

Tinnitus Cancellation/Reduction Success Rates Using Dr. Leslie W. Dalton, Jr.'s Tinnitus Cancellation Procedure

In the spring of 2010 Dr. Leslie W. Dalton, Jr., PhD CCC-A/SP, Professor of Audiology at West Texas A&M University, began research on tinnitus subjects using a cancellation procedure he developed. Seventy-four subjects were tested between February 2010 and June 2011. These subjects were volunteers who learned about the study through an ad in the Canyon News. This article will demonstrate Dr. Dalton's success rate when applying his cancellation procedure, and will describe the subjects' backgrounds regarding audiological history as well as a general biography of each subject. The data of twelve of the subjects was thrown out based on insufficient data collection, equipment failure on the day of testing, or the subject having a degree of tinnitus too slight to monitor success.

Research Data

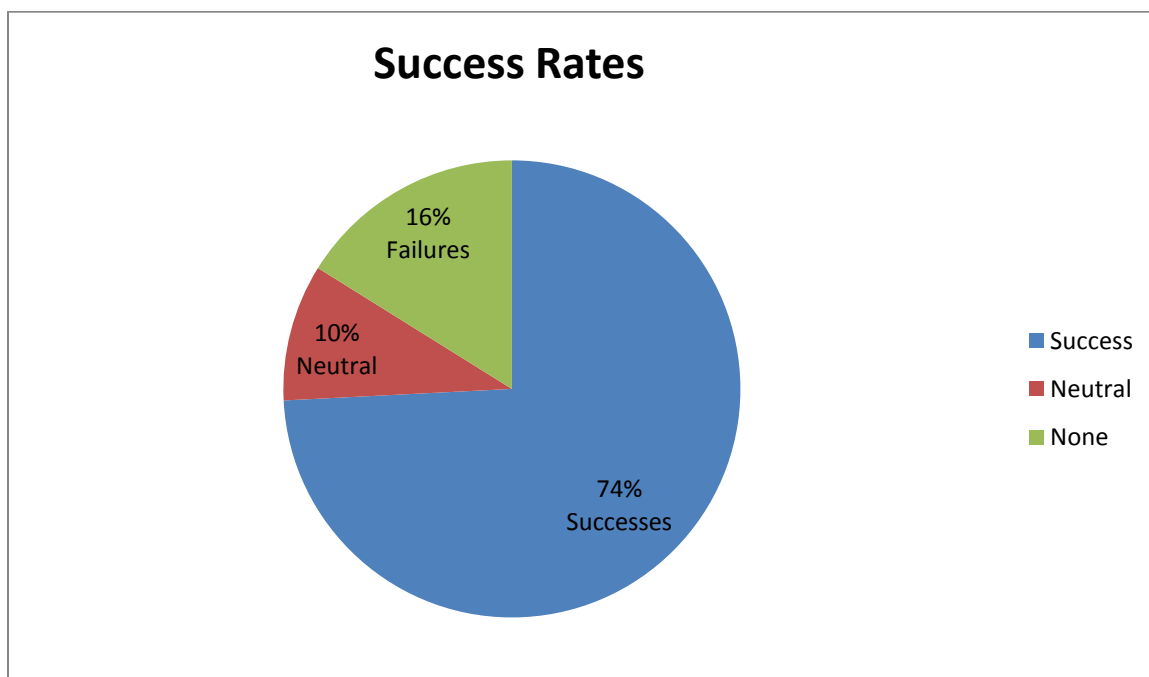
The following data displays the success rate of Dr. Dalton's method of reducing tinnitus with the 62 subjects. Successes are written in green, neutral results are in gold, and failures are in red. The subjects are in order from most successful to least successful. A "success" is considered a 50% or greater reduction, a complete cancellation, or a degree of reduction sufficient enough for patient satisfaction. "Neutral" is success with one ear only, or instances in which the patient's tinnitus was canceled/reduced during one session but not the other session. "Failures" are either no success at all, or is not reduced enough for the patient to tell a difference or to be satisfied with the results.

| Patient # | DOB | Date Last Seen | Success with Tinnitus |
|-----------|------------|----------------|-----------------------|
| 1 | 11/24/1972 | 3/2/2010 | Canceled |
| 2 | 1/27/1934 | 4/8/2010 | Canceled |
| 3 | 2/26/1951 | 3/30/2011 | Canceled |
| 4 | 12/8/1950 | 5/11/2011 | Canceled |
| 5 | 8/27/1968 | 3/9/2011 | Canceled |
| 6 | 7/7/1976 | 3/22/2011 | Canceled |
| 7 | 4/12/1952 | 5/10/2011 | Canceled |
| 8 | 10/1/1963 | 4/4/2011 | Canceled |
| 9 | 10/16/1939 | Not Recorded | Canceled |
| 10 | 9/2/1951 | 4/18/2011 | Canceled |
| 11 | 12/6/1936 | 10/6/2010 | Canceled |
| 12 | 11/28/1943 | 4/4/2011 | Canceled |
| 13 | 1/27/1966 | 3/24/2011 | Canceled |
| 14 | 2/12/1964 | 3/22/2011 | Canceled |
| 15 | 9/2/1954 | 11/9/2010 | Canceled |
| 16 | 2/3/1955 | 3/23/2010 | Reduced |

