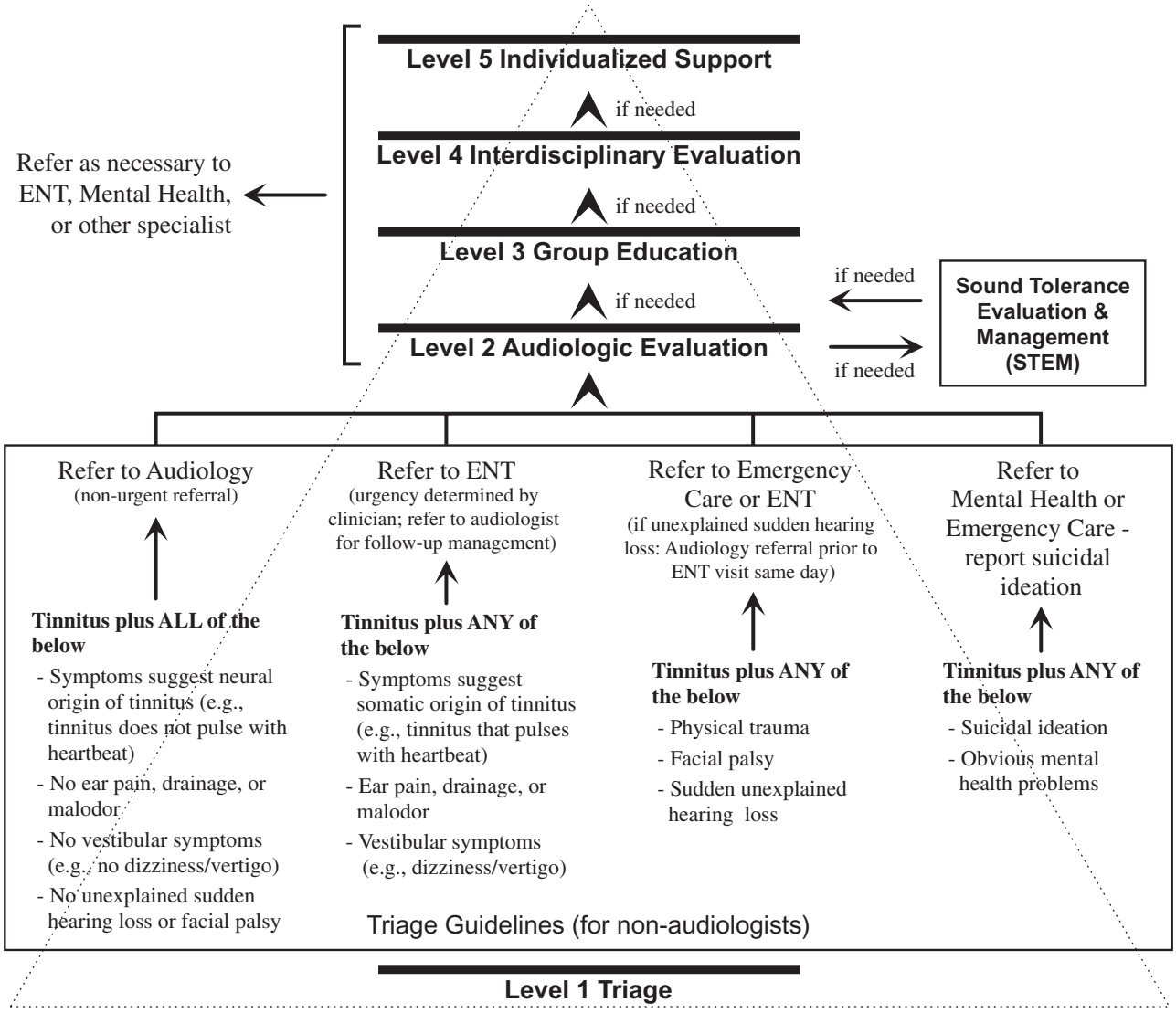
APPENDIX A

PTM
Progressive Tinnitus Management

PTM Flowchart



APPENDIX

B

PTM

Progressive Tinnitus Management

Tinnitus Triage Guidelines

(My Patient Complains About Tinnitus—What Should I Do?)

Tinnitus ("ringing in the ears") is experienced by 10 to 15% of the adult population. Of those, about one out of every five requires some degree of clinical intervention. When clinical intervention is required, often only some basic education is needed. However, some people with tinnitus have need for individualized care, or they have urgent medical issues. The following are general guidelines for triaging the patient who complains about tinnitus. Note that many symptoms that might be reported by patients are not included. For example, patients who report tinnitus may also report symptoms of head or neck injury/disease, or of TMJ disorder. These and other symptoms would indicate referral to appropriate specialists.

If the patient:	***Refer to:***
1. • Has physical trauma,facial palsy, or unexplained sudden hearing loss • Has any other urgent medical condition	Emergency Care or Otolaryngology (If unexplained sudden hearing loss—Audiology referral prior to Otolaryngology visit same day) *(emergency referral)*
2. • Has suicidal/homicidal ideations • Manifests obvious mental health problems	Emergency Care or Mental Health—report suicidal/homicidal ideation (*may be emergency*—if so, escort patient to Emergency Care or Mental Health)
3. Has ANY of the following: • Symptoms suggest somatic origin of tinnitus (example: tinnitus that pulses with heartbeat) • Ear pain, drainage, or malodor • Vestibular symptoms (example: dizziness/vertigo)	Otolaryngology (*urgency determined by clinician*; refer to audiologist for follow-up management)
4. Has ALL of the following: • Symptoms suggest neural origin of tinnitus (example: tinnitus that does not pulse with heartbeat) • No ear pain, drainage, or malodor • No vestibular symptoms (example:no dizziness/vertigo) • No unexplained sudden hearing loss or facial palsy	Audiology

APPENDIX

C

PTM

Progressive Tinnitus Management

Overview of Objectives and Procedures of the Level 2 Audiologic Evaluation

Determine need for:	***Assessment procedures:***	***Action needed:***
1. Referral for medical examination	Standard clinical procedures	Refer to otolaryngology
2. Hearing aids or assistive listening devices	Standard clinical procedures	Fit devices as appropriate
3. Level 3 Group Education	Discuss with patient the responses to the Tinnitus and Hearing Survey (primarily Section A) (Appendix D). If the patient is interested in attending a workshop that focuses on managing problems listed in section A then action is needed.	Schedule patient for group workshops (after fitting of any instruments)
4. Provision of Loudness Tolerance Handout: "What to Do When Everyday Sounds Are Too Loud" (Appendix E)	Review item 1 from Section C of the Tinnitus and Hearing Survey (Appendix D). If the patient reports at least a mild loudness tolerance problem, then action is needed.	Provide a copy of the handout to the patient with a brief explanation of its purpose
5. Assessment for a loudness tolerance problem	Discuss with the patient the responses to the Tinnitus and Hearing Survey (primarily item 2 from Section C) (Appendix D). If the patient reports that a loudness tolerance problem would make it difficult to attend a group education class, then action is needed.	Schedule the patient for a Sound Tolerance Evaluation and Management (STEM) appointment. Suspend Level 3 of PTM until the sound tolerance problem is resolved.
6. Mental health screening	Screening is done at Level 2 only if the patient exhibits behaviors or makes statements that would suggest the need for mental health screening	Refer patient to a mental health provider that is part of the "PTM or tinnitus team," or to primary care for mental health screening
7. Provision of self-help education workbook: *How to Manage Your Tinnitus: A Step-by-Step Workbook*	Patients who have problematic tinnitus should be advised to attend Level 3 Group Education. The workbook normally is provided to patients at the start of the first Level 3 workshop.	Issue a workbook at the end of Level 2 *only if the patient cannot or will not attend Level 3 Group Education*. If time permits, point out sections of the workbook that are applicable to the patient's situation.

