

LYRIC AND TINNITUS



ANN KELLY HEARING

Ann Kelly

- South Dublin clinic
- Fitting Lyric since June 2013



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Our Team

- Two Audiologists



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My Expectations

- Lifestyle product
- Differentiate clinic



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The Early Days: 2013

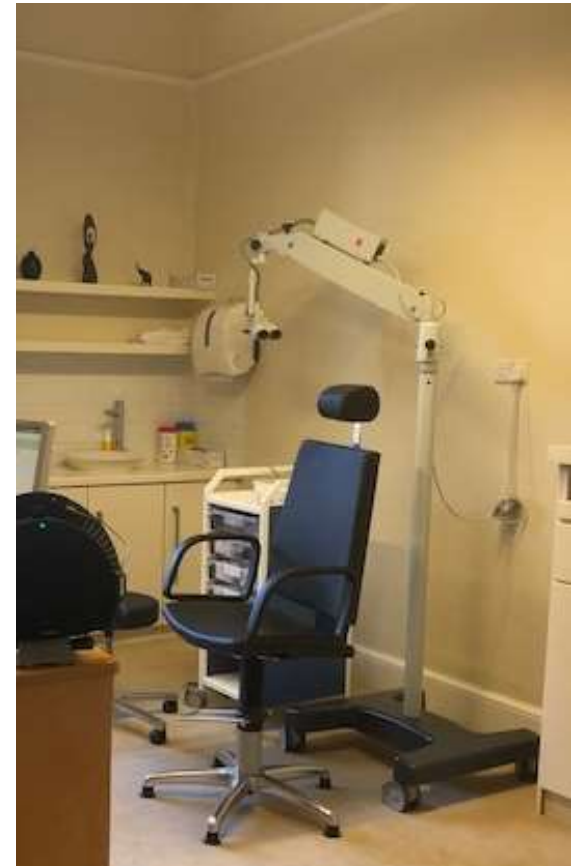
- Steep learning curve
- Existing database
- Commitment pays off,
availability and note taking



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Note taking

- Main points we highlighted Pre Lyric in hearing:
- Impact of their hearing loss
- Lifestyle- priority situations
- Do they have tinnitus, if so how bothersome is it?



TINNITUS

- Tinnitus is the perception of sounds originating within the head of the observer in the absence of external auditory stimulation (McFadden, 1982).
- The prevalence of tinnitus is put at 10-15% of the population.
- 90% of those with tinnitus have hearing loss (HL). Hearing aid is the first line of management of tinnitus (sereda,M. et al 2018)
- Online: Tinnitus is searched 1.5 times more often than HL.



First Lyric tinnitus patient, 2014

John, Age: 58

Had aid previously but tinnitus became more bothersome

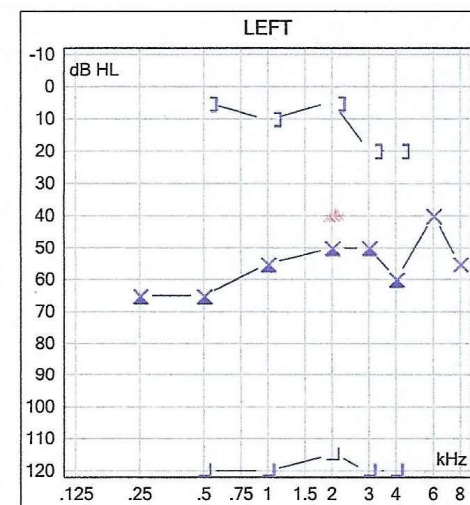
Left Conductive loss

Speech Discrimination:

Right: 100% @ 65dBHL

Left: 100% @ 100dBHL (70dB masking)

Tinnitus Match LEFT: 75dB @ 250Hz NBN



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First Lyric tinnitus patient, 2014

