

## 6.0 EAR NOSE AND THROAT

### 6.1 ALLERGIC/VASOMOTOR RHINITIS

**AEROMEDICAL CONCERNS:** Symptoms that include airway compromise discomfort, and ear and sinus barotraumas, along with the use of medications with unacceptable side effects, have the potential for in-flight incapacitation, and prolonged periods of grounding.

**WAIVER:** *Uncomplicated* perennial and seasonal allergic rhinitis [PAR and SAR] are **NCD!** *Vasomotor* rhinitis may be CD if symptoms interfere with aviation, although this is a rare occurrence. For more information on VR, see the Discussion section below. In evaluating a member with a history of allergic rhinitis, the following conditions must **all** apply before determining that he or she is PQ:

1. Symptoms, if present or expected to recur, must be controllable with any combination of topical nasal steroid sprays, approved antihistamines, montelukast (Singulair), or nasal cromolyn.
2. A Waters' view x-ray of the sinuses must show no evidence of acute or chronic mucosal disease (mucus retention cysts are the exception)
3. A nasal examination using a hand-held magnifying otoscope with large speculum must show no evidence of mucosal disease such as polyp(s) or purulent drainage. If in doubt, seek ENT consultation. Your nasal examination is best done several minutes after spraying both nasal cavities with a decongestant nasal spray.
4. There has been no use of allergy immunotherapy (AIT) within the past 12 months.

*(Note: AR and SAR do not automatically become CD if the only additional treatment is an antihistamine and/or nasal steroid. It is the severity of the condition that requires the waiver, not the medication. See more in the TREATMENT section below)*

#### INFORMATION REQUIRED:

1. Documentation of diagnosis on SF 88/93
2. Nasal speculum exam
3. Waters' view x-ray (only x-ray report needs to be submitted, not actual films)

If the conditions outlined above conditions aren't met, then the allergic rhinitis is presumably more complicated and the member is NPQ. Depending on the reason for disqualification, a waiver may or may not be considered. In these cases, the following information is also required for waiver consideration:

1. ENT and/or Allergy consultation
2. Results of any further tests that have been performed, such as sinus CT

Vasomotor rhinitis, which causes significant disability, will require the same documentation as for allergic rhinitis. If the member is felt to be NPQ, then the **Allergic Rhinitis Worksheet** (see below) may be helpful in assuring that all useful information is collected for waiver consideration.

**TREATMENT:** The non-sedating antihistamines (Claritin, Clarinex, and Allegra) and the leukotriene receptor antagonist montelukast (Singulair) are approved for use in all aviation personnel, **with no waiver required providing the above conditions are met.** If the Flight Surgeon chooses to start a member on one of these medications, a seven-day grounding period is mandatory in order to observe for any untoward effects. This period does not need to be repeated with subsequent use of that drug. However, If the member switches to another antihistamine, another grounding period is then necessary as two of the three approved medications are chemically dissimilar from the third. Note **that only the plain forms of these antihistamines are approved and not the ones containing decongestants.** Singulair is not generally considered first line therapy. It is generally used as a medication that provides benefit in conjunction with topical nasal steroids or antihistamines. Inhaled nasal steroids and cromolyn do not require a waiver. Allergy immune therapy (AIT) in stable, effective doses is CD but will be considered for waiver. AIT is difficult to administer (12 hour grounding after shot, refrigeration required, loss of serum potency, and difficulty obtaining refills) and should not be undertaken if topical sprays or non-sedating antihistamines are effective. Applicants on a stable dose of AIT may be considered for waiver. There has been success with an accelerated method of reaching maintenance (Rush technique), and, if available, this should be considered when grounding time must be minimized.

**DISCUSSION:** PAR and SAR are manifested by any or all of the following symptoms: rhinorrhea, sneezing, lacrimation, pruritus (nasal, ocular, and palatal) and congestion. Etiology is inhaled allergens (and on rare occasions, food in PAR). SAR tends to be seasonal or multi-seasonal, whereas PAR may be year round. AIT is used in the treatment of PAR/SAR following allergy testing, though, as noted above, AIT is not without problems. Nasal inhaled steroids and cromolyn have minimal side effects and are approved for use in aviation personnel, as are three non-sedating antihistamines (Claritin, Clarinex, and Allegra). Allergic rhinitis may be mimicked by Vasomotor Rhinitis, which may consist of rhinorrhea, sneezing, and congestion. The congestion is often seen as alternating, sometimes severe, nasal obstruction. Inciting factors include temperature and humidity changes, odors, irritants, recumbency, and emotion. Treatment of vasomotor rhinitis with inhaled nasal steroids can be effective, and, if symptoms aren't disabling, no waiver is required. The potential for VR to cause barotrauma is nil.