APPENDIX

D

PTM

Progressive Tinnitus Management

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, everyday sounds were too loud for me.*	0	1	2	3	4	
If you responded 1, 2, 3 or 4 to the statement above:						
Being in a meeting with 5 to 10 people would be too loud for me.*	0	1	2	3	4	

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

APPENDIX

E

PTM

Progressive Tinnitus Management

What to Do When Everyday Sounds Are Too Loud

(Not related to using hearing aids)

*Bill Smith is bothered by **everyday sounds**. (This problem is sometimes called **hyperacusis**.) Kitchen sounds and the vacuum cleaner are too loud for him. He is bothered by road noise when he drives. It seems like everything at church is too loud. What should Bill do? Believe it or not, being around more sound can make things **better**! And, staying away from sound can make his problem **worse**! What??? He should add **more** sound??? Keep reading and we'll explain . . .*

There are three things you can do if everyday sounds are too loud for you.

1. Keep yourself surrounded with sound that is comfortable for you.
2. Listen to sounds that you enjoy as often as you can.
3. Only wear hearing protection when you really need to.

1. **Keep yourself surrounded with sound that is comfortable for you.**

Why should I keep myself surrounded with sound? Let's start by thinking about your eyes and how they adjust to light. Imagine sitting in a dark movie theater and then going outside into the daylight. Everything seems brighter to you than it does to people who were not sitting in the dark. Your eyes had adjusted to the dark and now they have to readjust to the daylight.

Your ears adjust to sound like your eyes adjust to light. If you stay away from sound, your ears will slowly adjust to the quiet. After a while, everyday sounds will seem louder and harder to tolerate. Avoiding sound will only make the problem worse.

If you keep yourself surrounded with sound, your ears will readjust. It will slowly become easier for you to tolerate everyday sounds. You should only use sounds that are comfortable for you. It usually takes at least a few weeks of being around sound for this change to happen.

How do I keep myself surrounded with sound? You can use any sound that is not annoying (the sound can be either neutral or pleasant). Here are some ideas:

- Listen to music at a comfortable level.
- Listen to radio shows.
- Play recordings of nature sounds.
- Keep a fan running.
- Use a tabletop water fountain.

Another choice: Some people wear small instruments in their ears that make a "shhh" sound. These instruments are called *in-the-ear noise generators* or *maskers*. Your audiologist can tell you more about them.

2. **Listen to sounds that you enjoy as often as you can.**

Why should I listen to sounds that I enjoy as often as I can? We just talked about the problem of everyday sounds being too loud (*hyperacusis*). Many people also have another problem: they just *don't like* certain sounds, but *not because they are too loud*. (This problem is sometimes called *misophonia*.) If you don't like certain sounds, you should make a point of listening to sounds that you enjoy. Spending time enjoying sound can help you get better at tolerating everyday sounds that you don't like.

3. **Only wear hearing protection when you really need to.**

Why should I use ear protection *only* when I really need to? When everyday sounds seem too loud, some people start using ear protection all the time. Remember that avoiding sound will make the problem worse. Only use ear protection when sounds are dangerously loud or uncomfortably loud. *As soon* as the sound around you is at a safe and comfortable level, take the ear protection off. The goal is to wear ear protection *only when needed*.

Use earplugs or earmuffs *only* when:

- sounds around you are uncomfortably loud
- you are around dangerously loud sounds like:
  - lawn mowers
  - loud concerts
  - power tools
  - guns
  - etc.

Is there any research?
Yes. In 2002 Formby, Sherlock, and Gold[1] studied *sound tolerance*.

- There were two groups of people:
  1. One group wore earplugs for 2 weeks.
  2. The other group wore in-the-ear sound generators ("maskers") that make a "shhh" sound.
- After 2 weeks:
  - The people who wore earplugs could tolerate *less* sound than before.
  - The people who wore sound generators could tolerate *more* sound than before.
- This study showed that:
  - Adding sound makes it easier to tolerate sound.
  - Staying in quiet makes it harder to tolerate sound.

Bottom line
If everyday sounds bother you:

- Surrounding yourself with comfortable sound will help.
- Avoiding sound will make the problem worse.

How long does it take?
It can take weeks or months for your ears to adjust.

Talk to your audiologist if you have any questions.

[1]"Adaptive Calibration of Chronic Auditory Gain: Interim Findings," by C. Formby, L. P. Sherlock, & S. L. Gold, 2002, In *Proceedings of the VIIth International Tinnitus Seminar* (pp. 165–169) by R. Patuzzi (Ed.), Crawley, Australia: University of Western Australia.

APPENDIX F

PTM
Progressive Tinnitus Management

Tinnitus Handicap Inventory

Instructions: The purpose of this questionnaire is to identify problems your tinnitus may be causing you. Check **Yes**, **Sometimes**, or **No** for each question. Do not skip a question.

		Yes (4)	*Sometimes (2)*	*No (0)*
1F	Because of your tinnitus, is it difficult for you to concentrate?	☐	☐	☐
2F	Does the loudness of your tinnitus make it difficult for you to hear people?	☐	☐	☐
3E	Does your tinnitus make you angry?	☐	☐	☐
4F	Does your tinnitus make you feel confused?	☐	☐	☐
5C	Because of your tinnitus, do you feel desperate?	☐	☐	☐
6E	Do you complain a great deal about your tinnitus?	☐	☐	☐
7F	Because of your tinnitus, do you have trouble falling to sleep at night?	☐	☐	☐
8C	Do you feel as though you cannot escape your tinnitus?	☐	☐	☐
9F	Does your tinnitus interfere with your ability to enjoy social activities (such as going out to dinner, to the movies)?	☐	☐	☐
10E	Because of your tinnitus, do you feel frustrated?	☐	☐	☐
11C	Because of your tinnitus, do you feel that you have a terrible disease?	☐	☐	☐
12F	Does your tinnitus make it difficult for you to enjoy life?	☐	☐	☐
13F	Does your tinnitus interfere with your job or household responsibilities?	☐	☐	☐
14F	Because of your tinnitus, do you find that you are often irritable?	☐	☐	☐
15F	Because of your tinnitus, is it difficult for you to read?	☐	☐	☐
16E	Does your tinnitus make you upset?	☐	☐	☐
17E	Do you feel that your tinnitus problem has placed stress on your relationship with members of your family and friends?	☐	☐	☐
18F	Do you find it difficult to focus your attention away from your tinnitus and on other things?	☐	☐	☐
19C	Do you feel that you have no control over your tinnitus?	☐	☐	☐
20F	Because of your tinnitus, do you often feel tired?	☐	☐	☐
21E	Because of your tinnitus, do you feel depressed?	☐	☐	☐
22E	Does your tinnitus make you feel anxious?	☐	☐	☐
23C	Do you feel that you can no longer cope with your tinnitus?	☐	☐	☐

continues

Appendix F continued

		Yes (4)	*Sometimes (2)*	*No (0)*
24F	Does your tinnitus get worse when you are under stress?	☐	☐	☐
25E	Does your tinnitus make you feel insecure?	☐	☐	☐
	Total	____	____	____

