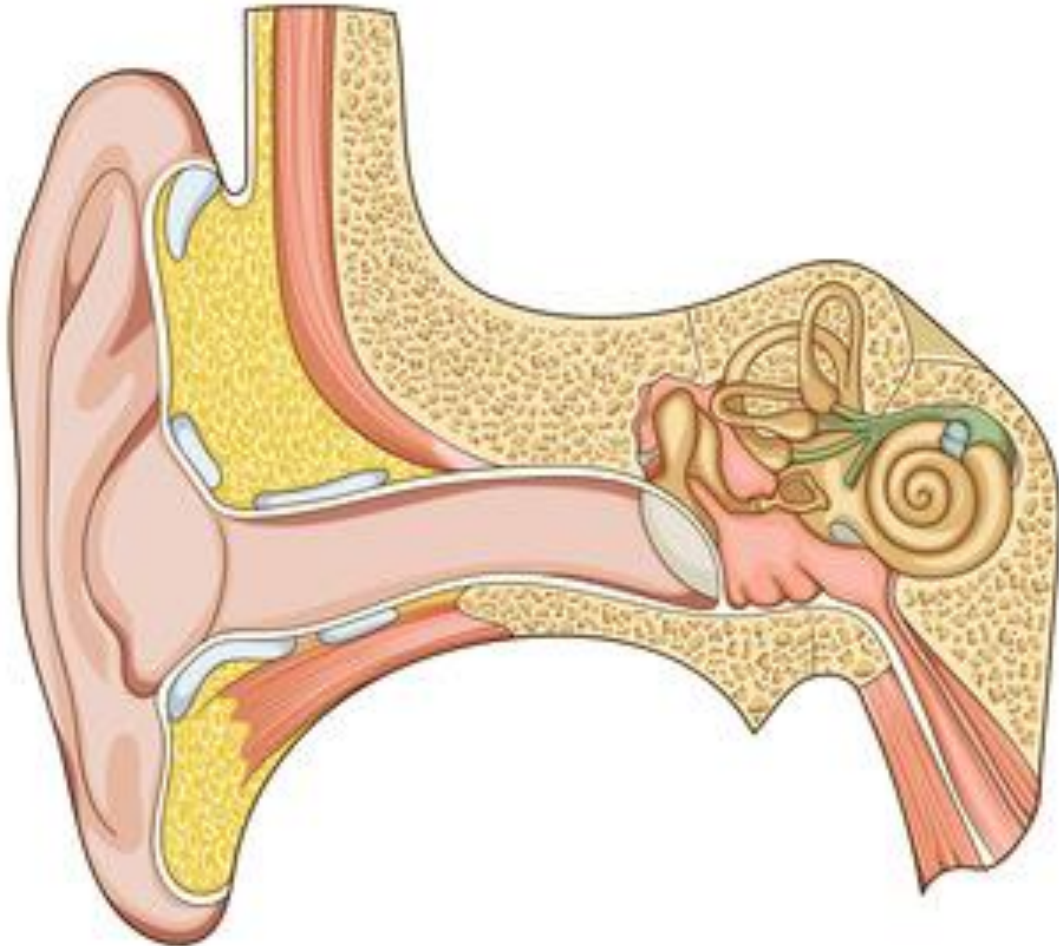


Ménière's Disease



A look at the rate of success of available treatments and procedures.

Treating Ménière's Disease

What is included in this essay?

My paper will focus on the success of the main treatments available for Meniere's disease patients in the UK. I have surveyed* exactly 800 people with Meniere's disease about the effectiveness of a selection of treatments. I am going to cover the survey results throughout this essay.

*Using Survey Monkey – link: <https://www.surveymonkey.co.uk/r/HPQTBXX>

Who took part in the survey?

I created the survey and shared it with the online Meniere's community. I was pleasantly surprised with the volume of data received.

What is Meniere's disease?

Meniere's disease is a rare vestibular balance disorder that affects the inner ear. The main symptoms are; vertigo, tinnitus (ringing/buzzing or other sounds in the ear(s)), hearing loss, imbalance and a feeling of pressure deep inside the ear. People with Meniere's disease have most of these symptoms episodically and can experience many associated symptoms. Vertigo is arguably the most debilitating symptom of Meniere's disease so that is the focus of the treatments covered in my paper.

What is vertigo?

Vertigo is a sensation of spinning which can last from a few seconds to several hours. This sensation can make the individual nauseous, vomit, and if caused by Meniere's, the individual may suffer from hearing loss, a feeling of fullness in the ears and increased tinnitus around the time of the attack.

Are there any treatments?

There are treatments for the symptoms of Meniere's disease but sadly, there is no cure for the condition itself. The treatments I am going to cover are; Lifestyle changes, Betahistine, Cyclizine Grommets, Steroid Injections, Gentamicin Injections, Sac Decompression & Nerve Section.