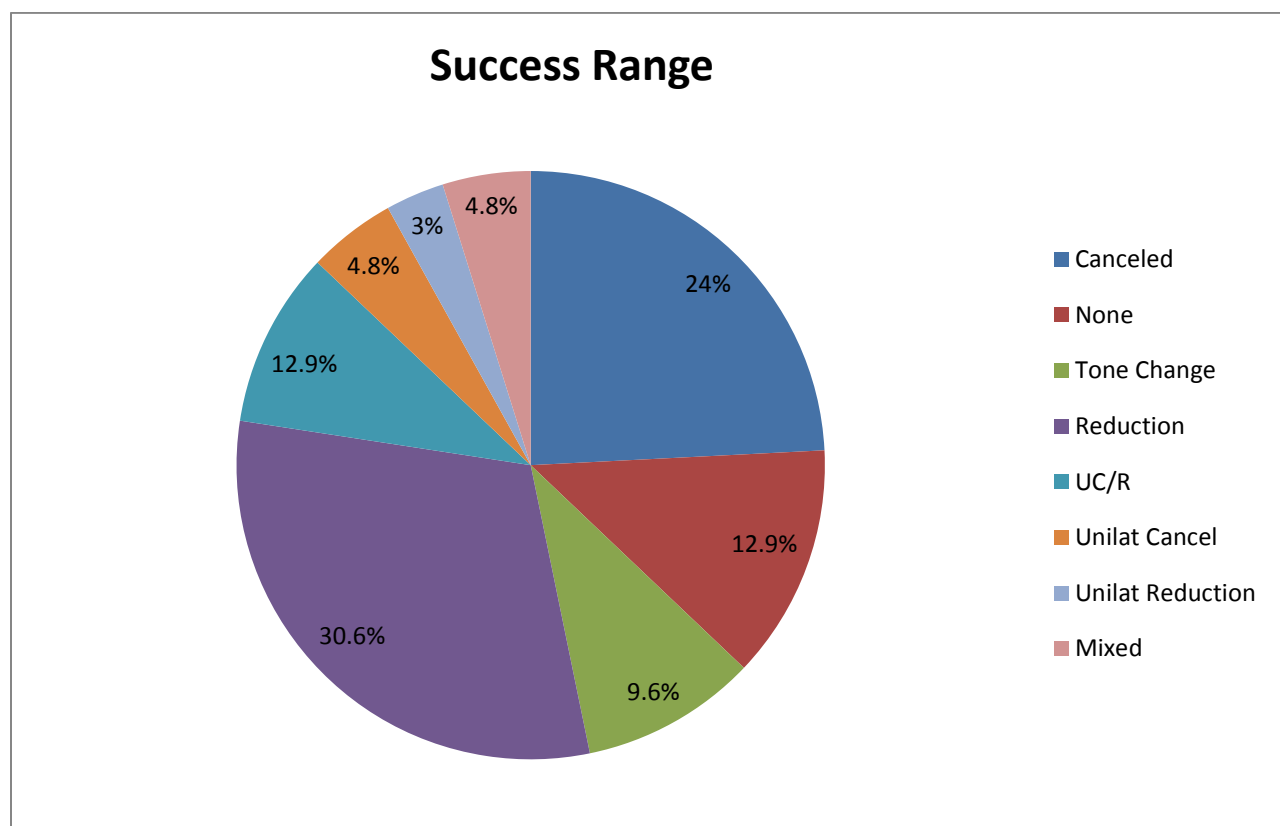
| | | | |
|----|------------|-----------|----------------------------------|
| 17 | 11/10/1943 | 2/23/2010 | Reduced |
| 18 | 4/12/1957 | 5/5/2011 | Reduced |
| 19 | 8/7/1948 | 2/11/2010 | Reduced |
| 20 | 9/17/1980 | 2/11/2010 | Reduced |
| 21 | 1/4/1940 | 4/21/2011 | Reduced |
| 22 | 5/22/1949 | 3/2/2010 | Reduced |
| 23 | 12/28/1950 | 3/30/2010 | Reduced |
| 24 | 6/12/1960 | 4/20/2011 | Reduced |
| 25 | 11/24/1950 | 5/5/2011 | Reduced |
| 26 | 4/16/1955 | 3/11/2010 | Reduced |
| 27 | 1/27/1943 | 5/12/2011 | Reduced |
| 28 | 6/28/1939 | 4/15/2010 | Reduced |
| 29 | 3/25/1944 | 3/11/2011 | Reduced |
| 30 | 9/6/1965 | 5/9/2011 | Reduced |
| 31 | 7/10/1947 | 5/4/2011 | Reduced |
| 32 | 5/8/1951 | 5/5/2011 | Reduced |
| 33 | 10/31/1946 | 5/10/2011 | Reduced |
| 34 | 10/17/1954 | 4/4/2011 | Canceled, Then Reduced |
| 35 | 5/28/1943 | 4/1/2010 | Reduced to Hiss |
| 36 | 2/4/1943 | 3/10/2011 | Reduced/Changed to Wind Noise |
| 37 | 4/24/1960 | 3/24/2011 | Reduced to White Noise |
| 38 | 1/3/1935 | 2/25/2010 | Reduced to Static |
| 39 | 12/14/1937 | 3/30/2011 | Changed to White Noise |
| 40 | 11/28/1963 | | Reduced to Hiss |
| 41 | 4/10/1946 | 5/10/2011 | Right Canceled, Left Reduced |
| 42 | 4/5/1965 | 3/9/2010 | Right Canceled, Left Reduced |
| 43 | 8/20/1966 | 6/27/2010 | Left Canceled, Right Reduced |
| 44 | 9/30/1933 | 5/10/2011 | Left Canceled, Right Reduced |
| 45 | 9/8/1957 | 3/11/2010 | Left Canceled, Right Reduced |
| 46 | 10/5/1969 | 3/9/2010 | Right Canceled, Left Reduced |
| 47 | 9/3/1941 | 3/1/2011 | Right Canceled |
| 48 | 5/13/1947 | 5/10/2011 | Left Canceled |