F denotes an item on the functional subscale; E, an item on the emotional subscale; and C, an item on the catastrophic response subscale.

From "Development of the Tinnitus Handicap Inventory," by C. W. Newman, G. P. Jacobson, & J. B. Spitzer, 1996, *Archives of Otolaryngology-Head and Neck Surgery, 122*, 143–148. Reprinted with permission.

TINNITUS HANDICAP INVENTORY
Screening Version

Instructions: The purpose of this questionnaire is to identify problems your tinnitus may be causing you. Check **Yes**, **Sometimes**, or **No** for each question. Do not skip a question.

		Yes (4)	*Sometimes (2)*	*No (0)*
1	Because of your tinnitus, is it difficult for you to concentrate?	☐	☐	☐
2	Do you complain a great deal regarding your tinnitus?	☐	☐	☐
3	Do you feel as though you cannot escape your tinnitus?	☐	☐	☐
4	Does your tinnitus make you feel confused?	☐	☐	☐
5	Because of your tinnitus, do you feel frustrated?	☐	☐	☐
6	Do you feel that you can no longer cope with your tinnitus?	☐	☐	☐
7	Does your tinnitus make it difficult for you to enjoy life?	☐	☐	☐
8	Does your tinnitus make you upset?	☐	☐	☐
9	Because of your tinnitus, do you have trouble falling asleep at night?	☐	☐	☐
10	Because of your tinnitus, do you feel depressed?	☐	☐	☐
	Total	____	____	____

From "Development and Psychometric Adequacy of the Screening Version of the Tinnitus Handicap Inventory," by C. W. Newman, S. A. Sandridge, & L. Bolek, 2008, *Otology and Neurotology, 29*(3), 276–281. Reprinted with permission.

APPENDIX G

PTM
Progressive Tinnitus Management

Hearing Handicap Inventory—E
Screening Version

Please answer the following questions based on your last two weeks.

		Yes (4)	*Sometimes (2)*	*No (0)*
1.	Does a hearing problem cause you to feel embarrassed when you meet new people?	☐	☐	☐
2.	Does a hearing problem cause you to feel frustrated when talking to members of your family?	☐	☐	☐
3.	Do you have difficulty when someone speaks in a whisper?	☐	☐	☐
4.	Do you feel handicapped by a hearing problem?	☐	☐	☐
5.	Does a hearing problem cause you difficulty when visiting friends, relatives, or neighbors?	☐	☐	☐
6.	Does a hearing problem cause you to attend religious services less often than you would like?	☐	☐	☐
7.	Does a hearing problem cause you to have arguments with family members?	☐	☐	☐
8.	Does a hearing problem cause you difficulty when listening to TV or radio?	☐	☐	☐
9.	Do you feel that any difficulty with your hearing limits or hampers your personal or social life?	☐	☐	☐
10.	Does a hearing problem cause you difficulty when in a restaurant with relatives or friends?	☐	☐	☐
	Total	____	____	____

From "Identification of Elderly People with Hearing Problems," by I. M. Ventry, & B. E. Weinstein, 1983, *Asha, 25(7)*, 37–42. Reprinted with permission.

APPENDIX

H

PTM

Progressive Tinnitus Management

Tinnitus Problem Checklist

1. My **most** bothersome tinnitus situation is:

☐ Falling asleep at night	☐ Relaxing in my recliner
☐ Staying asleep at night	☐ Napping during the day
☐ Waking up in the morning	☐ Planning activities
☐ Reading	☐ Driving
☐ Working at the computer	☐ Other _____

Write your answer on #1 of the Sound Plan Worksheet. Copies of the worksheet can be found at the end of the self-help workbook.[1]

2. My **second most** bothersome tinnitus situation is:

☐ Falling asleep at night	☐ Relaxing in my recliner
☐ Staying asleep at night	☐ Napping during the day
☐ Waking up in the morning	☐ Planning activities
☐ Reading	☐ Driving
☐ Working at the computer	☐ Other _____

Write your answer on #1 of a *separate* Sound Plan Worksheet.

3. My **third most** bothersome tinnitus situation is:

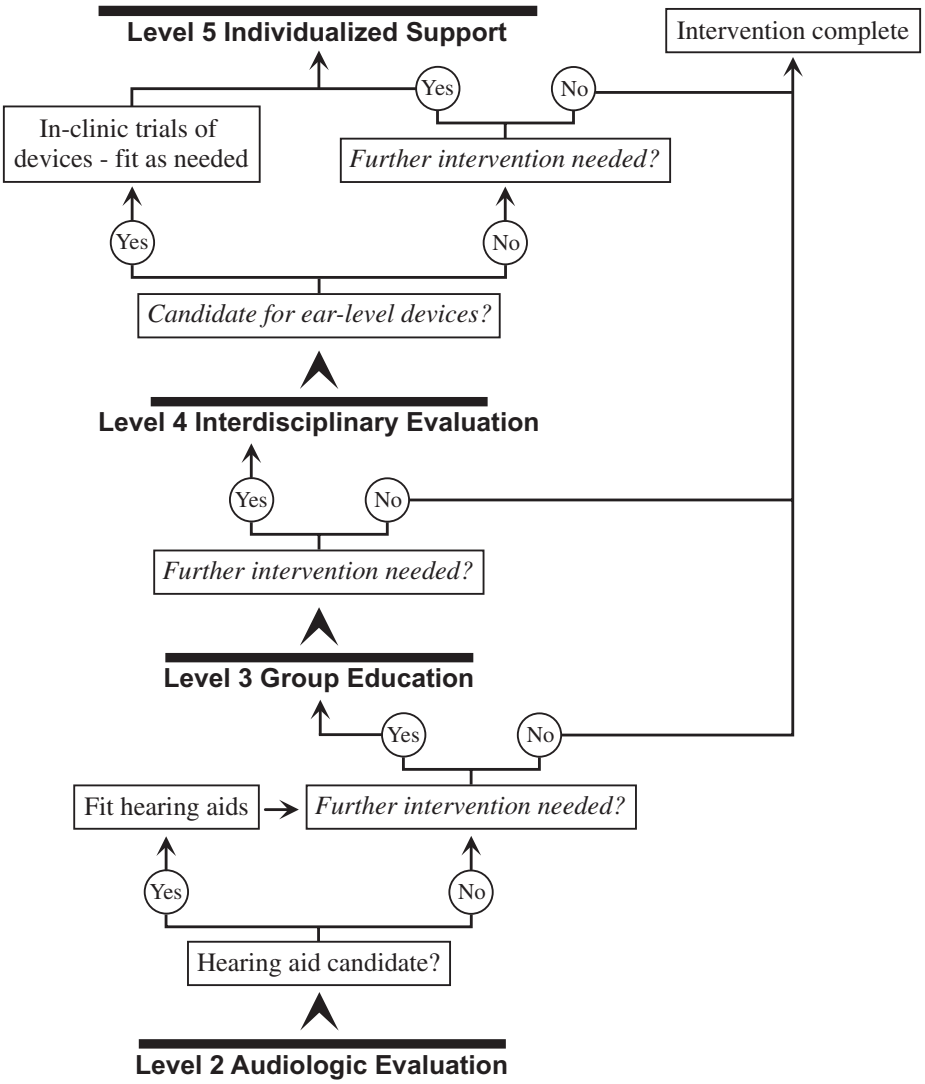
☐ Falling asleep at night	☐ Relaxing in my recliner
☐ Staying asleep at night	☐ Napping during the day
☐ Waking up in the morning	☐ Planning activities
☐ Reading	☐ Driving
☐ Working at the computer	☐ Other _____