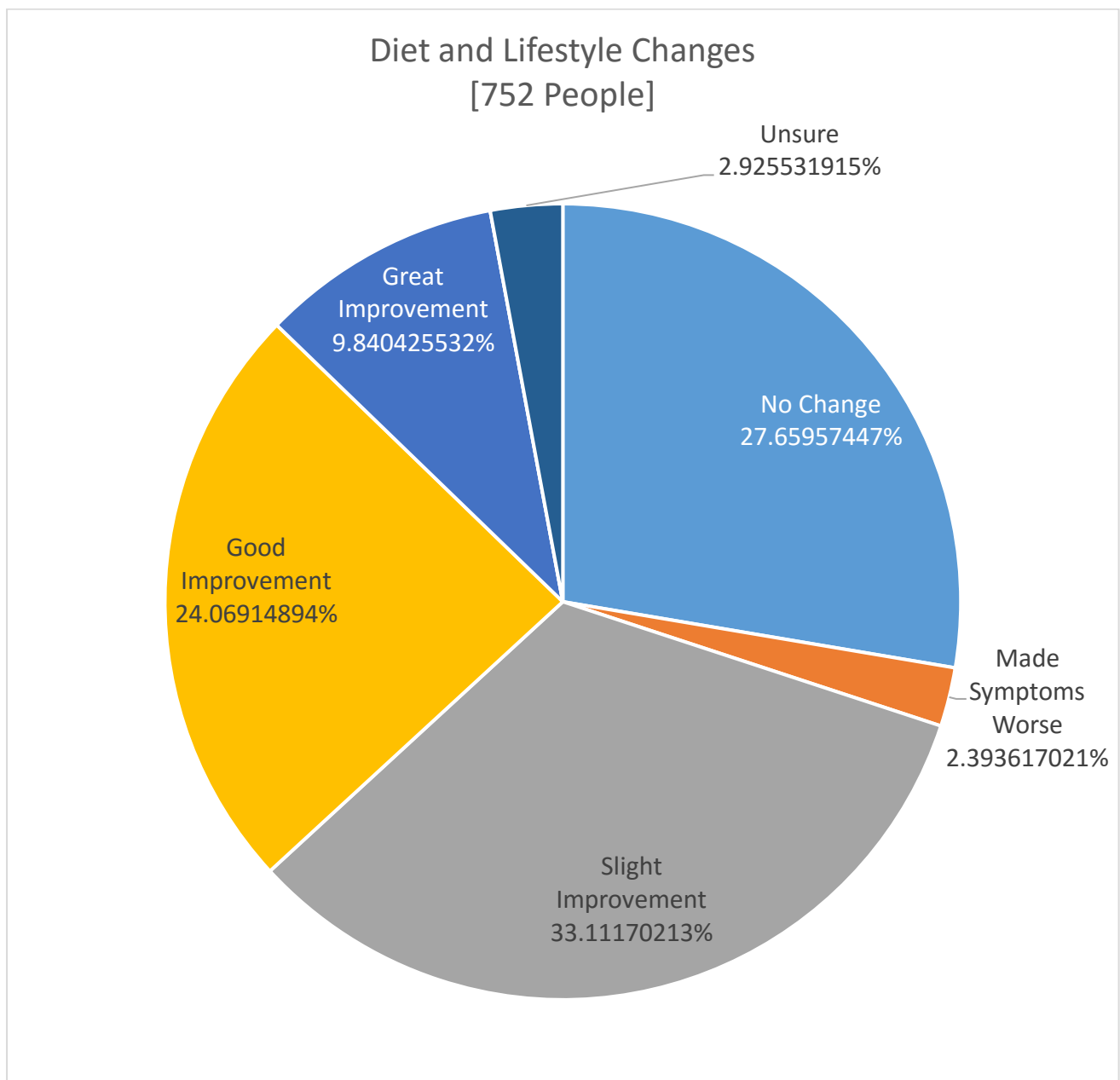


Diet & Lifestyle Changes

A low sodium diet is said to reduce excess fluid in the inner ear which some experts believe will help the symptoms of Meniere’s disease, including vertigo. Some people believe caffeine increases tinnitus, as can smoking cigarettes, so giving up these things can potentially help tinnitus. Gentle exercise – such as walking – is often recommended to those with balance disorders.

Survey Results:

752 people report to have made diet and lifestyle changes. Of that, 504 report a positive improvement; 225 of which report a ‘good’ or ‘great improvement’. 208 report no change, 18 people said the changes made their symptoms worse and the remaining 22 noting they’re ‘unsure’ about the effectiveness of the changes.



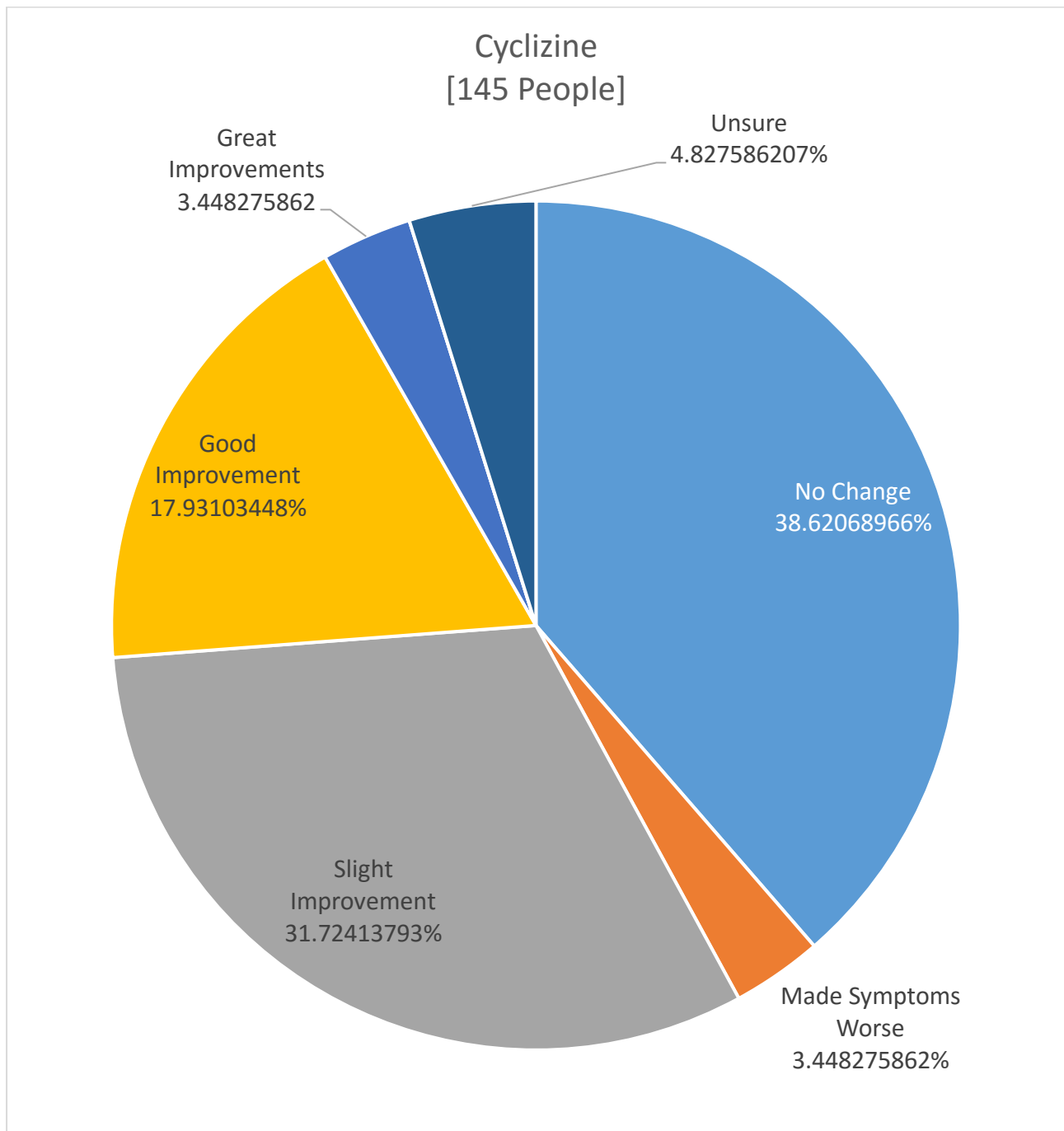
That’s 67.01% reporting a positive improvement with diet and lifestyle changes and 33.9% reporting a ‘good’ or ‘great improvement’.