| | | | |
|----|------------|--------------|--|
| 49 | 10/20/1964 | 6/8/2010 | Canceled in one ear |
| 50 | 7/11/1950 | 5/9/2011 | Reduced slightly |
| 51 | 11/4/1949 | 3/31/2011 | Canceled first session, not the 2nd |
| 52 | 7/24/1962 | 6/13/2010 | Canceled first session, not the 2nd |
| 53 | 10/22/1961 | 6/15/2011 | Partial on the Right |
| 54 | 3/29/1985 | 4/14/2011 | Partial on the Right |
| 55 | 2/21/1955 | 3/8/2011 | None |
| 56 | 3/21/1950 | 4/21/2011 | None |
| 57 | 7/5/1948 | Not recorded | None |
| 58 | 12/11/1957 | 3/9/2011 | None |
| 59 | 12/14/1953 | 3/11/2010 | None |
| 60 | 11/17/1952 | 3/11/2010 | None |
| 61 | 6/24/1957 | 5/12/2011 | None |
| 62 | 7/19/1963 | 10/10/2010 | None |

The following graphs display the percentages of the study's success and failures, as well as those cases that fall in between. The first graph demonstrates the general number of successes, failures, and neutral results.



The following graph displays varying degrees of successes, failures, and neutrals. “Canceled” represents complete cancelations in which the subject could no longer hear his or her tinnitus. “None” indicates those who had no cancelation or reduction that they could perceive. “Tone Change” indicates a tone change in which the subject’s tinnitus changed from its usual sound to a more tolerable sound, such as white noise. “UC/R” are unilateral cancelations and reductions, i.e. the individual’s tinnitus canceled in one ear and reduced in the other. “Reduction” means a reduction in tinnitus volume. “Unilat Cancel” is a unilateral cancelation with no effect in the other ear. “Unilat Reduction” is a unilateral reduction that had no effect on the other ear. “Mixed” indicates mixed results in which the subject’s tinnitus canceled or reduced during one session, but did not have the same success during a subsequent or prior session.



Subject Descriptions

Of the 74 subjects tested in this study, 62 are included in this article. Of these subjects, 22 were female. Subjects ranged in age from 26 to 80 years, with tinnitus ranging from mild to severe. The next ten pages provide a brief description of the individual subjects, including the

extent of hearing loss and an audiological medical history. Some of these descriptions include the results of the Iowa Tinnitus Handicap Questionnaire (ITHQ), which helps demonstrate the severity of the tinnitus.

Subject 1

Subject 11 is a 37 year old female with hearing loss in her right ear that has progressed since birth. She has bilateral tubes and a stapedectomy with an implant in the left ear. She reports ringing, a full feeling, and ear pain. She has problems with male and female voices, and wore hearing aids in 2008. She has a family history of hearing loss on her father's side. This subject had complete cancelation.