Write your answer on #1 of a *separate* Sound Plan Worksheet.

[1]*How to Manage Your Tinnitus: A Step-by-Step Workbook*, by J. A. Henry, T. L. Zaugg, P. M. Myers, & C. M. Kendall, 2010, San Diego, CA: Plural Publishing, Inc. Reprinted with permission.

Flowchart for Assessment and Fitting of Ear-Level Instruments

Level 1 is the triage level and does not involve audiology services. The focus of this flowchart is to show how decisions normally are made regarding the evaluation and fitting of different ear-level instruments (hearing aids, noise generators, and combination instruments) that can be used for tinnitus management. As noted in Chapter 5, new models of combination instruments do not sacrifice hearing aid performance. These devices can be fitted at Level 2, but it is recommended that the sound/noise generator be turned off until after the patient has attended at least the first session of Level 3 Group Education.



APPENDIX

J

PTM

Progressive Tinnitus Management

Level 2 Audiologic Evaluation: Special Considerations for Hearing Aids

1. **Some patients are obvious hearing aid candidates. Fit them with hearing aids as you normally would, except try to incorporate the following hearing aid features that are important for tinnitus management:**

   A. Use open-ear fitting if possible (or maximum venting)
   B. Use feedback reduction circuitry to enable most open fitting
   C. Ensure that any feature for reducing circuit noise (e.g., expansion) can be disabled—internal/floor noise can be desirable for tinnitus
   D. Ensure that any feature for reducing environmental noise can be disabled

2. **Some patients are borderline hearing aid candidates. Be more open to trying hearing aids with these patients than for patients who do not have a tinnitus problem. Explain to these patients that hearing aids can help with both hearing problems and tinnitus problems.**

   A. Consider hearing aids for borderline hearing aid candidates if:
      1) Patient is motivated to try hearing aids for the purpose of improving communicative and other hearing problems
         AND/OR
      2) Patient is motivated to try hearing aids for the purpose of amplifying environmental sound to reduce tinnitus intrusiveness
   B. Incorporate the hearing aid features listed above that are important for tinnitus management.

APPENDIX

K

PTM

Progressive Tinnitus Management

Sound Tolerance Interview

[Note to clinician: Use this interview only if the patient already has reported a sound tolerance problem.]

Instructions to patients: You told me that some sounds are too loud for you when they seem normal to other people around you. We refer to this as **trouble tolerating sound**. I am going to ask you some questions about trouble tolerating sound. When you answer the questions, think back to how you have been doing over the last week.

1. **Do you wear hearing aids?**

   ☐ No—go to Question 2
   ☐ Yes

   (If YES) Are everyday sounds too loud when you are wearing your hearing aids?

   ☐ No
   ☐ Yes

   (If YES) Are everyday sounds too loud when you are ***not*** wearing your hearing aids?

   ☐ No
   ☐ Yes

   [Note to clinician: If the sound tolerance problem appears to be caused by sounds amplified by hearing aids, consider making compression, MPO, and/or other adjustments to the aids to improve comfort. If the patient is not bothered by sound when unaided, then it is possible that all that is needed is to adjust the hearing aids for comfort.]

2. ***How*** **does trouble tolerating sound affect your life?**

   _____

3. **On a scale of 0 to 10, *how much* does trouble tolerating sound affect your life? ("0" would be "not at all"; "10" would be "as much as you can imagine.")**

   (not at all) 0 1 2 3 4 5 6 7 8 9 10 (as much as you can imagine)

4. **What kinds of sounds are too loud for you?**

   [Clinician: check all categories that apply; circle any sounds that the patient identifies as a problem; write in any additional sounds mentioned by the patient.]

   ☐ **Higher pitched sounds** (squeals, squeaks, beeps, whistles, rings, _____)
   ☐ **Lower pitched sounds** (bass from radio, next-door music, _____)

continues

Appendix K continued

- ☐ **Traffic (warning) sounds** (emergency vehicle sirens, car horns, backup beeper on truck/van, _____)
- ☐ **Traffic (background) sounds** (road noise, road construction, diesel engines, garbage trucks, _____)
- ☐ **Sudden impact sounds** (door slam, car backfiring, objects dropping on floor, dishes clattering, _____)
- ☐ **Voices** (television, radio, movies, children's voices, dog barking, _____)
- ☐ **Other** (describe _____)

5. I'm going to read a list of activities. I want you to tell me how often trouble tolerating sound is a problem during these activities.

[Clinician: check ***avoids*** if the patient avoids any of these activities due to trouble tolerating sound; if an activity is avoided, you *can* check two boxes for that activity.]

	Never	*Rarely*	*Sometimes*	*Often*	*Always*	*N/A*	**Avoids**
a. Concerts?	☐	☐	☐	☐	☐	☐	☐
b. Shopping?	☐	☐	☐	☐	☐	☐	☐
c. Movies?	☐	☐	☐	☐	☐	☐	☐
d. Work? (select N/A if retired)	☐	☐	☐	☐	☐	☐	☐
e. Day-to-day responsibilities outside of work?	☐	☐	☐	☐	☐	☐	☐
f. Going to restaurants?	☐	☐	☐	☐	☐	☐	☐
g. Driving?	☐	☐	☐	☐	☐	☐	☐
h. Participating in or observing sports events?	☐	☐	☐	☐	☐	☐	☐
i. Attending church?	☐	☐	☐	☐	☐	☐	☐
j. Housekeeping activities?	☐	☐	☐	☐	☐	☐	☐
k. Child care?	☐	☐	☐	☐	☐	☐	☐
l. Social activities?	☐	☐	☐	☐	☐	☐	☐
m. Anything else? _____	☐	☐	☐	☐	☐	☐	☐

6. Do you ever use earplugs or earmuffs?

- ☐ No → **Interview is complete**
- ☐ Yes

(If YES) What percentage of your awake time do you use earplugs or earmuffs?