John, Age: 58

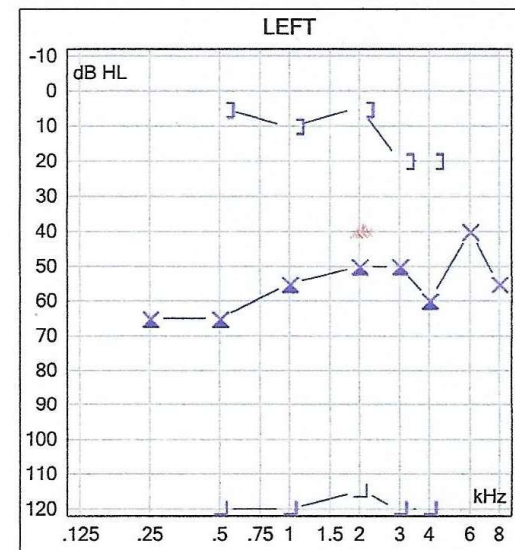
Fitted Lyric-liked sound

1 week later-can't believe improvement, tinnitus much better

Rating of Tinnitus:

No Lyric- tinnitus =8-9

Lyric: Mostly 3, sometimes down to 1, 'hardly there'.



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Gavin, Age 42

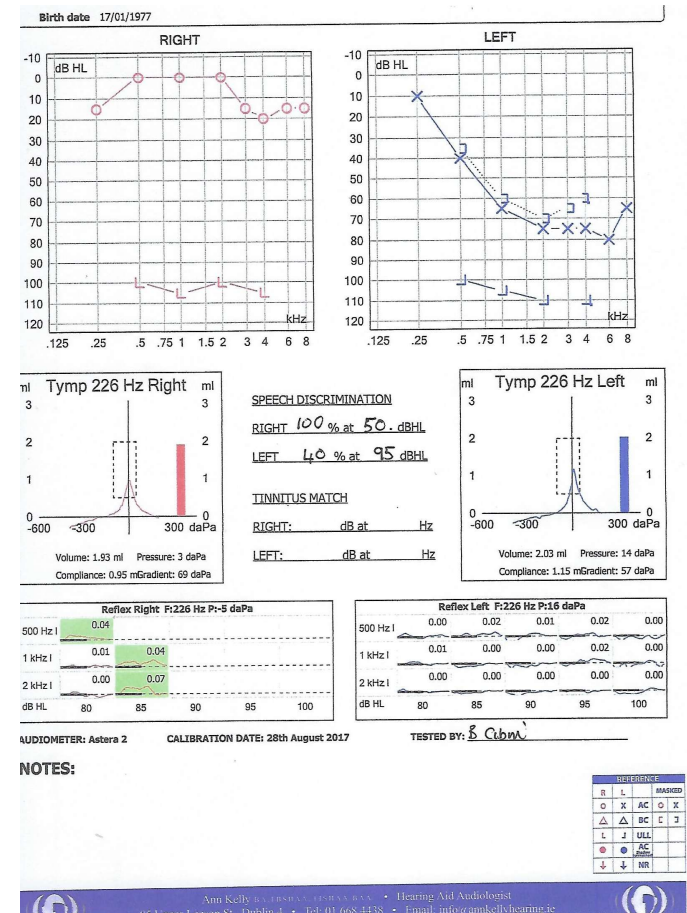
Tried Mute Button, neuromodulation device

Tried other hearing devices

Lyric-minimal occlusion

Hearing well in company

Tinnitus significantly improved



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Neurologist, Age 57

- 57 year old Professor of Neurology, referred in 2016
- Unilateral SNHL, recruitment & Tinnitus
- Hx-Tinnitus started 1996 with vertigo.
- 2013: left hearing reduced 80%, recovering slightly but tinnitus increased. Seen by immunologist & ENT
- Tinnitus changes when stressed and suffers constant migraines.