**ICD-9 CODES:**

**477.9 Allergic/Vasomotor Rhinitis**

**477.98 Allergic Rhinitis, treated with steroids**

**477.0 Allergic Rhinitis, due to pollen**

**477.8 Allergic Rhinitis, due to other allergens**

**P22.60 Functional Endoscopic Sinus Surgery (FESS)**

## ALLERGIC RHINITIS WORKSHEET

EXAMINING FACILITY:			FACILITY UIC:		
TODAY'S DATE:			EXAMINER'S PHONE #:		
REQUESTING WAIVER?			REQUESTING TO ELIMINATE WAIVER?		
<b>HISTORY</b>					
<b>SYMPTOMS</b>		<b>FREQUENCY</b>		<b>TREATMENT</b>	
<b>PRIOR PROBLEMS</b>					
	RHINORRHEA		SPRING	None	EAR BAROTRAUMA
	CLEAR		SUMMER	OTC Med	SINUS BAROTRAUMA
	CLOUDY		FALL	Steroid Spray	SINUSITIS; CHRONIC? RECURRENT? ACUTE?
	LACRIMATION		WINTER	Rx. Med*	OTHER:
	SNEEZING		PERENNIAL	AIT**	
	CONGESTION				
	ITCHING				
How many years of sx.?			Typical duration of sx:		
CURRENT SYMPTOMS (if no sx. at present, when was pt. last symptomatic?):					
CURRENT THERAPY, IF ANY: *(LIST MEDS)			PAST EFFECTIVE THERAPY:		
**IF HX. OF ALLERGY IMMUNOTHERAPY, DATE BEGUN:					DATE COMPLETED:
<b>PHYSICAL EXAMINATION</b>					
RIGHT EAR:				VALSALVA?	
LEFT EAR:				VALSALVA?	
NOSE:					
MOUTH:					
OROPHARYNX:					
SINUS FILMS RESULTS: (Include actual films if abnormal / <b>submit all films on APT applicants</b> )					
ENT EVALUATION: ( <b>ONLY IF REQUIRED PER WAIVER GUIDE</b> )					
ALLERGY EVALUATION: ( <b>ONLY IF REQUIRED PER WAIVER GUIDE</b> )					
IMPRESSION:					
<b>FLIGHT SURGEON'S RECOMMENDED DISPOSITION</b>					
	NPQ, WAIVER RECOMMENDED			PQ, DISCONTINUE WAIVER	
	NPQ, WAIVER NOT RECOMMENDED				
FLIGHT SURGEON SIGNATURE/ STAMP					
PATIENT'S SIGNATURE:				DATE:	
PT'S NAME: LAST/ FIRST/ MIDDLE/RANK/RATE					
DATE OF BIRTH:		AGE:		SSN:	

## 6.2 CHRONIC SINUSITIS/SINUS SURGERY

**AEROMEDICAL CONCERNS:** This is of particular concern because sinus barotrauma has the potential for in-flight incapacitation, prolonged periods of grounding, and other symptoms affecting performance.

**WAIVER:** Civilian applicants with a history of chronic sinusitis are NPQ. A waiver shouldn't be requested unless he or she is free of disease, as indicated by a recent ENT consultation and (in most cases) a sinus CT. If surgery has been done, enclose any pre- and postoperative notes as well as the operation report. In addition, some evidence of the applicant's ability to handle pressure changes should be documented. Low pressure chambers are not generally accessible to civilians, so look for a history of recent successful SCUBA diving or aerobatic flying. If the applicant is military, make every attempt to have him or her perform a barofunction run in a low pressure chamber. Students and designated aviation personnel who are diagnosed with chronic sinusitis while on active duty are also NPQ, and a waiver will only be considered after the disease has been successfully treated. If surgery (usually FESS, or Functional Endoscopic Sinus Surgery) is performed, the patient must be healed and free of active disease. The surgeon should state that the patient is cleared for evaluation in a low-pressure chamber before the flight surgeon schedules a chamber run. If the patient successfully completes the run without pain or significant facial pressure, a waiver is generally recommended and usually granted. A common waiver stipulation is that the patient must have an ENT consultation for the first 3 years after surgery before waiver continuation can be recommended.

### INFORMATION REQUIRED:

1. Detailed information on the events that led to the diagnosis
2. Physical examination findings
3. X-ray studies (including CT scan if performed)
4. Details on the operation performed
5. Surgeon's postoperative findings and recommendations
6. Copies of the pre- and post-op notes and dictated operation report (if available)
7. Post-op CT report (if performed)
8. Documentation of a successful post-surgical barofunction run in a low pressure chamber

In many cases it is appropriate for a Local Board of Flight Surgeons to return the member to a flying status while awaiting the waiver, but it is best to consult with the NAMI Otolaryngology Department before doing so.