☐ 5%	☐ 30%	☐ 55%	☐ 80%
☐ 10%	☐ 35%	☐ 60%	☐ 85%
☐ 15%	☐ 40%	☐ 65%	☐ 90%
☐ 20%	☐ 45%	☐ 70%	☐ 95%
☐ 25%	☐ 50%	☐ 75%	☐ 100%

(If YES) Do you ever use earplugs or earmuffs in fairly quiet situations?

☐ No ☐ Yes

[Note to clinician: Some patients have difficulty understanding the point of this question. Another way to phrase it is: *"Do you ever use earplugs or earmuffs because sounds are too loud for you when they seem normal to other people around you?"* The concern is that people with sound tolerance problems may wear hearing protection in fairly quiet situations out of fear that they will encounter an uncomfortably loud sound. That behavior would be considered *overprotecting* ears, and is likely to cause the sound tolerance problem to worsen. These patients need to understand that use of hearing protection can lead to greater sensitivity to sound, thus exacerbating their sound tolerance problem.]

[Clinician: does patient overprotect ears due to problems with sound tolerance?]

☐ No ☐ Yes

Adapted with permission from: *Tinnitus Retraining Therapy: Clinical Guidelines*, by J. A. Henry, D. R. Trune, M. J. A. Robb, & P. J. Jastreboff, 2007, San Diego, CA: Plural Publishing, Inc.

APPENDIX

L

PTM

Progressive Tinnitus Management

Sound Tolerance Worksheet

Things I can do	1. When and where will I do this?	2. How will I do this?	3. Comments	4. Am I doing better?
Surround myself with comfortable sound				After 1 month:
Listen to sounds I enjoy				After 2 months:
Use earplugs or earmuffs only when needed				After 3 months:

APPENDIX

M

PTM

Progressive Tinnitus Management

Loudness Discomfort Levels—Clinical Guide

1. Definitions
   A. Hyperacusis: significantly reduced tolerance to sound that is restricted to auditory pathways
   B. Misophonia: dislike of sound due to emotional reactions caused by sound
   C. Phonophobia: specific case of misophonia when fear of sound is involved
   D. Loudness recruitment: abnormally rapid growth of loudness caused by loss of outer hair cells
   E. LDL: threshold level of physical (not emotional) discomfort for a sound
2. LDL testing
   A. General guidelines
      1. Patient must understand instructions to ensure proper response
      2. Test at octave frequencies between 1 and 8 kHz
      3. Test each ear separately
      4. Order testing from lowest to highest frequency
      5. Present tones for 1–2 seconds each
      6. Obtain LDLs twice within a session (test each ear, then repeat all testing)
      7. Record only the second set of LDLs
   B. Specific procedures
      1. Instruct: *"You will listen to different tones. Each tone will be made slightly louder in steps. Tell me when the loudness of the tone would be OK for 3 seconds, but would not be OK for more than 3 seconds."*
      2. Present 1-kHz tone at approximate MCL (50–60 dB HL)
      3. Raise level in 5-dB steps until patient signals that LDL has been reached
      4. Starting levels at remaining frequencies should be about 20 dB below previous frequency's LDL
      5. When each ear has been tested once:
         – Repeat instructions to patient
         – Obtain second set of measures
         – Record second set of measures

APPENDIX

N

PTM

Progressive Tinnitus Management

Sound Plan Worksheet

1. Write down one bothersome tinnitus situation _____

2. **Check one or more** of the three ways to use sound to manage the situation	3. **Write down the sounds** that you will try	4. **Write down the devices** you will use	5. Use your sound plan **over the next week**. **How helpful** was each sound after using it for 1 week?	6. **Comments** When you find something that works well (or not so well) please comment. You do not need to wait 1 week to write your comments.
☐ **Soothing sound** 	_____ _____ _____	_____ _____ _____	Not at all / A little / Moderately / Very much / Extremely ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	_____ _____ _____
☐ **Background sound** 	_____ _____ _____	_____ _____ _____	Not at all / A little / Moderately / Very much / Extremely ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	_____ _____ _____
☐ **Interesting sound** 	_____ _____ _____	_____ _____ _____	Not at all / A little / Moderately / Very much / Extremely ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐	_____ _____ _____

APPENDIX

O

PTM

Progressive Tinnitus Management

Relief Scale

Relief Scale

Instructions:

1. Choose a sound that you think will be soothing. A soothing sound will give you a sense of relief from stress or tension caused by tinnitus. (Tracks 9–14 on the CD in the back of the self-help workbook[1] have sounds that are soothing to many people.)
2. Adjust the volume of the sound until you find the level that is most soothing to you.
3. Answer the question "When I listen to this sound, how much relief from stress and tension do I feel?"

0	1	2	3	4	5
No relief	Slight relief	Mild relief	Moderate relief	Nearly complete relief	Complete relief

Write down the sound that you listened to	How much relief did the sound give you?					
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5
	0	1	2	3	4	5

[1]*How to Manage Your Tinnitus: A Step-by-Step Workbook*, by J. A. Henry, T. L. Zaugg, P. M. Myers, & C. M. Kendall, 2010, San Diego, CA: Plural Publishing, Inc. Reprinted with permission.

