



Tinnitus Research Initiative

Consensus Documents

At the first Tinnitus Research Initiative meeting in Regensburg in July 2006 we attempted to gain a consensus both for patient assessments and for outcome measurements. By achieving greater comparability between studies we hope that this will contribute towards more effective cooperation between research centres in seeking and evaluating treatments for tinnitus.

The consensus identified minimum requirements. Items were prioritized in order to facilitate implementation. Items assessed as level A were considered *essential*, items assessed as level B *highly recommended* and items assessed as level C *desirable* in some contexts.

The consensus document consists of three components:

1. The main component is the “*Consensus for Patient Assessment and Treatment Outcome Measurement*”
2. The second component (“*Items list*” for *tinnitus case history questionnaire*) lists 35 items which are most frequently assessed as part of the case history in other questionnaires.
3. The “*Tinnitus Sample Case History Questionnaire (TSCHQ)*” is attached as a sample of how the 35 items might be asked.

Translations into German and Flemish have already been performed and are available upon request. A French translation is underway. We encourage translation into further languages.

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TRI - CONSENSUS FOR PATIENT ASSESSMENT AND OUTCOME MEASUREMENTS

In each category recommendations are ordered according to their level of significance:

A: Essential B: highly recommended C: might be of interest

PATIENT ASSESSMENT

Physical examination

A: Otologic examination by a specialist

A: Examination of the neck (range of motion, tenderness, muscle tension...)

B: Examination of the temporomandibular function

Audiologic Assessment

A: Audiometry (pure tone threshold; up to 8 kHz)

B: Immitance Audiometry

B: High Frequency Audiometry (at least up to 12 kHz)

B: Otoacoustic Emissions

B: Loudness Discomfort Level

C: Auditory Evoked Potentials

Psychophysic Measures of Tinnitus

B: Loudness match

B: Pitch match

B: Maskability (MML)

B: Residual Inhibition

Case History

A majority of participants preferred a questionnaire to be filled in by the patient (with access to someone for clarification) rather than at a structured interview. This was not a consensus. It was agreed that as a first step towards consensus a list of those items common to most existing questionnaires should be made. A first attempt to extract such a list is attached.

Questionnaires

A: Validated questionnaire for the assessment of tinnitus severity, which at present can be THI, THQ, TRQ or TQ (it was agreed that in the future a better and more widely validated questionnaire was required)

B: Assessment of tinnitus severity by additional questionnaires, and especially by the THI because it is believed that THI is validated in most languages

C: Assessment of depressive symptoms (e.g. BDI)

C: Assessment of anxiety (e.g. STAI)

C: Assessment of quality of life (e.g. WHODAS II)

C: Assessment of Insomnia (e.g. PSQI)

OUTCOME MEASUREMENTS

- A: Validated questionnaire for the assessment of tinnitus severity, which at present can be THI, THQ, TRQ or TQ (it was agreed that in the future a better and more widely validated questionnaire was required)
- B: Assessment of tinnitus severity by additional questionnaires, and especially by the THI because it is believed that THI is validated in most languages
- C: Assessment of depressive symptoms (e.g. BDI)
- C: Assessment of anxiety (e.g. STAI)
- C: Assessment of quality of life (e.g. WHODAS II)
- C: Assessment of Insomnia (e.g. PSQI)
- C: Tinnitus loudness match
- C: Maskability (MML)
- C: Objective measurements of brain function (functional imaging, electrophysiology)

ABBREVIATIONS

kHz	kilohertz
dB	decibel
SL	sensation level
MML	minimal masking level
THI	Tinnitus Handicap Inventory. (Newman et al, 1998)
THQ	Tinnitus Handicap Questionnaire (Kuk et al, 1990)
TRQ	Tinnitus Reaction Questionnaire (Wilson et al, 1991)
TQ	Tinnitus Questionnaire (Hallam et al. 1988)
BDI	Beck Depression Inventory (Beck and Steer, 1984)
STAI	State-Trait-Anxiety-Inventory (Spielberger et al, 1970)
WHODAS	WHO Disability Assessment Schedule (McArdle et al, 2005)
PSQI	Pittsburgh Sleep Quality Index (Buysse et al, 1989)

“Items list” for tinnitus case history questionnaires.

Items are ordered according to their level of significance:

Category “A” (= essential) in bold type.

Background

- 1. Age.**
- 2. Gender.**
3. Handedness.
- 4. Family history of tinnitus (parent, sibling, children).**

Tinnitus history

- 5. Initial onset. Time?**
- 6. Initial onset. Mode? Gradual or abrupt?**
7. Initial onset. Associated events? Hearing change, Acoustic trauma, Otitis media, Head trauma, Whiplash, Dental Treatment, Stress, Other.
- 8. Pattern. Steady? Pulsatile? Other?**
- 9. Site. Right ear? Left ear? Both ears? (symmetrical?) Inside head?**
10. Intermittent or constant?
11. fluctuant or non-fluctuant?
- 12. Loudness. Scale 1-100. At worst & at best?**
13. Quality. Own words / Give a list of choices.
14. Pure tone or Noise? Uncertain / polyphonic?
15. Pitch. Very high? High? Medium? Low?
- 16. Percentage of awake time aware of tinnitus?**
17. Percentage of awake time annoyed by tinnitus?
18. Previous tinnitus treatments (no, some, many)?