Medication: Cyclizine

Antihistamine, Cyclizine (C₁₈H₂₂N₂), is used to treat sickness, travel sickness, and problems affecting the inner ear and balance.

Survey Results:

145 people say they have tried Cyclizine. Of that, 77 people report a positive improvement; 31 of which report a 'good' or 'great improvement' in their symptoms. 56 report no change, 5 people said the treatment made their symptoms worse with the remaining 7 noting they were 'unsure' about the effectiveness of the treatment.



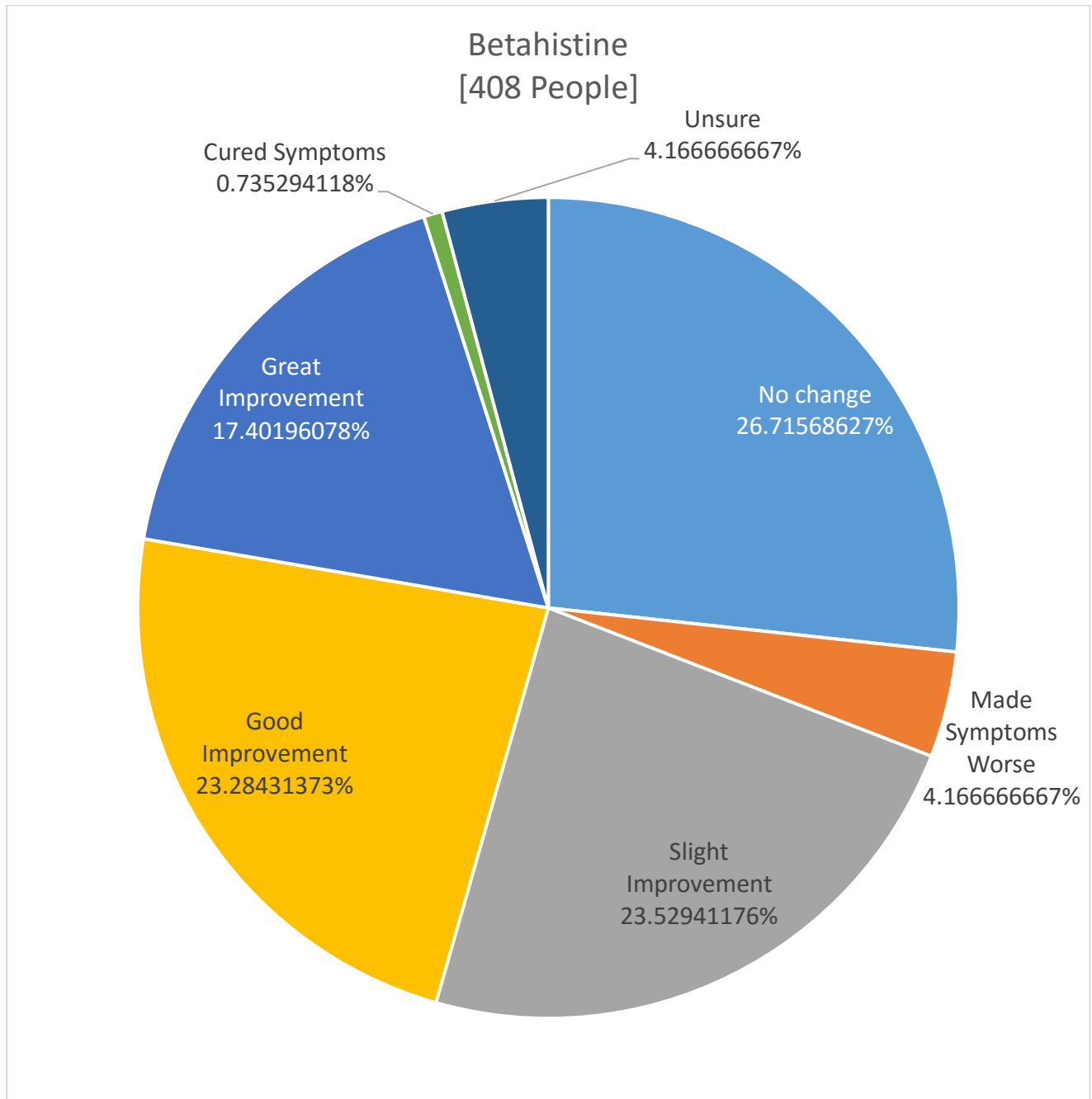
That's 53.09% reporting a positive improvement with Cyclizine & 21.37% reporting a 'good' or 'great improvement'.

Medication: Betahistine

Betahistine ($C_8H_{14}Cl_2N_2$) is used to increase the blood flow around the inner ear. This is thought to reduce the fluid in the inner ear which some believe cause the symptoms of vertigo.

Survey Results:

408 people say they have tried Betahistine. Of that, 265 report a positive improvement; 169 of which report a 'good/great improvement' or 'cured symptoms'. 109 report no change, 17 people said the treatment made their symptoms worse with the remaining 17 noting they're 'unsure' about the effectiveness of the treatment.



