



Abstract

Objective: To evaluate the trends in treatment modalities for Meniere's Disease (MD) administered by Otolaryngologists based on patient volume and years of experience.

Methods: A survey was distributed to members of the American Academy of Otolaryngology-Head and Neck Surgery (AAO-HNS). Respondents were separated in to groups by patients per year (less than 10, 10-29, 30-49, 50-99, or >100 patients) and years in practice (0-5, 6-10, 11-15, 16-20, or >20 years).

Results: There was a direct trend demonstrating that increased patient volume significantly correlated with more frequent use of intratympanic injections, oral steroids, benzodiazepines, acetazolamide, and surgical procedures. Conversely, analysis of years in practice produced very few significant differences.

Conclusion: Available treatment options in the management of MD include a wide range of both medical and surgical therapies. The majority of these treatments may be more readily provided by physicians with a high volume of MD patients, regardless of time in practice.

Introduction

Ménière's Disease (MD) was first characterized by Prosper Ménière in 1861 as a disease of the inner ear that causes symptoms of hearing loss, vertigo, and dizziness.¹ Management of the disease varies widely, from diet and lifestyle changes to intratympanic injections to surgical procedures considered for more severe and recalcitrant clinical courses of the disease.² However, there is no consensus on the general use of each specific treatment modality.³⁻⁶

It has been found that treatment may significantly vary based on fellowship training and practice setting.^{2,7} Given this data and the lack of strong consensus statements in the specialty, it appears that management of MD does indeed vary based on provider characteristics. Our goal was to utilize our survey data to investigate these findings more specifically in regards to the effect of the length of practice and patient volume on the management of MD.

Methods and Materials

An electronic questionnaire was distributed to all General Otolaryngologists and fellowship-trained Neurotologist members of the AAO-HNS. Questions regarding how often physicians use each intervention were rated on a 4-point Likert scale ranging from 1 "never" to 4 "always." Respondents were separated in to groups by patients per year and years in practice. Questions prompted participants to describe how often each type of therapy was used in their MD patients. Chi-square tests were performed to demonstrate significant differences in distribution of responses based each interval increase in patient volume, years in practice, and percentile rank of cumulative patient experience.

Results

A total of 5,929 members of the AAO-HNS received the electronic questionnaire by email and a total of 860 responses were received for an overall response rate of 14.5%. The response rate measured in only the Neurotologist group was 32.5% (277/790).

Table 1. Demographics

	General ENT		Neurotologist		Total	
	n	%	n	%	n	%
Length of Practice						
0-5 years	50	5.91%	36	4.26%	86	10.17%
6-10 years	50	5.91%	42	4.96%	92	10.87%
11-15 years	52	6.15%	31	3.66%	83	9.81%
16-20 years	94	11.11%	33	3.90%	127	15.01%
> 20 years	323	38.18%	132	15.60%	458	54.14%
Total	569	67.26%	274	32.39%	846	
Patient Volume						
Less than 10	157	18.38%	10	1.17%	168	19.67%
10-29	271	31.73%	50	5.85%	323	37.82%
30-49	97	11.36%	55	6.44%	152	17.80%
50-99	42	4.92%	75	8.78%	117	13.70%
≥ 100	6	0.70%	87	10.19%	94	11.01%
Total	573	67.10%	277	32.44%	854	

Table 1. Demographics of physician responders of both general Otolaryngologists and fellowship-trained Neurotologists..

Table 2. Significance of Patient Volume and Experience

Category	Therapy	Patient volume		Length of Practice	
		Correlation	p Value	Correlation	p Value
Diet and Lifestyle	Behavior modification	Positive	< 0.001	None	0.705
	Intratympanic Steroids	Positive	< 0.001	Negative	< 0.001
IT Injections	Intratympanic Steroids	Positive	< 0.001	Negative	< 0.001
	Intratympanic Gentamycin	Positive	< 0.001	None	0.732
Surgeries	Surgical Labyrinthectomy	Positive	< 0.001	None	0.516
	Vestibular Nerve Section	Positive	< 0.001	None	0.772
	Endolymphatic Sac Procedures	Positive	< 0.001	Positive	< 0.001
PO Meds	Diazepam	None	0.347	None	0.655
	Meclizine	None	0.830	None	0.351
	Lorazepam	Positive	< 0.001	None	0.749
	Acetazolamide	Positive	< 0.001	None	0.333
	Alprazolam	Positive	0.014	None	0.345
	Prednisone	Positive	< 0.001	Positive	0.015
Dexamethasone	Positive	< 0.001	None	0.354	

Table 2. Relationship and significance of patient volume and length of practice to medical and surgical treatment modalities in MD patients.