APPENDIX

P

PTM

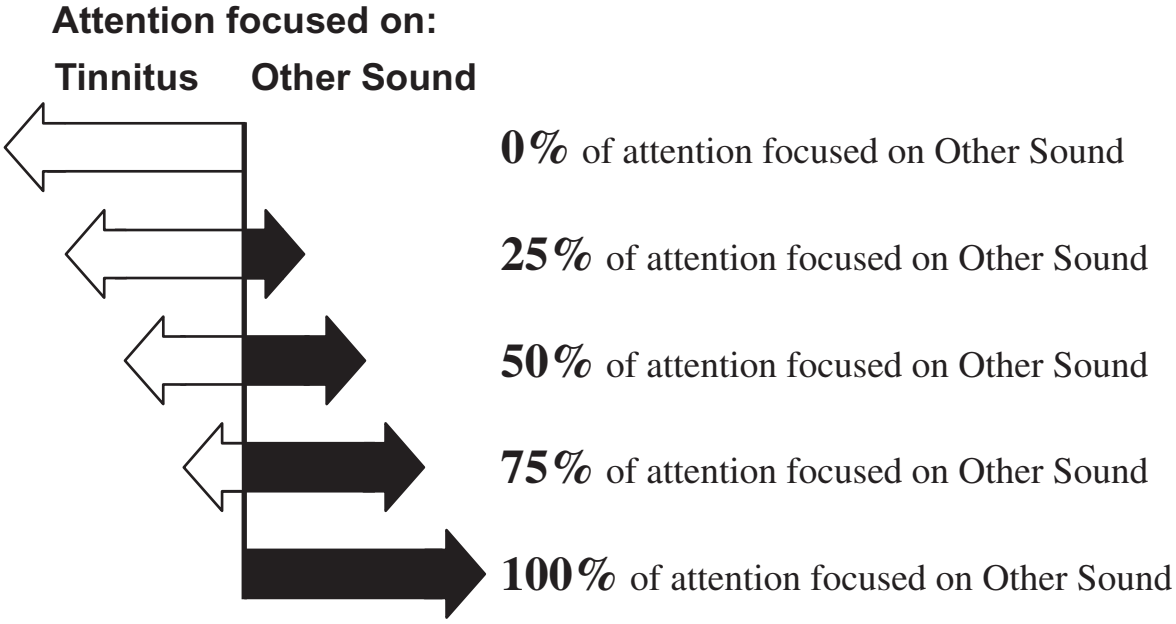
Progressive Tinnitus Management

Attention Scale

Attention Scale

Instructions:

1. Choose a sound that you think will keep your attention. (Tracks 15–19 on the CD in the back of the self-help workbook[1] have sounds that are interesting to many people.)
2. Listen to the sound for at least 1 minute.
3. Choose the percent of attention focused on the sound while listening to it.



Write down the sound that you listened to	How much of your attention was focused on the "Other Sound"?				
	0%	25%	50%	75%	100%
	0%	25%	50%	75%	100%
	0%	25%	50%	75%	100%
	0%	25%	50%	75%	100%
	0%	25%	50%	75%	100%
	0%	25%	50%	75%	100%
	0%	25%	50%	75%	100%
	0%	25%	50%	75%	100%
	0%	25%	50%	75%	100%

[1]*How to Manage Your Tinnitus: A Step-by-Step Workbook*, by J. A. Henry, T. L. Zaugg, P. M. Myers, & C. M. Kendall, 2010, San Diego, CA: Plural Publishing, Inc. Reprinted with permission.

APPENDIX

Q

PTM

Progressive Tinnitus Management

Tinnitus Contrast Activity

Tinnitus Contrast Activity

Tinnitus Contrast Activity

1. Spend a few moments listening to your tinnitus in quiet.
2. Now turn on some background sound. The sound should be pleasant or neutral. (Tracks 20–23 on the CD in the back of the self-help workbook[1] have sounds that are background sound to many people.)
3. Adjust the volume to a comfortable level.
4. Notice the reduced contrast.
5. Reducing contrast makes it easier to ignore your tinnitus.

TINNITUS	**ELEVATOR MUSIC** **RADIO STATIC** **CLASSICAL MUSIC** **ELECTRIC FAN** **WHITE NOISE** **GUITAR MUSIC** **TINNITUS** **TRAFFIC NOISE** **WIND NOISE** **AIR CONDITIONER** **NEW AGE MUSIC** **FOUNTAIN NOISE** **FISH TANK NOISE**

Write down the sound that you listened to	Write any comments you have about using this sound as background sound

[1]*How to Manage Your Tinnitus: A Step-by-Step Workbook*, by J. A. Henry, T. L. Zaugg, P. M. Myers, & C. M. Kendall, 2010, San Diego, CA: Plural Publishing, Inc. Reprinted with permission.

APPENDIX

R

PTM

Progressive Tinnitus Management

Level 4 Interdisciplinary Evaluation: Tinnitus Interview

Clinicians: This interview is intended to be administered immediately after administering the Tinnitus and Hearing Survey and thoroughly discussing the results with the patient. (Please note that this interview does not cover tinnitus-specific information that most likely was covered during the case history performed during the Level 2 Audiologic Evaluation. It may be helpful to review the case history before administering this interview.)

1. Does the loudness of your tinnitus change *on its own*?

- ☐ No → Go to #2
- ☐ Yes → How often does it change?
  - ☐ Never
  - ☐ Several times per month
  - ☐ Several times per week
  - ☐ Several times per day
  - ☐ Several times per hour

2. Do sounds ever change the loudness of your tinnitus?

- ☐ No effect → Go to #3
- ☐ Softer → Go to #3
- ☐ Louder

(if "LOUDER") What kinds of sounds make your tinnitus louder? [Clinician: check all categories that apply; circle any sounds that the patient identifies as a problem; write in any additional sounds mentioned by the patient.]

- ☐ Very loud sounds/activities that would be expected to make the tinnitus louder (firing a gun, attending a concert, using power tools, _____) [Clinician: If this is the only response from the patient, then exacerbation of tinnitus by sound would be considered a normal effect.]
- ☐ Higher pitched sounds (squeals, squeaks, beeps, whistles, rings, _____)
- ☐ Lower pitched sounds (bass from radio, _____)
- ☐ Traffic (warning) sounds (emergency vehicle sirens, car horns, backup beeper on truck/van, _____)
- ☐ Traffic (background) sounds (road noise, road construction, diesel engines, garbage trucks, _____)
- ☐ Sudden impact sounds (door slam, car backfiring, objects dropping on floor, dishes clattering, _____)

continues

Appendix R continued

☐ Voices (television, radio, movies, children's voices, dog barking, _____)

☐ Other (describe) _____

When sound makes your tinnitus louder, how long does the change last?

☐ 1–2	☐ Second(s)
☐ 3–4	☐ Minute(s)
☐ 5–10	☐ Hour(s)
☐ more than 10	☐ Day(s)

3. How does your tinnitus affect you (not including trouble hearing or understanding speech)?

_____

_____

4. Please tell me about everything you tried for your tinnitus prior to PTM. For each effort, what were you hoping would happen, and what actually did happen? [Clinician: Sometimes a pattern will emerge showing that the patient has made repeated (unsuccessful) attempts to make the tinnitus quieter, resulting in frustration and distress. If this is the case, try to ensure that the patient begins to see this pattern more clearly.]

What have you tried for tinnitus prior to PTM?	***What were you hoping would happen?***	***What actually did happen?***

5. Please tell me about the sounds you have used to manage your reactions to tinnitus since starting PTM. For each sound you tried, what were you hoping would happen, and what actually did happen? [Clinician: if the patient has the Sound Plan Worksheets that were used during Level 3, these can be used to guide this interaction. It also is important to reinforce the idea that with PTM the goal is not to change the tinnitus, but rather to change how one feels.]

What sounds have you used to manage reactions to tinnitus during PTM?	***What were you hoping would happen?***	***What actually did happen?***

continues

Appendix R continued

6. If we decide to move ahead with one-on-one support, then we will be making plans for using sound to manage your reactions to tinnitus. It will be helpful to have a list of sound producing devices that you have available to you. Which of the following devices do you own? [Clinician: For each type of device listed below that the patient owns, provide additional details. For instance, if patients report they own a radio, ask: how many radios, if any of them are portable, and if not portable, where it is located. For each device the patient owns, ask how it currently is being used relative to tinnitus management.]