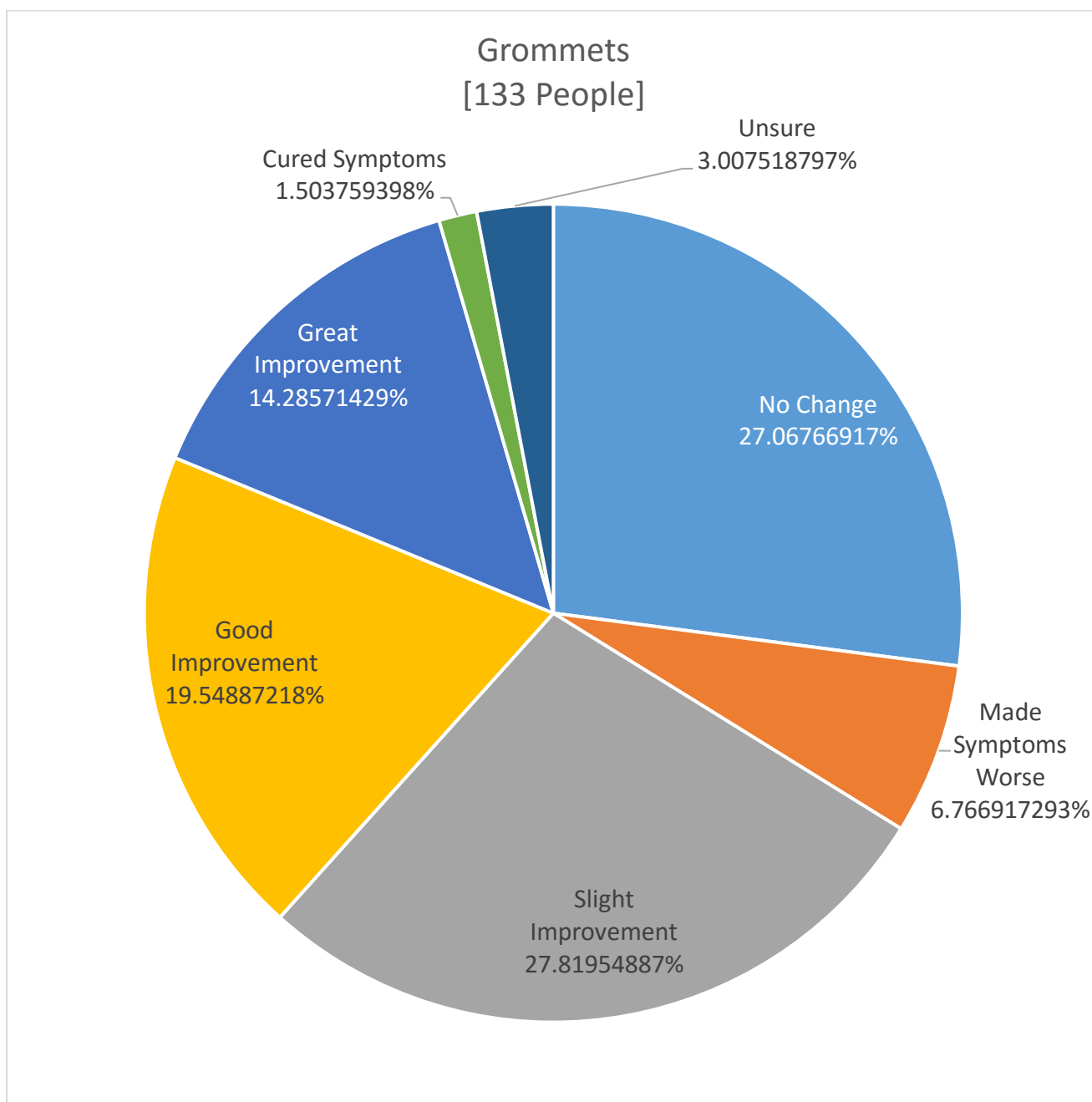
That's 74.93% reporting a positive improvement with Betahistine & 41.41% reporting a 'good/great improvement' or 'cured symptoms'.

Grommets:

Ventilation tubes or grommets are inserted into the tympanic membrane (eardrum) to reduce changes in pressure which is sometimes thought to trigger some symptoms of Meniere's disease. It also forms access to the middle ear for treatments such as steroid injections.

Survey Results:

133 people say they have had grommet(s). Of that, 84 report a positive improvement; 47 of which report a 'good/great improvement' or 'cured symptoms'. 36 report no change after having grommet(s) fitted, 9 people said the grommet(s) made their symptoms worse with the remaining 4 noting they're 'unsure' about the effectiveness of the grommet(s).



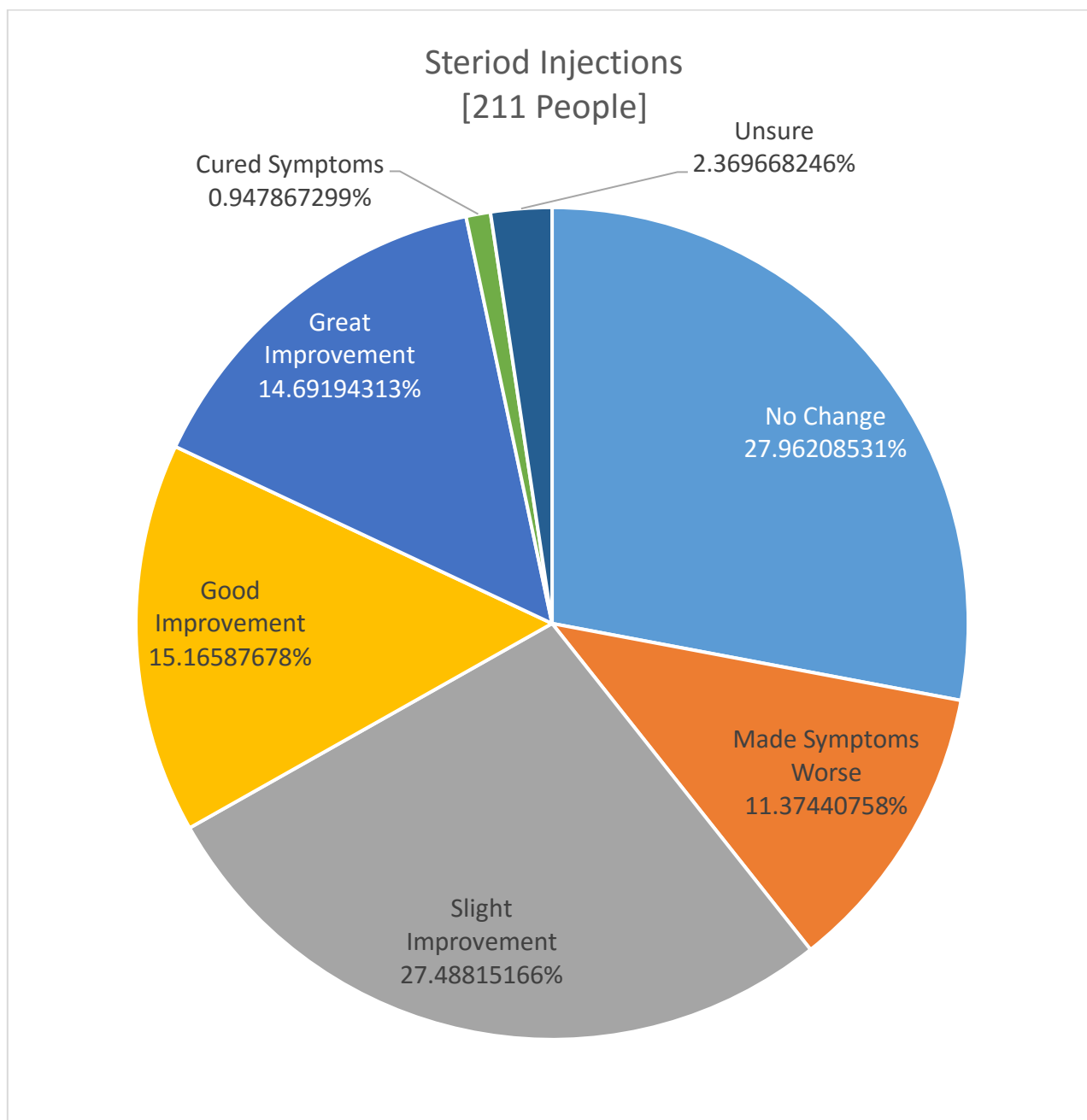
That's 63.13% reporting a positive improvement with grommets & 35.32% reporting a 'good/great improvement' or 'cured symptoms'.