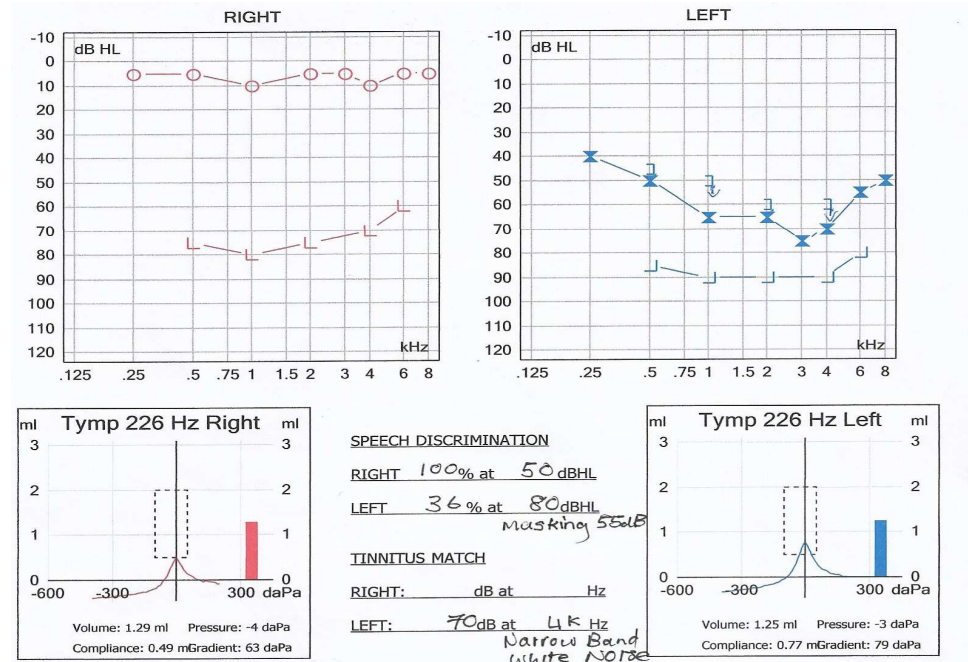
Neurologist, Age 57

Patient Priorities

- 1. Tinnitus Management
- 2. Localization: a keen cyclist
- 3. Hearing

What I recommended as options

- 1. Lyric, I was seeing good results for tinnitus
- 2. Left hearing aid with masker
- 3. CROS device