Subject 2

Subject 2 is a 76 year old female with mild hearing loss and tinnitus that has been progressing for about 3 years. She has some problems hearing female and children's voices. Her father, grandfather, and brother had hearing loss history. This subject had complete cancelation.

Subject 3

Subject 3 is a 60 year old female with hearing loss and tinnitus. She reports she sometimes has dizziness and drainage, has had ear infections, and has problems hearing the telephone and female voices. She was exposed to loud music, and her father had a hearing loss. Her tinnitus is very mild. She reports that she has trouble falling asleep because of it, and she sometimes can't concentrate and feels anxious. This subject had complete cancelation.

Subject 4

Subject 4 is a 60 year old male with hearing loss that was first diagnosed at age 9. He has ringing in his ears and reports that he experiences dizziness. He has been exposed to loud noise from motors, tractors, and guns since childhood. He has problems with hearing the telephone and voices. He wore hearing aids in 1997 for 2 weeks but was not pleased with them. This subject had complete cancelation.

Subject 5

Subject 5 is a 42 year old male with tinnitus and mild hearing loss in his right ear that began in 2001 after recurring inner-ear infections due to black mold. His tinnitus is severe. He says it's difficult for him to concentrate, to focus, gets worse under stress, makes him tired and frustrated, and sometimes makes it difficult to hear people, to sleep, and to enjoy life. He says sometimes it makes him irritable, upset, desperate, and interferes with his responsibilities. This subject had complete cancelation.

Subject 6

Subject 6 is a 33 year old male with severe hearing loss in the left ear and tinnitus in the left ear that started in 1991. He had a BAHA installed in 2008, and occasionally has dizziness. He has been exposed to gunfire throughout his life. He has trouble hearing the telephone and

male, female, and children's voices. He reports that his tinnitus makes it difficult to concentrate, to hear people, to fall asleep, to read, and to focus, and interferes with his ability to enjoy social activities, makes him feel frustrated, insecure, and gets worse under stress. He says it sometimes makes him angry, confused, anxious, and sometimes interferes with his work/household responsibilities. This subject had complete cancelation.

Subject 7

Subject 7 is a 59 year old male with tinnitus and mild hearing loss in the high frequencies. He sometimes has dizziness and has had occasional ear infections. He has been exposed to loud noises and has problems with the telephone. He scored 65% on the ITHQ. Tinnitus interferes with his hearing and causes him some emotional distress. This subject had complete cancelation.

Subject 8

Subject 8 is a 47 year old female whose hearing loss began in 2006 when she was diagnosed with West Nile. She reports that she has ringing, drainage, a full feeling, and ear pain. She has a family history of hearing loss (grandfather and father) and she has been exposed to gunfire. Her tinnitus is loud enough to cause significant stress. This subject had complete cancelation.

Subject 9

Subject 9 is a 70 year old female with moderate to severe hearing loss in her left ear, and severe hearing loss in her right ear. She says her hearing loss and tinnitus have been progressing since 1960. Her tinnitus is severe enough to cause significant stress. She had a stapedectomy to try and restore hearing, but it did not work. She also experiences dizziness, a full feeling, and ear pain. Both her father and mother had age related hearing loss. The subject has been exposed to loud music. She has trouble with the telephone (in the left ear), female voices, and children's voices. This subject had complete cancelation.

Subject 10

Subject 10 is a 59 year old male with a significant hearing loss in the high frequencies. His hearing loss began in 1970, when he was exposed to gunfire in the military. He experiences tinnitus, has trouble hearing the telephone, female voices, and children's voices. He has worn hearing aids for 5 years, but is unhappy with them. His main hearing concern is his tinnitus, which is severe enough to interfere with day to day activities. This subject had complete cancelation.

Subject 11

Subject 11 is a 73 year old female with moderate to severe high frequency hearing loss. She has mild tinnitus and has trouble with male voices. She takes 81 mg of Aspirin a day. This subject had complete cancelation.

Subject 12

Subject 12 is a 67 year old male whose main concern is hearing loss. He has ringing as a result of shooting guns when he was younger, but it doesn't cause him significant stress. He agreed to the tinnitus treatment in the hopes that it would improve his hearing in the high frequencies. This subject had complete cancelation.

Subject 13

Subject 13 is a 45 year old female with tinnitus and normal hearing. She has dizziness, drainage, full feeling, and ear pain. She has been diagnosed with Meniere's. She has problems with the telephone, children's voices, and female voices. Her father had a history of hearing loss. This subject had complete cancelation.

Subject 14

Subject 14 is a 46 year old male with moderate to severe loss in his right ear and moderate to profound loss in his left ear. He has tinnitus, and has occasionally been exposed to loud noise. He has problems with male, female, and children's voices. His grandparents and brother also have hearing loss. This subject had complete cancelation.

