ATA's Roadmap to a Cure – the Scientific Version

Roadmap Paths

Path A
IDENTIFICATION OF TINNITUS GENERATOR(S):
Determine sites in the ear or brain where tinnitus-producing signals arise.

Path B
ELUCIDATION OF MECHANISMS OF TINNITUS GENERATION:
Determine the nature of abnormal signals and their underlying cellular and molecular causes.

Path C
DEVELOPMENT OF THERAPY:
Assess the potential of intervention, manipulation, or treatment as a means of suppressing tinnitus.

Path D
OPTIMIZATION OF THERAPY:
Define parameters of treatment that optimize suppression of tinnitus and minimize side effects.

Roadmap Path Details

A1. Identify areas in the auditory system exhibiting tinnitus-related abnormality.

A2a. Measure the changes in activity identified in A1.

A2b. Use or develop scientific metrics to assess tinnitus percepts in human or animal subjects with abnormalities identified in A1.

A3. Demonstrate that measures of tinnitus established in A2b are causally related to the abnormalities measured in A2a.

B1. Identify neural or cellular populations giving rise to tinnitus-generating signals.

B2. Determine the altered cellular processes in the cell populations defined in B1.

B3. Define the cellular triggers that induce the alterations identified in B2.

C1. Test therapeutic approaches to suppress tinnitus (electric/magnetic stimulation, drugs, surgery, acoustic stimulation).

C2. Use these approaches to target tinnitus generation sites defined in Path A.

C3a. Determine magnitude of therapeutic benefit of tinnitus treatment.

C3b. Assess side effects or risks associated with treatment.

D1. Refine therapeutic approaches to target specific tinnitus generators identified in Path B.

D2. Improve mode(s) of treatment delivery to reduce any side effects identified in Path C.

D3a. Establish dose/response relationships to maximize benefit and minimize side effects of treatment.

D4. Customize treatment to individual.