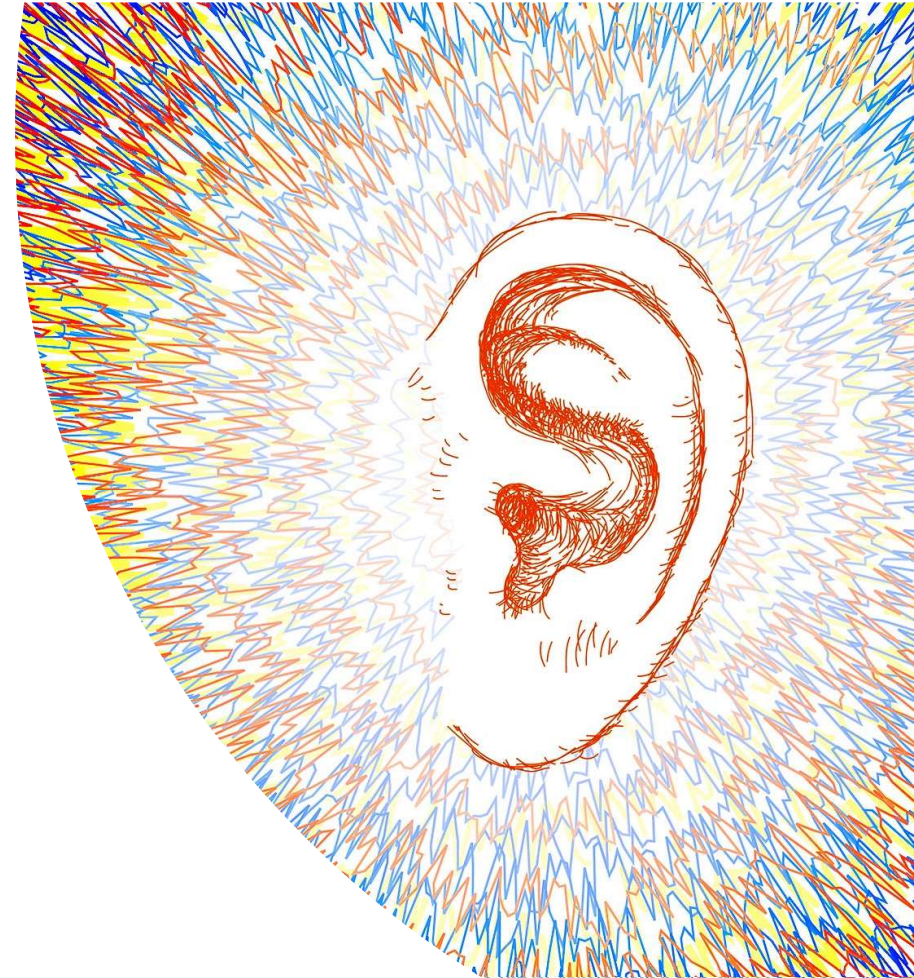
Neurologist, Age 57

On Fitting day

- Immediate improvement in her tinnitus

Needed to confirm

- 1. comfortable
- 2. If improves tinnitus
- 3. Improve hearing



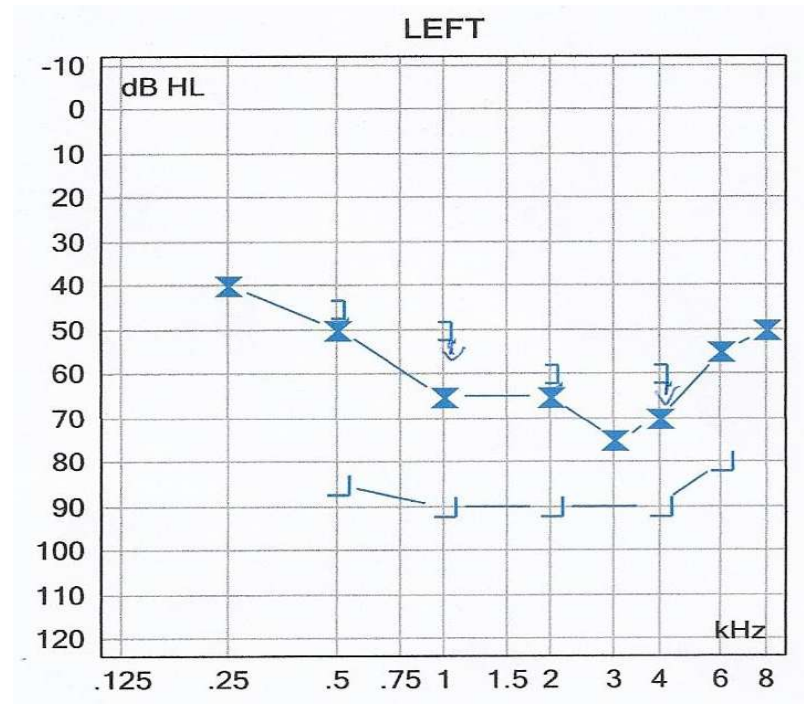
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Neurologist, Age 57

One week later

According to patient:

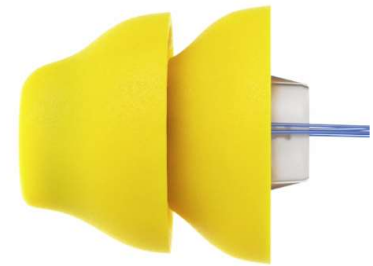
- Tinnitus still lower, not as intrusive
- Hearing improved by 30-40%
- Main improvement was in the tinnitus



Neurologist, Age 57

Two weeks later

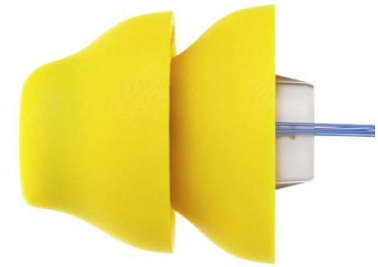
- Not physically aware of Lyric in the ear
- Tinnitus improved further, no more tonal tinnitus
- Headaches greatly improved
- Some distortion with soprano, no other problems with tolerance of loud sounds



Neurologist, Age 57

Two months later (change of device)

- No more headaches and no neck pain
- Tinnitus continues to be much better – she attributes directly to Lyric
- She reported there is evidence of headaches and neck pain being secondary to tinnitus.



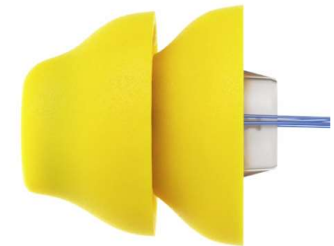
Neurologist, Age 57

6 months later

- Headaches still no longer noticeable

One year later

- Period of significant stress, fullness in ear, dizziness, some tinnitus but still greatly reduced with Lyric.
- Didn't want audiogram- 'don't want to know'medics!