Surgical Labyrinthectomy

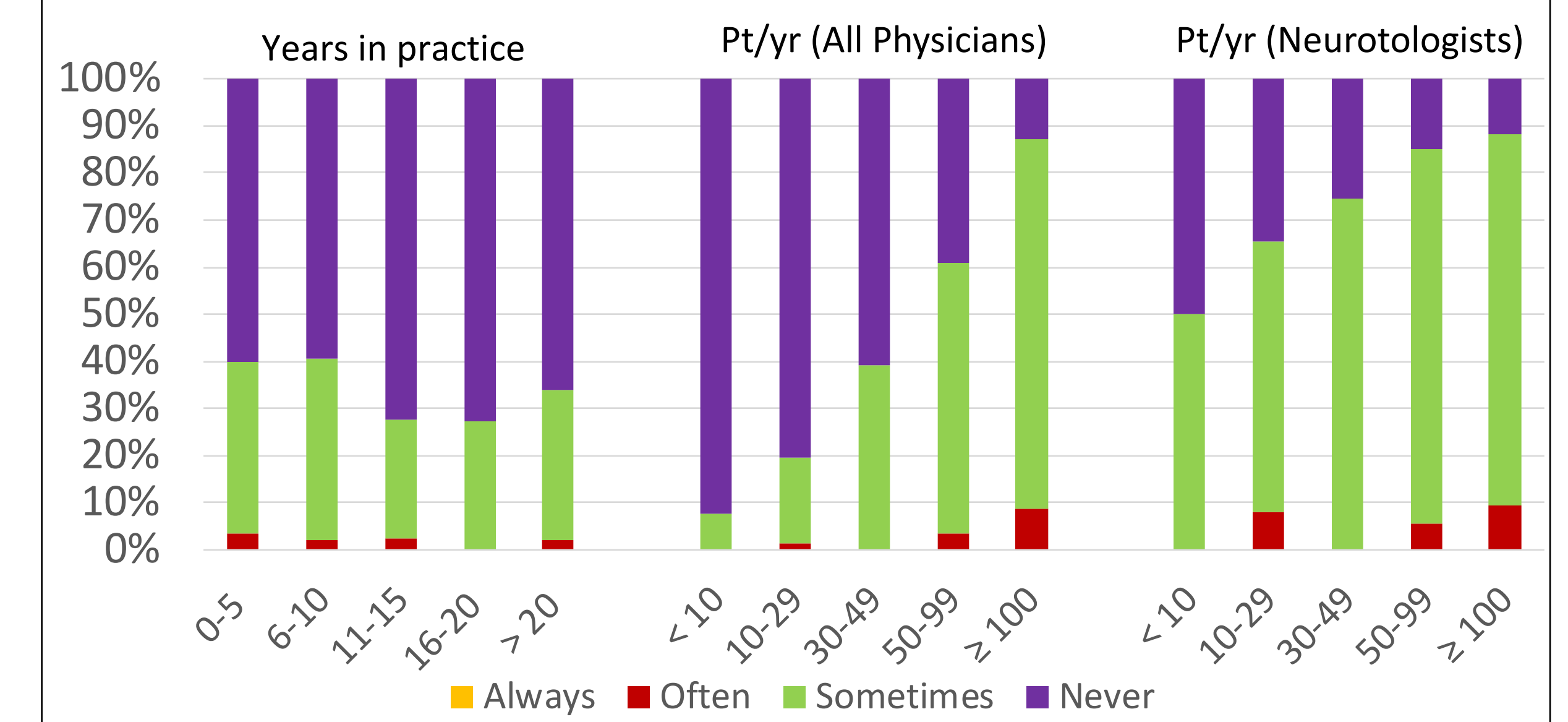


Chart 1. Trends of surgical labyrinthectomy by years in practice and by number of patients per year.