Subject 15

Subject 15 is a 56 year old male with moderate hearing loss and tinnitus that began 4/15/09 when he quit smoking. He had limited exposure to loud noises at concerts. He has some problems hearing children's voices. This subject had complete cancelation.

Subject 16

Subject 16 is a 55 year old male with high frequency hearing loss and tinnitus. He has been exposed to loud noises from machinery. This subject's tinnitus was reduced to a comfortable level.

Subject 17

Subject 17 is a 66 year old female with normal hearing; however, she reports she sometimes has trouble hearing over her tinnitus. She sometimes has trouble hearing the telephone. She was exposed to loud noise at the ages of 6 and 7, and her father had a hearing loss. She has ear pain due to trigeminal neuralgia. The subject's tinnitus is slight. She reports that it sometimes makes it difficult to concentrate, hear people, enjoy social activities and life, and gets worse under stress. This subject's tinnitus was reduced to a comfortable level.

Subject 18

Subject 18 is a 54 year old male with severe hearing loss in his right ear as well as severe tinnitus in the right ear. He has dizziness, a full feeling, and occasionally has pain in his ears, and may have Meniere's. He has been exposed to multiple loud noises, and has problems hearing all speech. He currently wears hearing aids. The subject scored a 49% on the ITHQ. He hears tinnitus only in the right and describes it as a loud cricket sound. This interferes with his ability to tell where sounds are coming from, his ability to hear speech, and causes him to avoid noisy situations. His tinnitus causes him moderate stress and unease. This subject's tinnitus was reduced to a comfortable level.

Subject 19

Subject 19 is a 61 year old female with a moderate to severe hearing loss beginning at 3k and bilateral tinnitus. The progression of loss/tinnitus started March 2006. She has been exposed to loud noise, and a tractor for 3 months in 1968. This subject's tinnitus was reduced to a comfortable level.

Subject 20

Subject 20 is a 29 year old male with moderate hearing loss in the right ear in the high frequencies. He has had tinnitus for 2 years, is currently exposed to gunfire, and had problems with his eardrums when he was young. He has problems hearing the telephone, and female, male, and children's voices. This subject's tinnitus was reduced to a comfortable level.

Subject 21

Subject 21 is a 71 year old male. He has a family history of hearing loss on his mother's side. He has been exposed to loud noises, including a farm tractor and music, and has problems hearing all voices and the telephone. He currently wears hearing aids and complains of ringing in his ears. The subject reports that his tinnitus interferes with his hearing in daily circumstances. He has trouble understanding speech and does not appreciate music because of the tinnitus. He has trouble concentrating because of his tinnitus, and describes his tinnitus as frustrating. This subject's tinnitus was reduced to a comfortable level.

Subject 22

Subject 22 is a 60 year old male with tinnitus and mild to severe hearing loss starting at 3k, which has been progressing since 1970. He sometimes has dizziness and was exposed to loud noise for almost a year while in Vietnam. He has some problems with the telephone, and male and female voices. He currently wears hearing aids. His father also had a history of hearing loss. This subject's tinnitus was reduced to a comfortable level.

Subject 23

Subject 23 is a 59 year old male with tinnitus and moderate to severe hearing loss in the high frequencies. The progression of his hearing loss started about 5 years ago. He has been exposed to loud noises over the years, including tractors and gunfire, and he has problems with female and children's voices. This subject's tinnitus was reduced to a comfortable level.

Subject 24

Subject 24 is a 50 year old male who has had hearing loss since 2002, when he was diagnosed with cancer. His hearing ranges from normal in the lower frequencies to significant loss in the higher frequencies. Also since 2002 he has had ringing in both ears that changes in frequency and volume. He had a stroke in 2007. He has no family history of hearing loss. This subject's tinnitus was reduced to a comfortable level.

Subject 25

Subject 25 is a 60 year old male who has had a history of hearing loss since childhood due to motor noise. His mother and brother both have hearing loss, and his family has a history of tinnitus. The subject has some problems with the telephone and male voices, and problems hearing female and children's voices. He has tried hearing aids in the past but was not happy with them. This subject's tinnitus was reduced to a comfortable level.

Subject 26

Subject 26 is a 54 year old male with severe high frequency loss in both ears and tinnitus. He has been exposed to loud noise, music, and has problems with female and children's voices. He has worn hearing aids since 2009. His brother, father, and grandfather all had hearing loss. This subject's tinnitus was reduced to a comfortable level.