Type of device	***How many are available?***	***Are any portable?***	***If not portable, where is it located?***	***How is it being used with respect to tinnitus?***
☐ Television				
☐ Radio				
☐ MP3 player				
☐ CD player				
☐ Satellite radio				
☐ Table top sound generator ("sound spa")				
☐ Table top water fountain				
☐ Fan/air conditioner/ etc.				
☐ Music channels on cable or satellite TV				
☐ Computer with internet access (to access radio stations, podcasts, and other sources of sound)				
☐ Cell phone capable of playing music				
☐ Other				

Hospital Anxiety and Depression Scale (HADS)

Emotions play an important part in most illnesses. The more your health care providers know about your feelings the better they will be able to help you.

This questionnaire is designed to help your health care providers know how you feel. Read each item and put a checkmark in the box next to the reply that best describes how you have been feeling in the past week. Ignore the numbers printed on the left side.

Don't take too long thinking over your replies. Your first reaction to each item will probably be the most accurate response.

A **I feel tense or "wound up":**

3 ☐ Most of the time
2 ☐ A lot of the time
1 ☐ From time to time, occasionally
0 ☐ Not at all

D **I still enjoy the things I used to enjoy:**

0 ☐ Definitely as much
1 ☐ Not quite so much
2 ☐ Only a little
3 ☐ Hardly at all

A **I get a sort of frightened feeling as if something awful is about to happen:**

3 ☐ Very definitely and quite badly
2 ☐ Yes, but not too badly
1 ☐ A little, but it doesn't worry me
0 ☐ Not at all

D **I can laugh and see the funny side of things:**

0 ☐ As much as I always could
1 ☐ Not quite so much now
2 ☐ Definitely not so much now
3 ☐ Not at all

A **Worrying thoughts go through my mind:**

3 ☐ A great deal of the time
2 ☐ A lot of the time
1 ☐ From time to time, but not too often
0 ☐ Only occasionally

D **I feel cheerful:**

3 ☐ Not at all
2 ☐ Not often
1 ☐ Sometimes
0 ☐ Most of the time

A **I can sit at ease and feel relaxed:**

0 ☐ Definitely
1 ☐ Usually
2 ☐ Not often
3 ☐ Not at all

D **I feel as if I am slowed down:**

3 ☐ Nearly all the time
2 ☐ Very often
1 ☐ Sometimes
0 ☐ Not at all

A **I get a sort of frightened feeling like "butterflies" in the stomach:**

0 ☐ Not at all
1 ☐ Occasionally
2 ☐ Quite often
3 ☐ Very often

D **I have lost interest in my appearance:**

3 ☐ Definitely
2 ☐ I don't take as much care as I should
1 ☐ I may not take quite as much care
0 ☐ I take just as much care as ever

continues

Appendix S continued

A **I feel restless as if I have to be on the move:**

3 ☐ Very much indeed
2 ☐ Quite a lot
1 ☐ Not very much
0 ☐ Not at all

D **I look forward with enjoyment to things:**

0 ☐ As much as I ever did
1 ☐ Rather less than I used to
2 ☐ Definitely less than I used to
3 ☐ Hardly at all

A **I get sudden feelings of panic:**

3 ☐ Very often indeed
2 ☐ Quite often
1 ☐ Not very often
0 ☐ Not at all

D **I can enjoy a good book or radio or TV program:**

0 ☐ Often
1 ☐ Sometimes
2 ☐ Not often
3 ☐ Very seldom

Totals	Clinician: add the individual scores for the "A's" (anxiety), and then for the "D's" (depression). This is a screening tool only, it is not diagnostic. 0–7 normal 8–10 referral for further evaluation may be helpful 11–21 referral for further evaluation likely to be helpful

From "The Hospital Anxiety and Depression Scale," by A. S. Zigmond, & R. P. Snaith, 1983, *Acta Psychiatrica Scandinavica, 67*(6), 361–370. Reprinted with permission.

The Primary Care PTSD Screen (PC-PTSD)

Description

The PC-PTSD is a four-item screen that was designed for use in primary care and other medical settings and currently is used to screen for PTSD in veterans at the VA. The screen includes an introductory sentence to cue respondents to traumatic events. The authors suggest that in most circumstances the results of the PC-PTSD should be considered "positive" if a patient answers "yes" to any three items. A cutoff score of 2 can be used to optimize sensitivity. Those screening positive should then be assessed with a structured interview for PTSD. The screen does not include a list of potentially traumatic events.

Scale

Instructions

In your life, have you ever had any experience that was so frightening, horrible, or upsetting that, in the past month, you:

1. Have had nightmares about it or thought about it when you did not want to? **YES / NO**
2. Tried hard not to think about it or went out of your way to avoid situations that reminded you of it? **YES / NO**
3. Were constantly on guard, watchful, or easily startled? **YES / NO**
4. Felt numb or detached from others, activities, or your surroundings? **YES / NO**

Current research suggests that the results of the PC-PTSD should be considered "positive" if a patient answers "yes" to any three items.

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Norris, F. H., & Hamblen, J. L. (2004). Standardized self-report measures of civilian trauma and PTSD. In J. P. Wilson, T. M. Keane & T. Martin (Eds.), *Assessing psychological trauma and PTSD* (pp. 63–102). New York, NY: Guilford Press. PILOTS ID 18638 (p. 71).

Epworth Sleepiness Scale

The Epworth Sleepiness Scale is used to determine the level of daytime sleepiness. A score of 10 or more is considered sleepy. A score of 18 or more is very sleepy. If you score 10 or more on this test, you should consider whether you are obtaining adequate sleep, need to improve your sleep hygiene and/or need to see a sleep specialist. These issues should be discussed with your personal physician.

Use the following scale to choose the most appropriate number for each situation:

0 = would *never* doze or sleep.
1 = *slight* chance of dozing or sleeping
2 = *moderate* chance of dozing or sleeping
3 = *high* chance of dozing or sleeping

Fill in your answers and see where you stand.

Situation	*Chance of Dozing or Sleeping*
1. Sitting and reading	_____
2. Watching TV	_____
3. Sitting inactive in a public place	_____
4. Being a passenger in a motor vehicle for an hour or more	_____
5. Lying down in the afternoon	_____
6. Sitting and talking to someone	_____
7. Sitting quietly after lunch (no alcohol)	_____
8. Stopped for a few minutes in traffic while driving	_____
Total score (add the scores up) (This is your Epworth score)	_____

From: "A New Method For Measuring Daytime Sleepiness: The Epworth Sleepiness Scale," by M. W. Johns, 1991, *Sleep, 14*(6), 540–545. Copyright © 1990–1997 by MW Johns. Adapted with permission.