Steroid Injections

Intratympanic Steroids are used as a powerful anti-inflammatory medication when injected in the middle ear, in small, regular doses, as part of a course. When used for Meniere's disease, the steroid injection is hoped to reduce the frequency and severity of vertigo attacks.

Survey Results:

211 people say they have tried steroid injections. Of that, 123 report a positive improvement; 65 of which report a 'good/great improvement' or 'cured symptoms'. 59 report no change in their symptoms, 24 people said the steroids made their symptoms worse with the remaining 5 noting they're 'unsure' about the effectiveness of the injections.



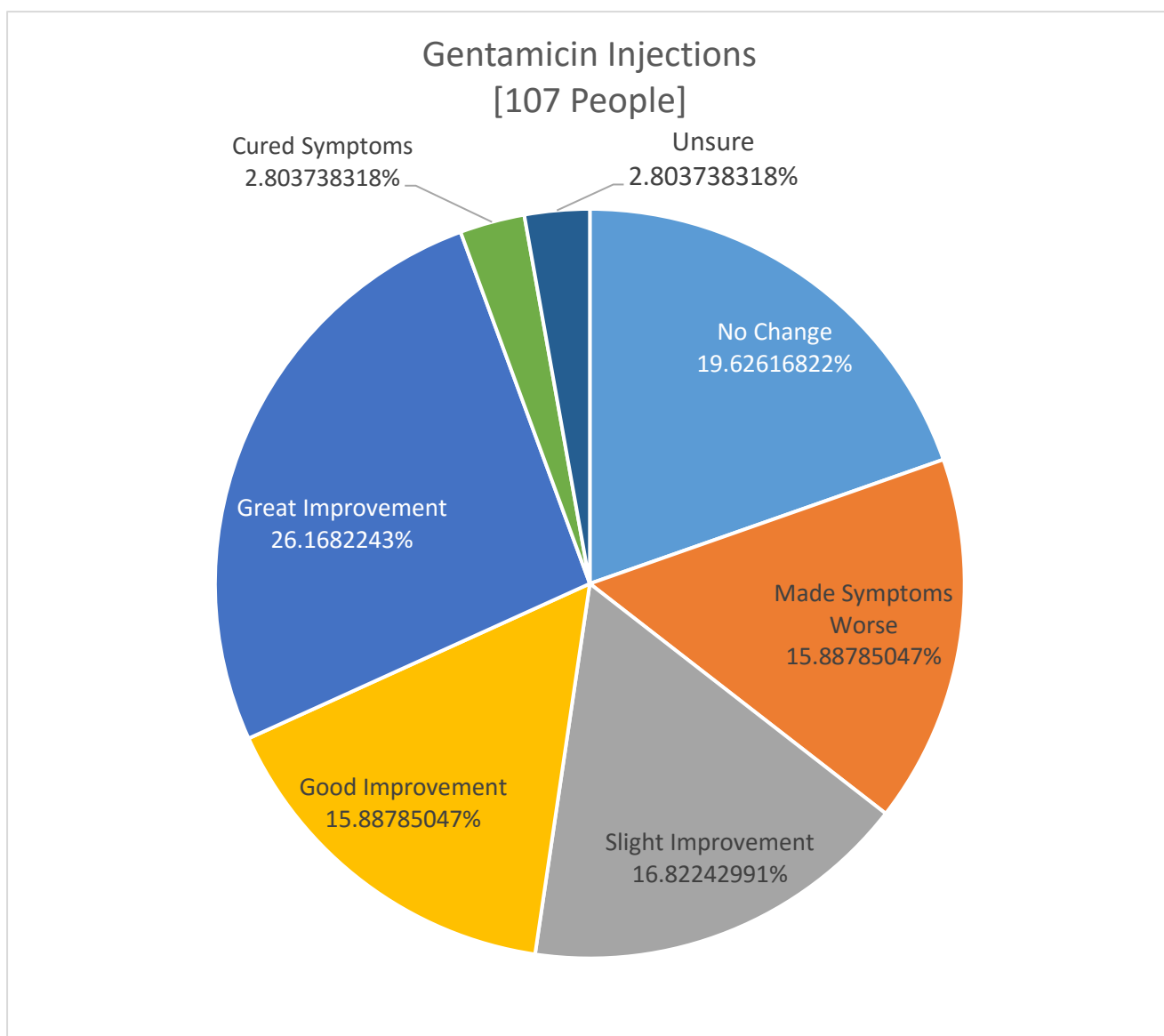
That's 58.27% reporting a positive improvement with steroid injections & 30.79% reporting a 'good/great improvement' or 'cured symptoms'.