Modifying influences

- 19. Natural masking? Music, everyday sounds, other sounds?**
20. Aggravated by loud noise?
- 21. Altered by head and neck movement or touching of head or upper limbs (specification of the respective movements)?**
22. Daytime nap. Worse? Better? No effect?
23. Effect of nocturnal sleep on daytime tinnitus?
24. Effect of stress?
25. Effect of medications? Which?

Related conditions

- 26. Hearing impairment?**
- 27. Hearing aids (No, left ear, right ear, both ears; effect on tinnitus)?**
- 28. Noise annoyance or intolerance?**
29. Noise induced pain?
30. Headaches?
31. Vertigo/dizziness?
32. Temporomandibular disorder?
33. Neck pain?
34. Other pain syndromes?
35. Under treatment for psychiatric problems?

As an example of how the above items can be expressed for patients to complete see the

TINNITUS SAMPLE CASE HISTORY QUESTIONNAIRE (TSCHQ)

TINNITUS SAMPLE CASE HISTORY QUESTIONNAIRE (TSCHQ)

NAME:	DATE:
DATE OF BIRTH:	

1. Age:

2. Gender: Male Female

3. Handedness Right Left Both Sides

4. Family history of tinnitus complaints
 YES if YES: parents siblings children NO

5. Initial onset: When did you first experience your tinnitus? _____

6. How did you perceive the beginning? Gradual Abrupt

7. Was the initial onset of your tinnitus related to:
 loud blast of sound whiplash change in hearing stress
 head trauma others _____

8. Does your tinnitus seem to PULSATE ?
 YES with heart beat YES, different from heart beat NO

9. Where do you perceive your tinnitus

- right ear left ear both ears, worse in left both ears, worse in right
 both ears, equally inside the head elsewhere

10. How does your tinnitus manifest itself over time?

- intermittent constant

11. Does the **LOUDNESS** of the tinnitus vary from day to day?

- YES NO

12. Describe the **LOUDNESS** of your tinnitus using a scale from 1-100.

(1 = **VERY FAINT**; 100 = **VERY LOUD**)

_____ (1 – 100)

13. Please describe in your own words what your tinnitus usually sounds like:

The following list gives examples of some possible sensations, feel free to use other terms as well: hissing, ringing, pulsing, buzzing, clicking, cracking, tonal (like a dial tone or other kinds of tones), humming, popping, roaring, rushing, typewriter, whistling, whooshing.

14. Does your tinnitus more sound like a tone or more like noise:

- tone noise crickets other

15. Please describe the PITCH of your tinnitus:

- very high frequency high frequency medium frequency low frequency

16. What percent of your total awake time, over the last month, have you been aware of your tinnitus ?
For example, 100% would indicate that you were aware of your tinnitus all the time, and 25% would indicate that you were aware of your tinnitus $\frac{1}{4}$ of the time

_____ % (Please write in a single number between 1 and 100.)

17. What percent of your total awake time, over the last month, have you been annoyed, distressed, or irritated of your tinnitus ?

_____ % (Please write in a single number between 1 and 100.)

18. How many different treatments have you undergone because of your tinnitus ?

- none one several many

19. Is your tinnitus reduced by music or by certain types of environmental sounds such as the noise of a waterfall or the noise of running water when you are standing in the shower ?

- YES NO I don't know

20. Does the presence of loud noise make your tinnitus worse?

- YES NO I don't know

21. Does any head and neck movement (e.g. moving the jaw forward or clenching the teeth), or having your arms/hands or head touched, affect your tinnitus ?

- YES NO

22. Does taking a nap during the day affect your tinnitus?

- worsens my tinnitus reduces my tinnitus has no effect

23. Is there any relationship between sleep at night and your tinnitus during the day ?

- YES NO I don't know

24. Does stress influence your tinnitus?

- worsens my tinnitus reduces my tinnitus has no effect

25. Does medication have an effect on your tinnitus?

Medication	Effect / Details

26. Do you think you have a hearing problem?

- YES NO

27. Do you wear hearing aids?

- Right Left Both None

28. Do you have a problem tolerating sounds because they often seem much too loud ? That is, do you often find too loud or hurtful sounds which other people around you find quite comfortable ?

- Never Rarely Sometimes Usually Always

29. Do sounds cause you pain or physical discomfort ?

YES NO I don't know

30. Do you suffer from headache?

YES NO

31. Do you suffer from vertigo or dizziness?

YES NO

32. Do you suffer from temporomandibular disorder?

YES NO

33. Do you suffer from neck pain

YES NO

34. Do you suffer from other pain syndromes?

YES NO

35. Are you currently under treatment for psychiatric problems ?

YES NO