APPENDIX

V

PTM

Progressive Tinnitus Management

Level 4 Interdisciplinary Evaluation: Guide to Trial Use of Ear-Level Instruments

1. If your patient is an *obvious hearing aid candidate* follow the procedures outlined in the following forms (any order is acceptable):
   1. In-Clinic Trial Use of Hearing Aids (Appendix W) AND
   2. In-Clinic Trial Use of Combination Instruments (Appendix X)
      Note: Whether or not the patient is currently wearing hearing aids, follow the procedures outlined in both forms.

2. If your patient is a *borderline hearing aid candidate* follow the procedures outlined in the following forms (any order is acceptable):
   1. In-Clinic Trial Use of Hearing Aids (Appendix W) AND
   2. In-Clinic Trial Use of Combination Instruments (Appendix X) AND
   3. In-Clinic Trial Use of Noise Generators (Appendix Y)
      Note: Whether or not the patient is currently wearing hearing aids, follow the procedures outlined in all three forms.

3. If your patient is *not a hearing aid candidate* follow the procedures outlined in the following form:
   1. In-Clinic Trial Use of Noise Generators (Appendix Y)

After trying all instruments, discuss the following points:

- [Clinician: Ear-level instruments can improve hearing (which makes Interesting Sound more accessible), give a sense of relief, and provide a convenient source of Background Sound. Any or all of these effects are useful for managing tinnitus. The patient must be aware of these effects and choose which effect(s) is most important to him/her in making the final decision. Use the following discussion points and questions to make a decision about which, if any, instruments will be used during Level 5. Have the patient's completed Sound Plan Worksheet(s) available to look at during this discussion.]
- Any instruments you use should not be annoying at all
- Ear-level instruments can provide Soothing Sound (but even if they don't they still can be useful for managing tinnitus)
  - Did any of the instruments give you a sense of relief from tinnitus?
    - If yes, which instruments gave you the best sense of relief?
- *Remember, any ear-level device can provide a convenient source of Background Sound throughout the day—this alone can be helpful to manage tinnitus*
- (If hearing aids or combination instruments were tried) Improving hearing can make it easier to use Interesting Sound to manage tinnitus
  - Which instruments gave you the best hearing ability?
  - Do you think any of the instruments you tried today would make it easier for you to use Interesting Sound to manage tinnitus?
- Do you think any of the instruments you tried today could be helpful?
  - Which instruments would you most likely use?

APPENDIX

W

PTM

Progressive Tinnitus Management

Level 4 Interdisciplinary Evaluation: In-Clinic Trial Use of Hearing Aids

- Use one form for each type of hearing aid that is evaluated
- If the patient is already using hearing aids, perform the trial with his/her current hearing aids
- **Goal:** establish realistic, experience-based judgment about the effectiveness of hearing aids for managing both hearing and tinnitus problems
- For each trial, escort patient through different acoustic environments
  a) *Quiet* environment (e.g., waiting area—not a sound booth)
  b) *Mildly noisy* environment (e.g., hallway)
  c) *Noisy* environment (e.g., dining area)

Conducting the Trial

☐ Adjust hearing aids to target gain using real-ear (adjust for comfort as needed)

Ask these questions:	*Acoustic environment*			*Comments*
	Quiet	*Mildly noisy*	*Noisy*	
Does the sound from the device(s) bother you? [Clinician: if "yes" try to adjust instruments to eliminate annoyance.]	Yes No	Yes No	Yes No	
With these instruments, is your hearing the same, better, or worse than without the instruments?	Same Better Worse	Same Better Worse	Same Better Worse	
With these instruments, how much relief do you feel from your tinnitus? [Clinician: Use the Relief Scale below.]	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	

Relief Scale

0	1	2	3	4	5
No relief	Slight relief	Mild relief	Moderate relief	Nearly complete relief	Complete relief

APPENDIX

X

PTM

Progressive Tinnitus Management

Level 4 Interdisciplinary Evaluation: In-Clinic Trial Use of Combination Instruments

- Use one form for each type of combination instrument that is evaluated
- **Goal:** establish realistic, experience-based judgment about the effectiveness of combination instruments for managing both hearing and tinnitus problems
- For each trial, escort patient through different acoustic environments
  a) *Quiet* environment (e.g., waiting area—not a sound booth)
  b) *Mildly noisy* environment (e.g., hallway)
  c) *Noisy* environment (e.g., dining area)

Conducting the Trial

☐ First, adjust amplification portion of the combination instruments to target gain using real-ear equipment (adjust for comfort as needed)

☐ Second, adjust volume and frequency output of noise generator portion of the combination instruments to attempt to maximize sense of relief from tinnitus

Ask these questions:	*Acoustic environment*			*Comments*
	Quiet	*Mildly noisy*	*Noisy*	
Does the sound from the device(s) bother you? [Clinician: if "yes" try to adjust instruments to eliminate annoyance.]	Yes No	Yes No	Yes No	
With these instruments, is your hearing the same, better, or worse than without the instruments?	Same Better Worse	Same Better Worse	Same Better Worse	
With these instruments, how much relief do you feel from your tinnitus? [Clinician: Use the Relief Scale below.]	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	

Relief Scale

0	1	2	3	4	5
No relief	Slight relief	Mild relief	Moderate relief	Nearly complete relief	Complete relief

APPENDIX

Y

PTM

Progressive Tinnitus Management

Level 4 Interdisciplinary Evaluation: In-Clinic Trial Use of Noise Generators

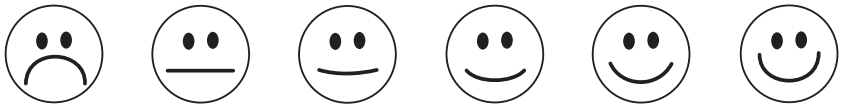
- Use one form for each type of noise/sound generator that is evaluated
- If the patient is already using hearing aids, have the patient complete the activity *In-Clinic Trial Use of Hearing Aids* (Appendix W) to reflect performance with their current hearing aids.
- **Goal:** establish realistic, experience-based judgment about the effectiveness of sound generators for managing tinnitus problems
- For each trial, escort patient through different acoustic environments
  a) *Quiet* environment (e.g., waiting area—not a sound booth)
  b) *Mildly noisy* environment (e.g., hallway)
  c) *Noisy* environment (e.g., dining area)

Conducting the Trial

☐ Adjust volume and frequency output of noise generator to attempt to maximize sense of relief from tinnitus.

Ask these questions:	*Acoustic environment*			*Comments*
	Quiet	*Mildly noisy*	*Noisy*	
Does the sound from the device(s) bother you? [Clinician: if "yes" try to adjust instruments to eliminate annoyance.]	Yes No	Yes No	Yes No	
With these instruments, is your hearing the same, better, or worse than without the instruments?	Same Better Worse	Same Better Worse	Same Better Worse	
With these instruments, how much relief do you feel from your tinnitus? [Clinician: Use the Relief Scale below.]	0 1 2 3 4 5	0 1 2 3 4 5	0 1 2 3 4 5	

Relief Scale



0	1	2	3	4	5
No relief	Slight relief	Mild relief	Moderate relief	Nearly complete relief	Complete relief