Gentamicin Injections

Gentamicin ($C_{21}H_{43}N_5O_7$) is a medication that purposefully damages the inner ear (semi-circular canal). Semi-circular canals are circular, fluid filled tubes. This fluid moves around depending on the motion of the head. When the fluid is moved it sends a signal to the brain saying the head has moved in the X or Y or Z axis. This is how the brain perceives motion. Gentamicin damages the semi-circular canals that help percept motion so the patient is less likely to feel the perceived spinning sensation of vertigo.

Survey Results:

107 people say they have tried gentamicin. Of that, 66 report a positive improvement; 48 of which report a 'good/great improvement' or 'cured symptoms'. 21 report no change after having gentamicin, 17 people said the treatment made their symptoms worse with the remaining 3 noting they're 'unsure' about the effectiveness of the injections.



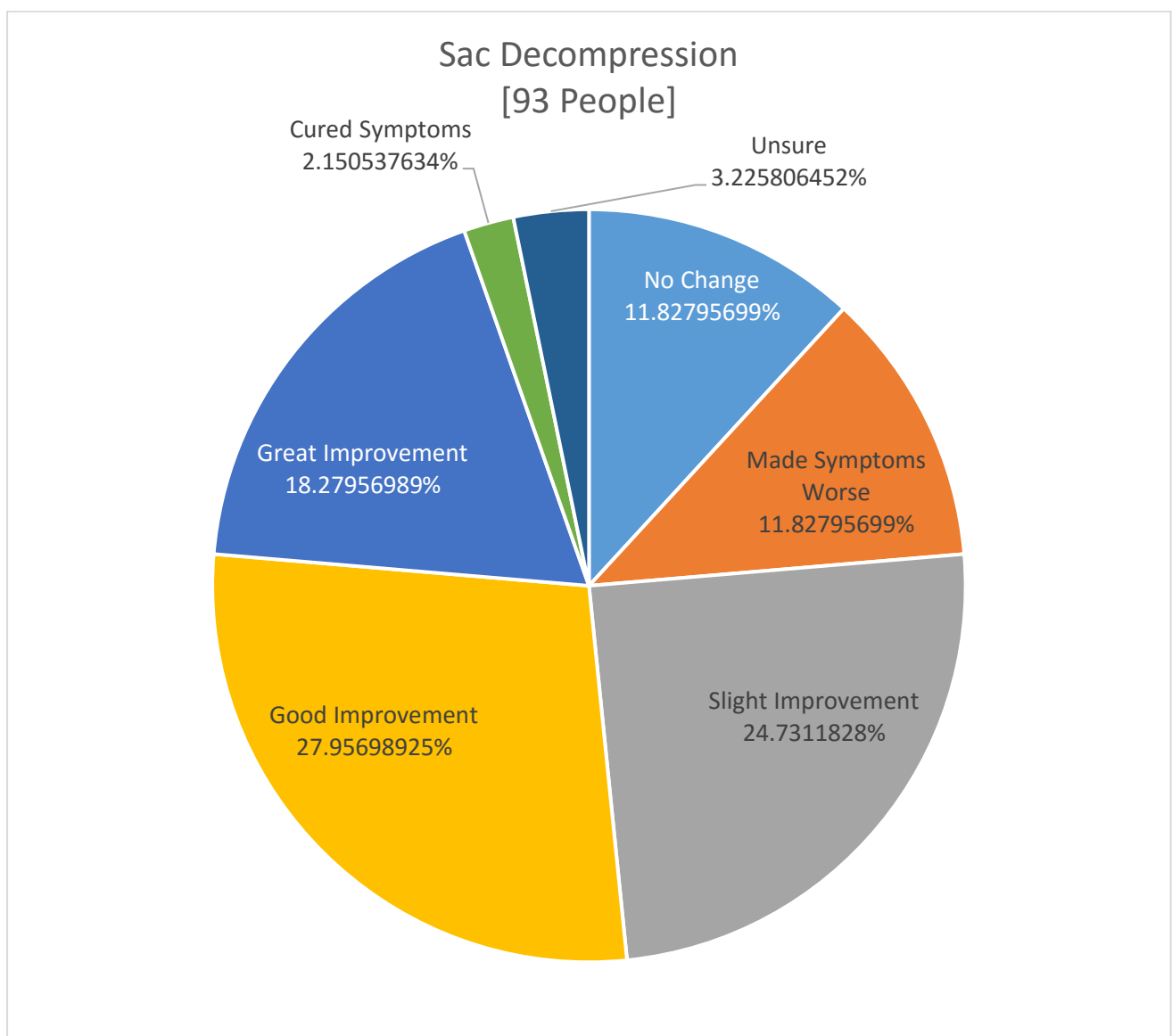
That's 61.66% reporting a positive improvement with Gentamicin & 44.84% reporting a 'good/great improvement' or 'cured symptoms'.

Endolymphatic Sac Decompression

Endolymphatic Sac Decompression is used to help stop or control vertigo attacks. It is sometimes used to help stop progressive hearing loss. An incision behind the ear is made to expose the mastoid bone. The mastoid is opened and the facial nerve is identified. The bone over the endolymphatic sac is then exposed and once identified; the sac is opened. A valve is usually inserted into the sac to allow for future drainage, when fluid reforms; this is believed to help reduce symptoms.

Survey Results:

93 people say they have tried sac decompression. Of that, 68 report a positive improvement; 45 of which report a 'good/great improvement' or 'cured symptoms'. 11 report no change in their symptoms after having sac decompression surgery, 11 people said the surgery made their symptoms worse with the remaining 3 noting they're 'unsure' about the effectiveness of the surgery.