Vestibular Nerve Section

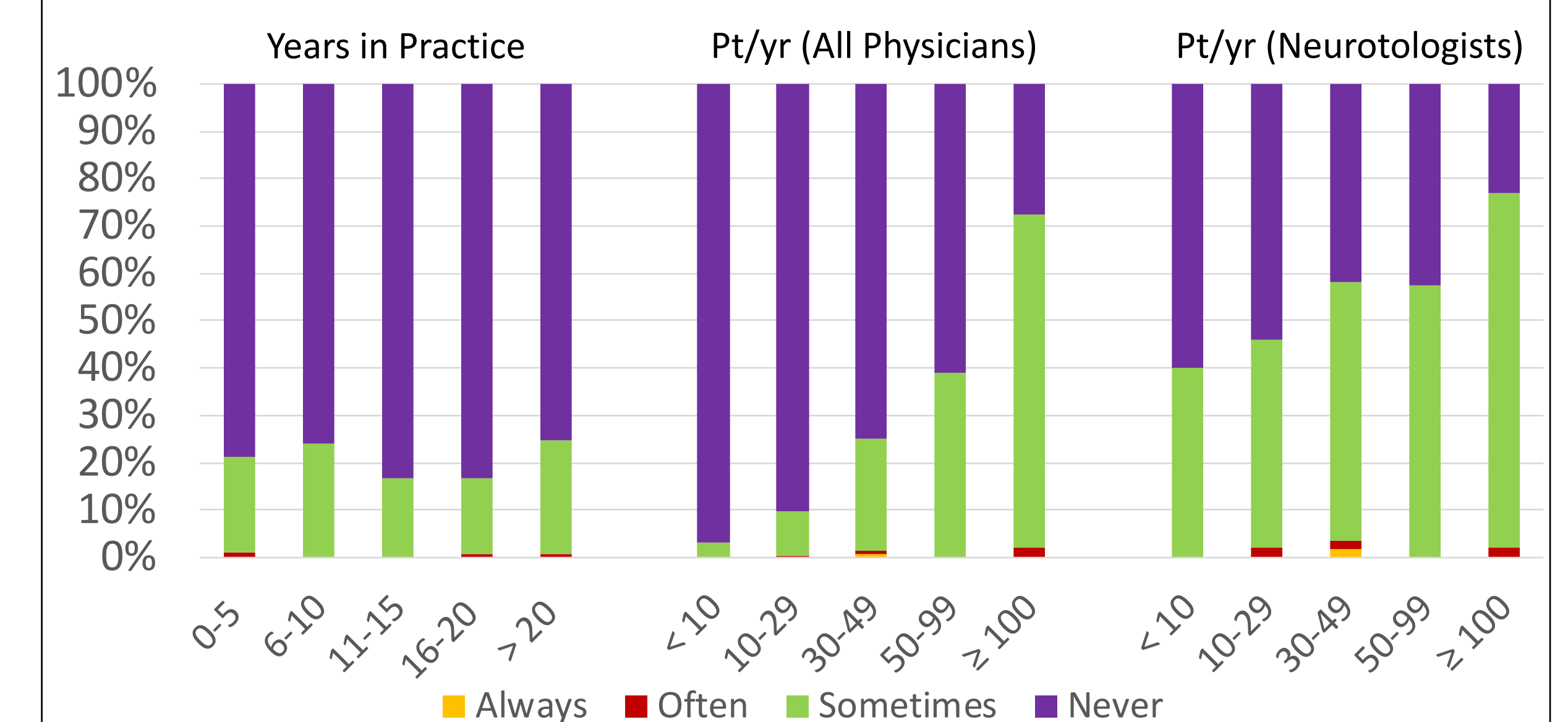


Chart 2. Trends of vestibular nerve section by years in practice and by number of patients per year.