Subject 27

Subject 27 is a 68 year old female with moderate to severe high frequency hearing loss and tinnitus in both ears. She reports she does experience dizziness and a full feeling in the right ear sometimes. She has a family history of hearing loss on the paternal side. The subject scored 38% on the Iowa Tinnitus Handicap questionnaire. Her tinnitus affects her ability to hear speech and tell where sounds are coming from, and causes her to be frustrated and annoyed. This subject's tinnitus was reduced to a comfortable level.

Subject 28

Subject 28 is a 70 year old female with mild to severe loss in the high frequencies. She sometimes has dizziness and her mother had a history of hearing loss. This subject's tinnitus was reduced to a comfortable level.

Subject 29

Subject 29 is a 65 year old male with moderate to severe high frequency hearing loss. He has tinnitus and has been exposed to loud noises, including a tractor engine. The subject had a mastoid infection in his right ear at age 22. He has some problems with the telephone, and problems with female and children's voices. His father also had hearing loss. He currently wears Resound hearing aids and is pleased with them. This subject's tinnitus was reduced to a comfortable level.

Subject 30

Subject 30 is a 45 year old female with profound hearing loss in her right ear beginning at 1500 Hz, and a mild hearing loss in the high frequencies in her left ear. The subject's hearing loss has been progressing for 10 years, and she experiences tinnitus, dizziness, drainage, a full feeling, and ear pain. Her ringing began 2000-2001, when she suffered an allergy attack. She has been exposed to loud music, has problems with the telephone, and her mother had a hearing loss. She also reports that she may have Sjogren's Syndrome. The subject scored a 58% in the ITHQ. She has trouble hearing because of her tinnitus, and tinnitus affects her emotional health. This subject's tinnitus was reduced to a comfortable level.

Subject 31

Subject 31 is a 63 year old male with tinnitus and significant hearing loss. He has a problem hearing the telephone, women's voices, and children. His father had hearing loss, and the subject had ear infections as a teenager. He scored a 59% on the ITHQ. His tinnitus causes significant stress and makes it hard to concentrate, hear people, and tell where sounds are coming from. This subject's tinnitus was reduced to a comfortable level.

Subject 32

Subject 32 is a 60 year old male who has had a progression of hearing loss since his early 20s. He has had dizziness, and he reports that as an adolescent he had a perforated eardrum. He has been exposed to loud mechanical sounds throughout his career, and he sometimes has problems hearing children. His father also had a history of hearing loss. He currently wears an Oticon Delta hearing aid and is pleased with it. His main hearing concern is tinnitus. Tinnitus frequently wakes him up at night. He reports that it sometimes affects his concentration, frustrates him, and tinnitus sometimes causes him to be irritable and has difficulty enjoying life. He reports that tinnitus makes it difficult to hear people, and he feels out of control of it. This subject's tinnitus was reduced to a comfortable level.

Subject 33

Subject 33 is a 64 year old female with moderate to severe hearing loss in the high frequencies as well as tinnitus. She reports that she sometimes has dizziness and ear pain, and has been exposed to loud noise. The subject scored a 58% on the ITHQ. It affects her emotional health, her hearing, and her social life. This subject's tinnitus was reduced to a comfortable level.

Subject 34

Subject 34 is a 57 year old male with tinnitus in both ears and significant hearing loss in the lower frequencies. His hearing loss has progressed over 30 years. The subject reports he has cerumen buildup, and has problems hearing the telephone and female voices. The subject reports he was exposed to loud noise in the air force from 1972-76. He began wearing hearing aids in 2010. The subject's tinnitus was canceled for a short time. However, the cancelation changed to a reduction.

Subject 35

Subject 35 is a 66 year old male with moderate to severe bilateral high frequency loss and tinnitus. He has been exposed to loud trucks. He had a hearing evaluation that showed inner ear damage. The subject's tinnitus was reduced and the tone was changed to a hissing noise.

Subject 36

Subject 36 is a 68 year old male with moderate to profound loss in his left ear and moderate to severe loss in his right ear, both have been progressing for 20 years. He has tinnitus and had been exposed to loud noises for 20 years. He has problems with the telephone, male, female, and children's voices. The subject's tinnitus was reduced and the tone was changed to a wind noise.

Subject 37

Subject 37 is a 49 year old male with moderate to severe high frequency loss and tinnitus. He reports that he has drainage and some ear pain, and he has been exposed to loud engine noise. The subject's tinnitus was reduced and changed to a white noise.

Subject 38

Subject 38 is a 75 year old male with moderate to severe high frequency loss in both ears and tinnitus. He has had dizziness, was exposed to loud noise in the navy for about 30 years, and has some problems with female and children's voices. A previous audiometric evaluation showed a 10% loss of hearing; he did not know the date of this evaluation. The subject's tinnitus was reduced and the tone changed to static.