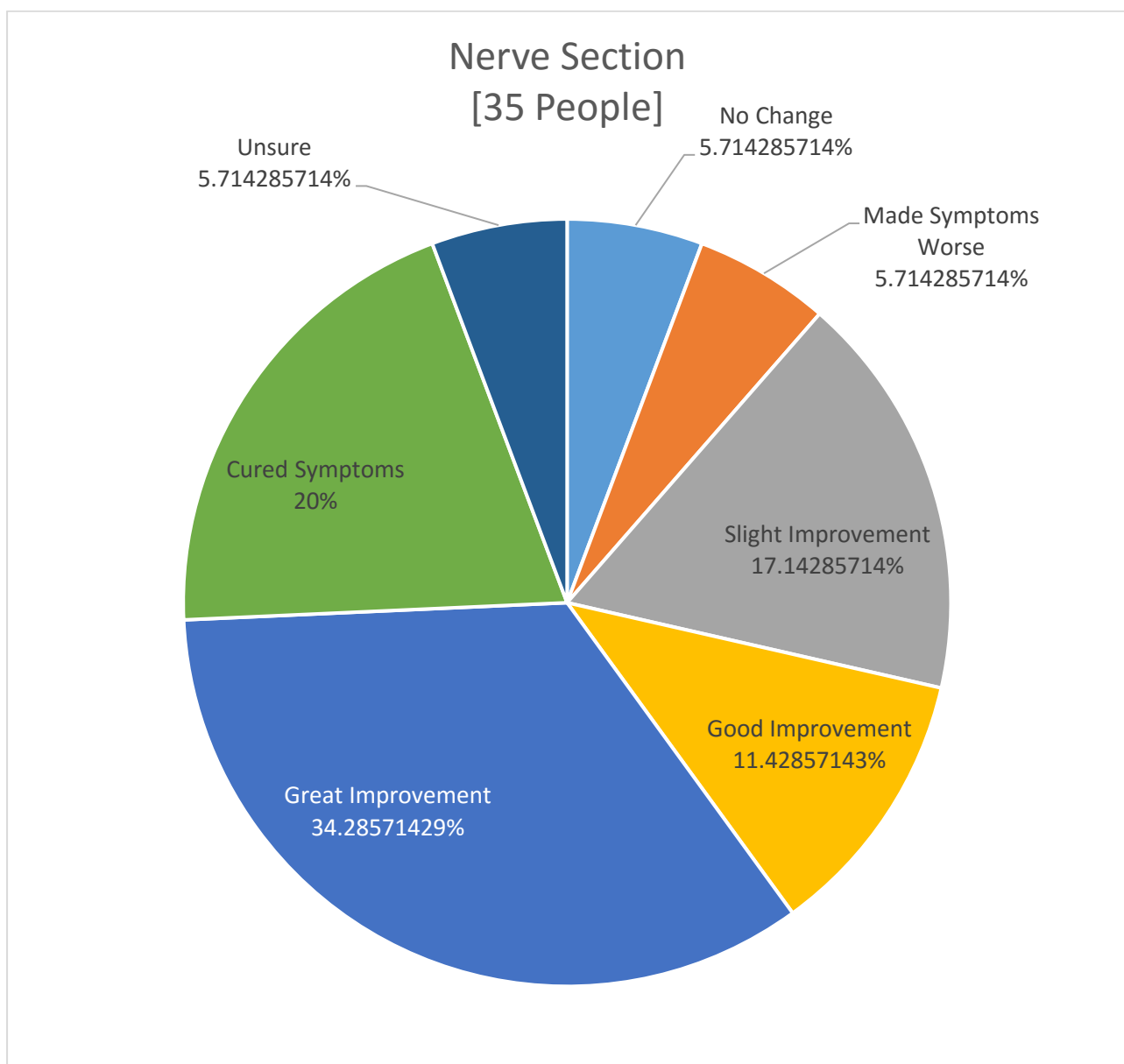
That's 73.1% reporting a positive improvement with sac decompression & 48.37% reporting a 'good/great improvement' or 'cured symptoms'.

Nerve Section

Nerve section is for severe cases of Meniere's disease if other treatments have been unsuccessful. It can only be performed on one ear. Nerve section can be dangerous as it involves cutting out the vestibulo-cochlear nerve that is surrounded by arteries within the brain. Once the nerve is cut it stops the flow of balance information from that ear to the brain. The brain can then compensate for the loss by using only the opposite ear to maintain balance.

Survey Results:

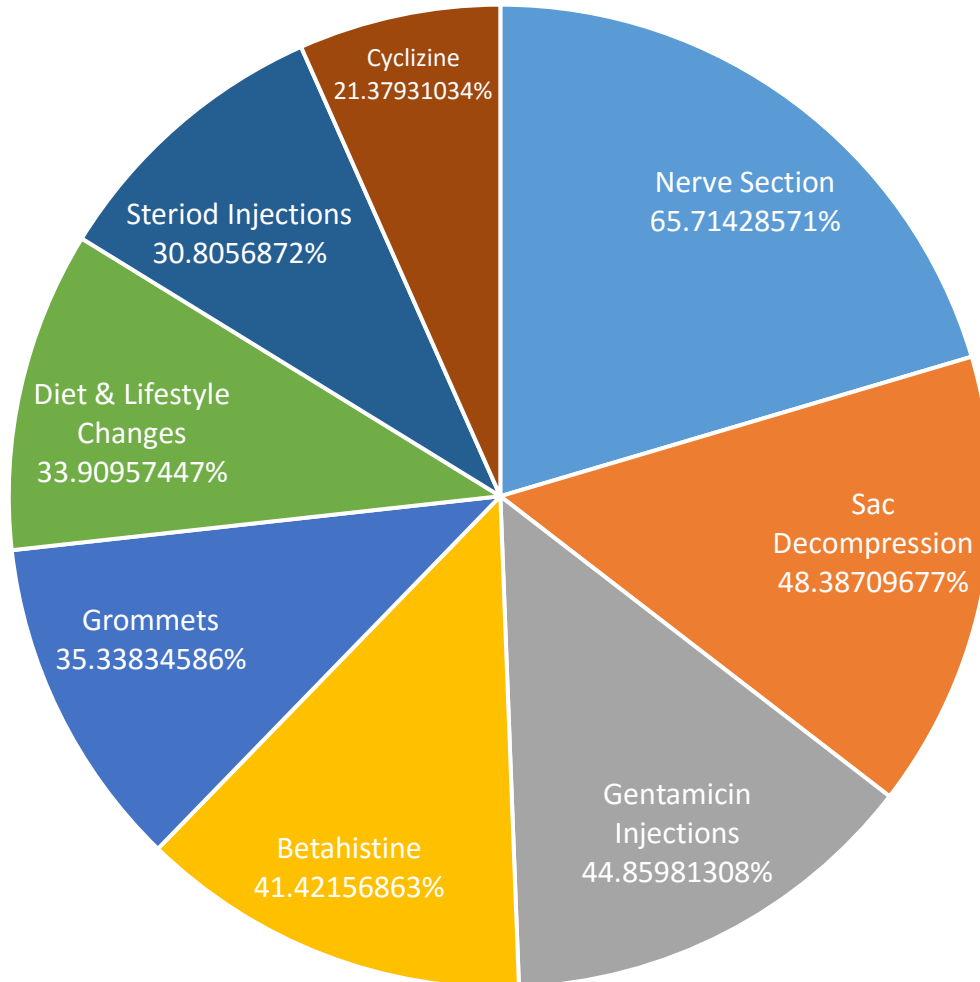
35 people have tried nerve section. Of that, 29 report a positive improvement; 23 of which report a 'good/great improvement' or 'cured symptoms'. 2 report no change after having the surgery, 2 people said the surgery made their symptoms worse with the remaining 2 noting they're 'unsure' about the effectiveness of the surgery.