Why is Lyric so Effective for Tinnitus?

- 24/7 auditory stimulation
- IN Ear & Hearing, 2017, up to 90% of those with tinnitus might benefit from amplification due to:
 1. Reduce tinnitus intrusiveness
 2. Aiding habituation
 3. Distracting attention from tinnitus
 4. Triggering neuroplastic changes in brain.



Brian, age 25

Came looking for tinnitus solution

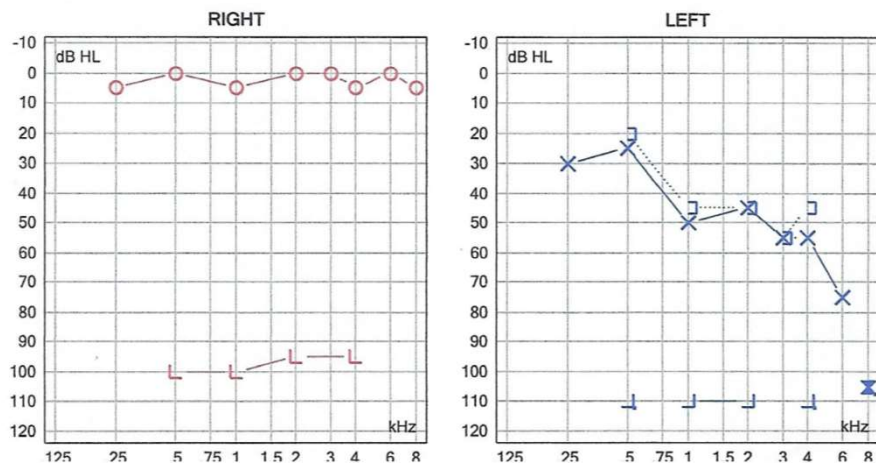
Previously had CIC from another clinic

Research online, felt Lyric was worth a try, so sourced our clinic



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Brian, age 25



Speech Discrimination:

RIGHT: 100% @ 50dBHL

LEFT: 83% @ 85dBHL (right masked)

Speech In Noise:

RIGHT: 1dB SNR Normal

LEFT : 6dB SNR Mild

Tinnitus Pitch Match: matched at 3kHz & 8kHz.



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Brian, age 25

Prior to Lyric



- Tinnitus Functional Index
Overall Score: 76.
Tinnitus is a very big problem/ severe enough to qualify for more aggressive intervention (>50)

	Intrusiveness	Sense of Control	Cognitive	Sleep	Auditory	Relaxation	Quality of Life	Emotional	Overall score
No Lyric	90	80	73	47	67	83	80	90	76

Brian, age 25

With Lyric

Tinnitus Functional Index

With Lyric: 34-Small problem (range 32-53)



	Intrusiveness	Sense of Control	Cognitive	Sleep	Auditory	Relaxation	Quality of Life	Emotional	Overall score
Lyric	40	37	37	0	37	50	35	37	34

Brian, age 25

TFI Comparison



Clinically significant reduction: 13points is considered meaningful reduction in outcomes scores (Hall, 2014)

	Intrusive	Sense of Control	Cognitive	Sleep	Auditory	Relaxation	Quality of Life	Emotional	Overall score
No Lyric	90	80	73	47	67	83	80	90	76
Lyric	40	37	37	0	37	50	35	37	34
Improvement	50	43	36	47	30	33	45	53	42

Brian, age 25



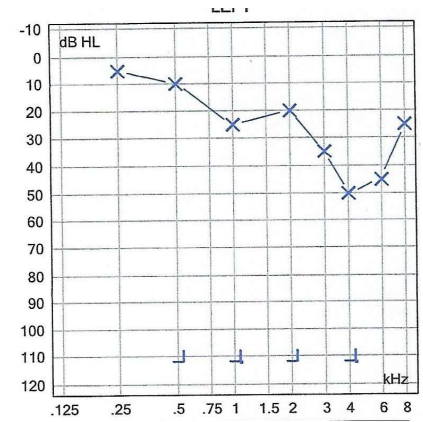
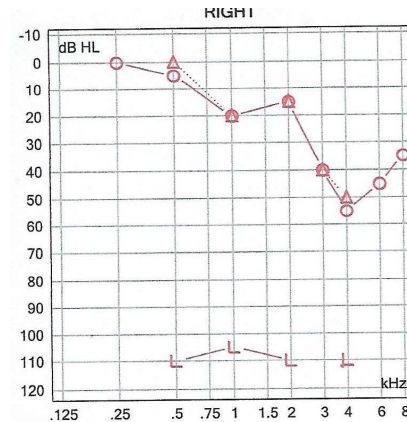
Interestingly- he turns off Lyric at night, finds the loud tinnitus strangely soothing!. i.e. don't presume everyone is the same.