Endolymphatic Sac Procedures

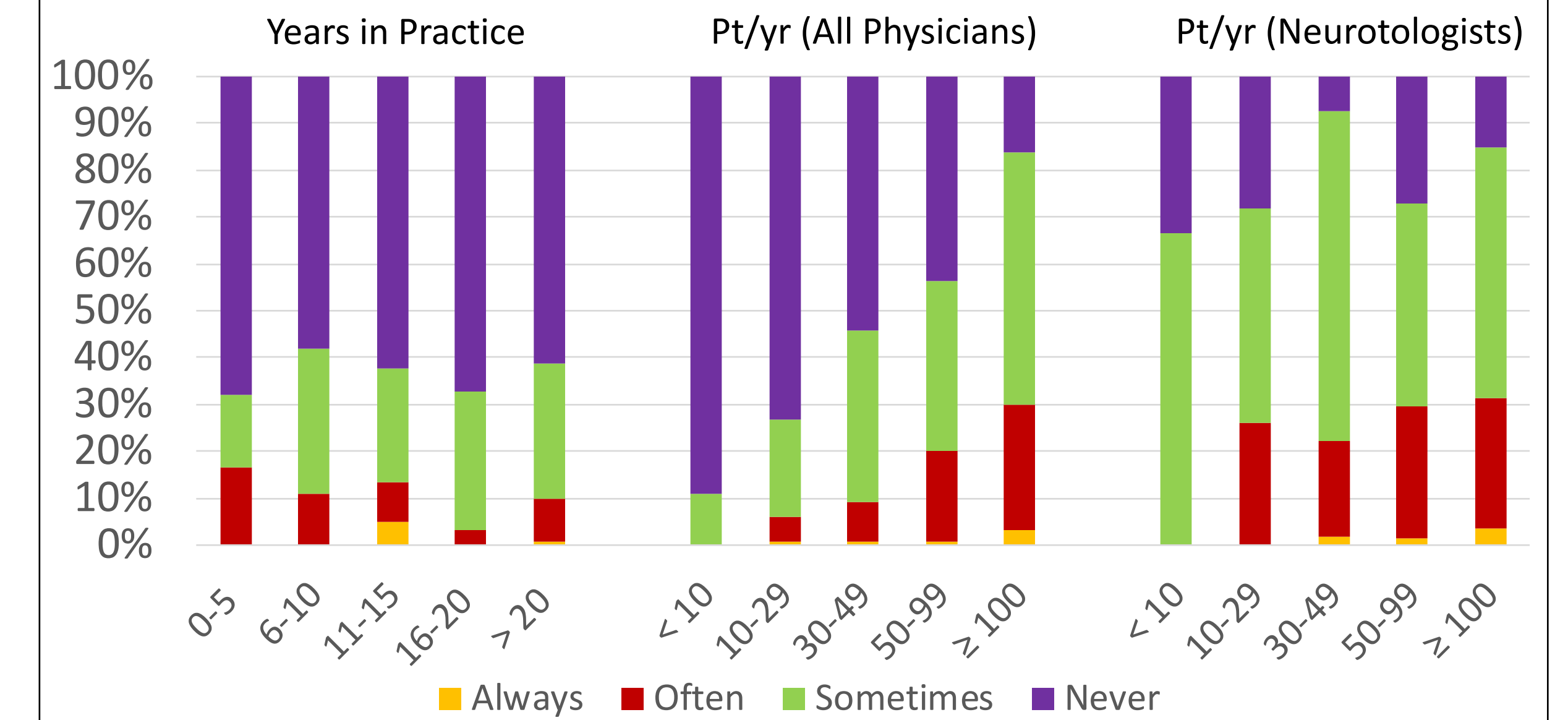


Chart 3. Trends of endolymphatic sac procedures by years in practice and by number of patients per year.

Discussion and Conclusions

Utilization of multiple modalities of therapy in the treatment of MD were found to be significantly different based on patient volume per year. This appears to suggest that currently MD patients who present to physicians with a high patient volume of MD, regardless of time in practice, will more readily be provided with certain surgical and medical therapies. The effect is present for most categories even when considering only Neurotologists. This is an important distinction for patients with MD seeking the full range of effective management.

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