That's 82.84% reporting a positive improvement with nerve section & 65.7% reporting a 'good/great improvement' or 'cured symptoms'.

Ben Folland, Clyst Vale Community College

Percentage of people who answered 'Good/Great Improvement' or 'Cured Symptoms' for Each Treatment



| Treatment | Total to try the treatment | Percentage to rate the treatment 'good/great improvement' or 'cured symptoms' (to the nearest whole %) |
|----------------------------|----------------------------|--|
| Nerve Section | 35 | 66% |
| Sac Decompression | 93 | 48% |
| Gentamicin injection | 107 | 45% |
| Betahistine | 408 | 41% |
| Grommet(s) | 133 | 35% |
| Diet and lifestyle changes | 752 | 34% |
| Steroid injections | 211 | 31% |
| Cyclizine | 145 | 21% |

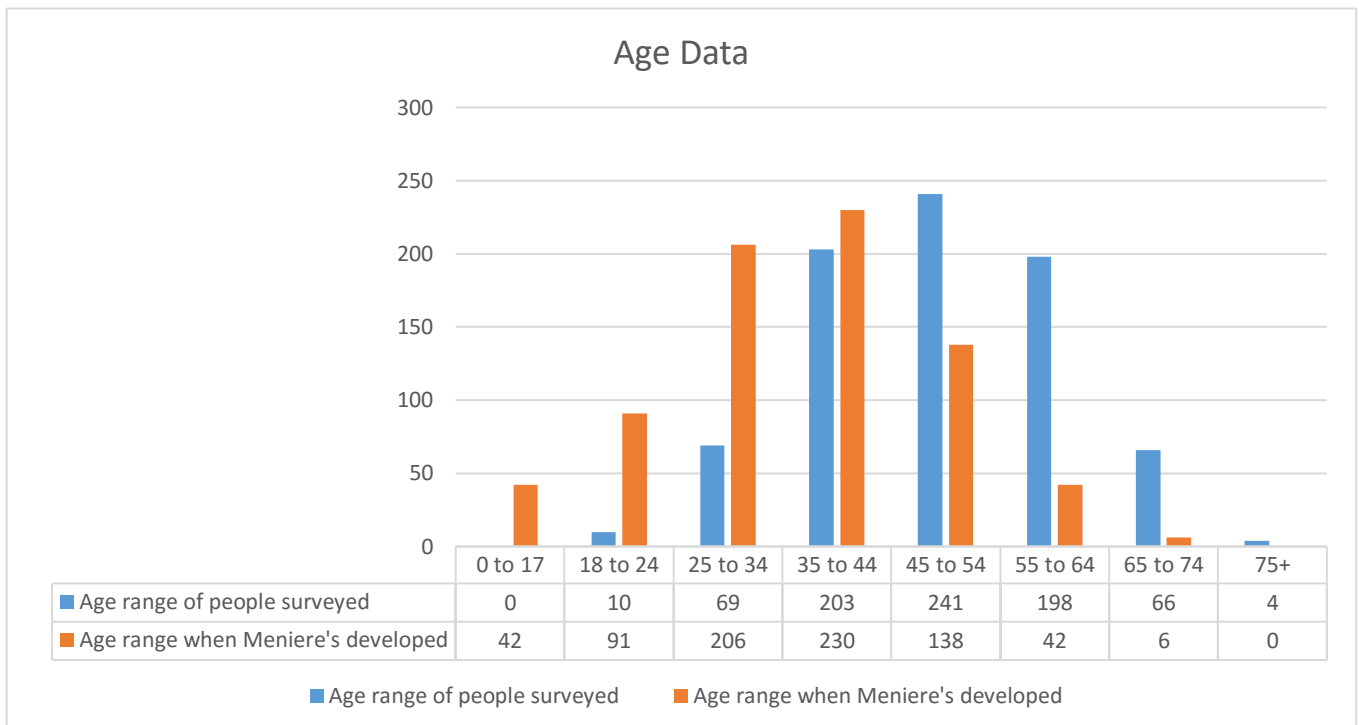
Conclusion and Interesting findings;

The treatment data shows the more drastic treatments/procedures seem to have more positive results in terms of improving or curing symptoms. Naturally, the more extreme the treatment, the more risks involved.

Betahistine, ranked 'good improvement', 'great improvement' or 'cured symptoms' by 41% of the 408 people said to have tried it. This shows it to be the most effective medication, outperforming steroid injections and cyclizine.

I was surprised that out of 752 people, 37 have not made any diet and lifestyle changes. I would be interested to learn why people may not have made any changes. Perhaps it's because it hasn't been suggested to them, or maybe they didn't think it would help.

According to the NHS, Ménière's disease most commonly affects people aged 20-60 years. My data suggests an average age of 36 years old, (out of 755 people), for when symptoms first develop.



Finally, I find it very worrying that out of 715 people, the average wait for a confirmed diagnosis was 4.14 years. Five people surveyed waited more than 40 years before they received a diagnosis with the longest wait being a shocking 59 years.