In my experience, you learn more listening to your patients, it's a journey together.



Larry, Age 57

- Main complaint tinnitus, completely interfering with sleep.
- Has been on Mute Button trial which improved volume of tinnitus in left, no improvement in right
- Initially only wanted help for right tinnitus, could manage left.



Speech discrimination :

Right: 90% @60dBHL

Left: 90% @60dBHL

Tinnitus Match:

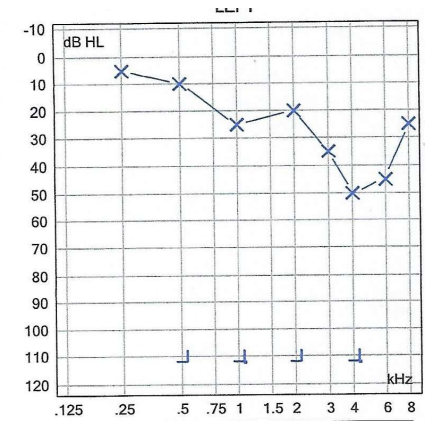
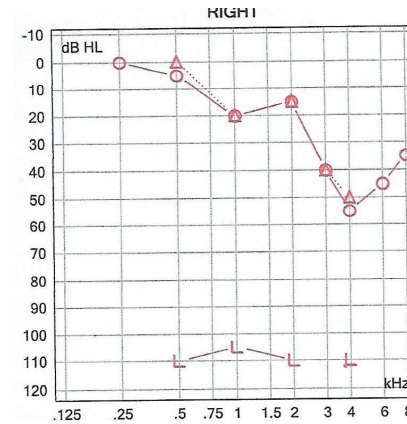
Right: 25dB @2kHz pure tone



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Larry, Age 57

- Fitted Lyric to right- tinnitus immediately disappeared.
- Two months later, he asked for Lyric for left ear also.

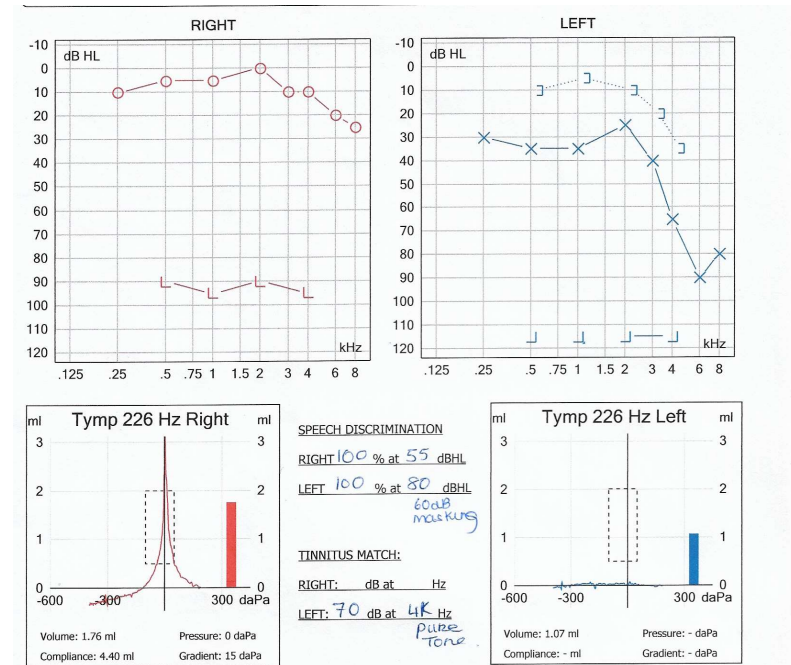


TFI	Intrusive	Sense of Control	Cognitive	Sleep	Auditory	Relaxation	Quality of Life	Emotional	Overall score
No Lyric	87	83	13	100	73	40	20	20	53



Barry, Age 58

- Hx- Bang to head playing rugby 20 years ago, conductive loss, grommet inserted, no improvement, then grommet removed after which tinnitus started.
- Constant high pitch tinnitus 4kHz.
- Difficulty hearing in noise.