Subject 39

Subject 39 is a 72 year old male with tinnitus and severe hearing loss beginning at 2k, and his hearing loss has been progressing for 20 years. He was exposed to loud noise in the army, as well as tractors. He has problems with telephones, male voices, and female voices. He has worn hearing aids, but was not pleased with them. This subject's tinnitus was not reduced; however, the tone changed to a much more tolerable white noise.

Subject 40

Subject 40 is a 46 year old male with high frequency hearing loss and tinnitus. He was exposed to gunfire during his childhood. He has some trouble hearing female voices and children's voices. The subject's tinnitus was reduced and changed to a hiss.

Subject 41

Subject 41 is a 65 year old male with moderate to severe hearing loss in the high frequencies as well as tinnitus. He has been exposed to loud noise, and has some problems with male, female, and children's voices. The subject scored a 24% on the ITHQ. It mainly interferes with his hearing. He describes tinnitus as louder on the left, but in both ears, a higher pitch on the left. This subject experienced cancelation of tinnitus in the right ear and a reduction in the left.

Subject 42

Subject 42 is a 44 year old male who has moderate to severe bilateral hearing loss in the high frequencies and he has had tinnitus for as long as he can remember. He has been exposed to loud noise, he has problems with the telephone, male voices, and female voices, and he has had ear pain. This subject experienced cancelation of tinnitus in the right ear and a reduction in the left.

Subject 43

Subject 43 is a 43 year old male with tinnitus. He reports that he has trouble hearing, although his audiogram does not indicate a loss. He reports that he has had drainage and has been exposed to loud noise from a farm/shop for 30 years. He has problems hearing the telephone. This subject experienced cancelation of tinnitus in the left ear and a reduction in the right.

Subject 44

Subject 44 is a 77 year old male who has mild to moderate loss in his right ear beginning at 1k, and mild loss in the high frequencies in his left ear. He reports he has trouble understanding what people are saying, and he has tinnitus. He was exposed to noise from saws, and he has some problems with the telephone, male voices, and female voices. He had been wearing hearing aids from Stark for 5 years up until last month. He was not pleased with the experience. His mother also had hearing problems. The subject scored 48% on the ITHQ. He has a hard time hearing because of his tinnitus, and his tinnitus causes moderate emotional and social stress. This subject experienced cancelation of tinnitus in the left ear and a reduction in the right.

Subject 45

Subject 45 is a 52 year old female with normal hearing and tinnitus that has progressed for "at least a couple of years". She has been exposed to loud noises, including a motorcycle and lawnmower. She has problems with male voices. This subject experienced cancelation of tinnitus in the left ear and a reduction in the right.

Subject 46

Subject 46 is a 40 year old male with moderate to severe hearing loss in the right ear and mild hearing loss in the left ear, both of which have been progressing for 5 years. The loss begins at 4k in the right and 3k in the left. He has tinnitus and has been exposed to loud noise, including music and engines. His father also has a history of loss. This subject experienced cancelation of tinnitus in the right ear and a reduction in the left.

Subject 47

Subject 47 is a 68 year old male with high frequency hearing loss in the left and low to high frequency hearing loss in the right. He has been exposed to shotgun fire most of his life, and his father also had a hearing loss. His main concern is tinnitus, although his tinnitus is mild. He reports that he sometimes has difficulty hearing people, enjoying social activities, it frustrates him, and makes it difficult to enjoy life. He says it sometimes interferes with his work/responsibilities, and places stress on his relationships. The subject's tinnitus canceled in the right ear, but the procedure had no effect on the left.

Subject 48

Subject 48 is a 63 year old male with moderate to severe high frequency loss in both ears, as well as tinnitus. He has been exposed to loud noises, including gunfire and turbines. He has problems with the telephone, female voices, and children's voices. He scored a 30% on the ITHQ. He mainly has problems with his tinnitus interfering with his hearing. He describes his tinnitus as a high pitch whistling noise. Sometimes it "pops", then the tinnitus goes away, but always gradually comes back. The subject's tinnitus canceled in the left, but remained the same in the right.

Subject 49

Subject 49 is a 45 year old male with mild to severe hearing loss starting at 2k that has been progressing for 10 years. He has tinnitus and dizziness, has problems hearing female voices, and he has been exposed to gunfire and machine noise. He reports that he thinks Aspirin caused the tinnitus. The subject's tinnitus was canceled in one ear only.

Subject 50

Subject 50 is a 60 year old male with moderate hearing loss in the high frequencies in his right ear, and moderate to severe loss in the higher frequencies in his left ear. He has tinnitus that interferes with his hearing. He sometimes has trouble with the telephone and children's voices. He has been exposed to loud noises. The subject's tinnitus was reduced only slightly.