Barry, Age 58

Fitted March 2015, noticed immediate improvement in tinnitus.

5 days later: delighted- cannot hear tinnitus.



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Lyric and Tinnitus

- 79 active subscriptions
 - 40 with no tinnitus
 - 39 with tinnitus
 - 12 patients bilaterally
 - 15 patients unilaterally



Lyric and Tinnitus

Troublesome Tinnitus	Results
No change in tinnitus	1 (3%)
Slight improvement in tinnitus	22 (56%)
Significant improvement in tinnitus	11 (28%)
Tinnitus no longer noticeable	5 (13%)
	39 (100%)



How do Tinnitus patients come to us?

- Online
- Through medical referrals, this helps validate our clinical status
- Looking for a tinnitus solution, not necessarily an aid



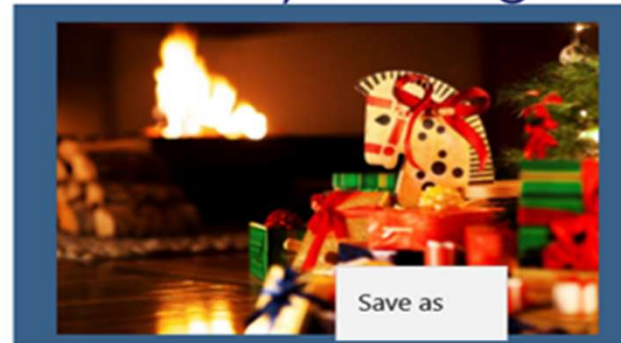
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Covering Lyric in our Newsletters

- Twice yearly publication



Ann Kelly Hearing's Newsletter



What happened this semester:

- **Pat Kenny:** Ann Kelly and one of our Lyric patients were on the Pat Kenny Show on the 4th November talking about Lyric and their experiences.
- **Ann presents at UK meeting:** Ann Kelly was invited to speak at the annual UK Lyric conference in London this year. Ann shared case studies, insights and her recommendations with other Lyric experts.

"It was an honour to be recognised so highly among other specialist centres which reinforces our commitment to offering the highest standard of care to our clients" says Ann Kelly.

- **Lyric Award:** Ann Kelly Hearing won another Lyric award for the second year in a row at this year's Lyric Conference in the UK!
- **Open Day:** On the 18th September we held our second Annual Lyric Open Day at AKH.
- **Fiona's news:** Our dear Fiona Boyle is going on maternity leave from

Could Lyric help with Tinnitus?

Results from a study with Lyric and Tinnitus sufferers have indicated that Lyric wearers noticed a reduction in their overall tinnitus perception within 24 hours of their fitting in addition to improved hearing.

Lyric is a 100% invisible, 24/7 hearing device worn for months at a time.

As Lyric is placed 4mm from your eardrum, it uses the anatomy of your ear to naturally deliver sound amplification.

Tinnitus is the phantom perception of sound with no identifiable sound source, it has an estimated 10-14%

tinnitus patients have an underlying hearing loss of which many are not aware.

Fortunately, only 1% of tinnitus sufferers have severely debilitating symptoms warranting further medical and professional intervention.

Studies have shown that in treating the hearing loss, the tinnitus becomes less noticeable.

Phonak Switzerland invited Ann Kelly Hearing to become involved in a three-month Tinnitus Research Study which is currently underway.

We will share our interesting



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- Prof Grant Searchfield in New Zealand, 2017, wrote about how to fit aids for tinnitus; turn compression off & feedback management off. His summary, do your best to improve the patients hearing and stimulate the auditory system with low level sounds.
- Searchfield quoted Fowler from 1948; “Nothing is more effective in curing tinnitus than diminishing deafness and nothing so harmful as increasing deafness”.



Thank you for listening



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