Subject 51

Subject 51 is a 60 year old male. His only concern was tinnitus and he does not report hearing loss. However, his audiogram indicates hearing loss in his right ear in all frequencies. When bone conduction was done, the dB response improved. He was referred to an ENT. The subject was exposed to loud music in his 20s and had an ear drum burst at the age of five. The subject's tinnitus canceled during the first session, but remained the same during a subsequent session.

Subject 52

Subject 52 is a 47 year old male with mild to severe hearing loss starting at 2k that has been progressing for 20 years. He has tinnitus and has been exposed to loud music for most of his life. He has problems with female and children's voices, and his father also had hearing loss. The subject's tinnitus canceled during the first session, but remained the same during a subsequent session.

Subject 53

Subject 53 is a 49 year old female with tinnitus and severe hearing loss in all frequencies. She does not have a family history of hearing loss. The subject's tinnitus was reduced very slightly in the right ear.

Subject 54

Subject 54 is a 26 year old male with severe high frequency hearing loss in his left ear starting at 4k. He has tinnitus predominately in his left ear. The progression of loss began at the age of 21 due to shooting guns w/o ear protection, and he was exposed to loud noises

throughout his childhood. He had ear tubes when he was younger, and sometimes has a hard time hearing female voices. His father also had tinnitus. The subject's tinnitus was reduced very slightly in the right ear.

Subject 55

Subject 55 is a 55 year old male with high frequency hearing loss and tinnitus. He has been exposed to high noises over the years, and his sister also has a history of hearing loss. He has problems with the telephone in the left ear, and overall problems with female and children's voices. He has worn hearing aids before and was not pleased with them. His tinnitus is mild. He reports that tinnitus makes it hard for him to hear people, and it sometimes makes it difficult to concentrate and enjoy life. The subject's tinnitus did not cancel or reduce.

Subject 56

Subject 56 is a 61 year old male with a 40 year progression of hearing loss and tinnitus. His father also had a history of hearing loss. He has been exposed to shotgun noise and live steam. The subject reports tinnitus makes him feel stressed and is annoying, makes him feel at ill health, and interferes with his ability to tell where sounds are coming from. The subject's tinnitus did not cancel or reduce.

Subject 57

Subject 57 is a 61 year old male with moderate high frequency hearing loss and tinnitus that has been progressing for about 2 years. He was exposed to loud noises while he worked in a power plant 29 years ago. His ENT said that the tinnitus was probably caused by a virus. The subject's tinnitus did not cancel or reduce.

Subject 58

Subject 58 is a 52 year old female with severe hearing loss beginning at 1k and has had tinnitus for the last 6 years. She has some problems with the telephone and female voices, and has a family history of hearing loss on the paternal side. She has been exposed to loud noise at various occasions for short periods of time. The subject's tinnitus did not cancel or reduce.

Subject 59

Subject 59 is a 56 year old female with tinnitus and moderate to severe hearing loss in the higher frequencies. The progression started about 4 years ago, she says due to using an angle grinder. Along with the tinnitus, she has ear pain caused by loud noises. She has problems hearing the telephone, and sometimes male, female, and children's voices. Her father also has a history of hearing loss. The subject's tinnitus did not cancel or reduce.

Subject 60

Subject 60 is a 57 year old male with tinnitus and mild hearing loss. He reports that he has dizziness and has been exposed to loud noise from machinery and guns since age 10. The subject's tinnitus did not cancel or reduce.

Subject 61

Subject 61 is a 53 year old male with high frequency loss in his left ear. He also has tinnitus in his left ear, and has problems with the telephone and children's voices. He has a family history of hearing loss, including his mother, brother, and grandfather, and he has been exposed to loud noises, including hammering and gunfire. The subject scored a 30% on the ITHQ. He sometimes has problems with speech and avoids noisy situations because of his tinnitus. The subject's tinnitus did not cancel or reduce.

Subject 62

Subject 62 is a 47 year old male with tinnitus and severe hearing loss in the right ear. His mother also had hearing loss, and he has been exposed to loud noise "multiple times". The subject's tinnitus did not cancel or reduce.

Data Summary

Three quarters of the patients in this study have shown to have positive results from Dr. Dalton's tinnitus reduction procedure. Of these positive results, the tinnitus of 15 subjects was canceled completely. Nineteen of these subjects experienced a reduction of tinnitus that was great enough to provide them relief. Six of the subjects had a tone change of tinnitus that reduced the loudness of the tinnitus and transformed it into a more comfortable sound, such as white noise. Of the 62 subjects, only 8 had no cancellation or reduction whatsoever. Five subjects had unilateral cancellation or reduction only, and 3 had mixed results. In all of these results, the tinnitus ranged from mild to severe, as did the subjects' hearing loss. Using these results, it can be assumed that three out of four patients can benefit from Dr. Dalton's therapy.