**TREATMENT:** Chronic sinusitis can be relatively asymptomatic, and may only come to the attention of the flight surgeon because the member suffers an episode of sinus barotrauma. On the other hand there may be persistent cough, purulent postnasal drainage, facial pressure, nasal congestion, and low-grade malaise for many months without history of barotraumas before the flight surgeon is consulted. The symptoms may date back to a particularly severe upper respiratory infection, or even to an episode of acute sinusitis. The symptoms may be dismissed as allergic (although sneezing, clear rhinorrhea, and lacrimation are usually absent) and the

patient may have been treated for allergies on multiple occasions, usually with little or no relief. By definition, chronic sinusitis is a condition that is present for more than three months, although in reality most patients have a considerably longer history of waxing and waning symptoms that often are mistakenly treated as multiple episodes of acute sinusitis. Broad spectrum antibiotic therapy with activity against anaerobes is recommended for three weeks. Decongestants, mucolytics, nasal saline, and topical steroid sprays are often prescribed, but there is no consensus as to their effectiveness in shortening the course of chronic sinusitis. If antibiotics fail to eliminate the symptoms and the x-rays don't improve, surgery is often the next step. Surgery may be done sooner in aircrew than in others because flying personnel are unable to do their jobs until the disease is eliminated.

**DISCUSSION:** Although early surgery may seem a bit extreme, it is quite effective in eliminating disease and returning aircrew to flying. Not all ENT surgeons are comfortable with doing early surgery, especially if the patient is asymptomatic and the CT shows only minimally diseased mucosa, but when the "minimal" disease is in the area of the osteomeatal complex, it can have a profound effect on the sinuses ability to ventilate. The Air Force studied 50 pilots and navigators who were found to have chronic sinusitis during an evaluation following an episode of sinus barotrauma. They all underwent FESS, and 47 returned to flying without further problems. The other three, because of barotrauma in the chamber post-op, needed a minor revision of the original surgery. They eventually returned to flying too. The post-op chamber run is invaluable in proving that the member will do well upon returning to flying. Although it seems obvious that the chamber run is necessary in someone who had suffered barotrauma previously, it is also necessary in post-op patients who never had barotraumas since it is possible for the surgery itself to cause scarring that can compromise sinus ventilation. An uneventful chamber run puts those concerns to rest. Chronic sinusitis can recur in spite of successful treatment in the past, so the flight surgeon should have a relatively low threshold for treatment or for referral back to ENT if typical symptoms (or barotrauma) should resurface. There is one circumstance in which neither a waiver nor a chamber run would be necessary for an aircrew who has undergone FESS. Occasionally this surgery is done to open a maxillary sinus in order to decompress a mucus retention cyst. In such a case there is no chronic sinusitis, and the surgery itself has little chance of leading to barotraumas, but virtually all other patients who undergo FESS will need a waiver.

**ICD-9 CODES:**

**473 Chronic Sinusitis**

**P22.60 Endoscopic Sinus Surgery**

## 6.3 NASAL POLYPS

**AEROMEDICAL CONCERNS:** Sinus barotraumas, which has the potential for in-flight incapacitation, and prolonged periods of grounding.

**WAIVER:** Civilian applicants with nasal polyps present at the time of examination are CD, no waiver. They may be considered for waiver if the polyps were surgically removed more than three years earlier, have required no subsequent surgical treatment, and have not recurred. For military, if surgery is done (see the exception to surgery in the treatment section below), waivers are considered if the condition is controlled postoperatively and a barofunction run in a low pressure chamber is completed successfully. Control may require long term usage of topical nasal steroids and/or cromolyn. Some polyp patients have a past history of treatment with systemic steroids. If systemic steroid treatment has been used as primary therapy and/or has been necessary to control polyp recurrences, this patient will probably not receive a waiver. Use of topical nasal steroids is approved, and is encouraged as needed to control polyp recurrences. As a general rule, if polyps are diagnosed and treated, a post-treatment barofunction run in the chamber will be necessary. If in doubt as to the need for a chamber run, call NAMI ENT.

### **INFORMATION REQUIRED:**

1. ENT evaluation
2. All surgical reports
3. Sinus Films (to rule out sinusitis)
4. Results of post-op barofunction chamber flight(s)

If polyps are currently present, the following additional information is also required:

1. Sinus CT (to look for the sinus disease that often accompanies polyps)

**TREATMENT:** Resection of nasal polyps is advisable in most cases. This is a must if a waiver is to be considered with one exception. If polyps are very small and in no way blocking the middle meatus according to the ENT consultant, then a waiver may be recommended even without surgery. Topical nasal steroids may be needed to keep these from enlarging.

**DISCUSSION:** Nasal polyps have a poorly understood etiology and tend to be recurrent. Allergic polyps are relatively uncommon considering the large number of allergic rhinitis patients on active duty. Inflammatory nasal polyps may be more common in our population, and are frequently the result of chronic sinusitis. They are usually found in and near the middle meatus, which is why even a small polyp may lead to sinus barotrauma. Polypoid middle turbinates are somewhat more common, and don't cause barotraumas frequently. They often can be reduced dramatically in size by topical nasal steroid sprays, and rarely require surgery. If there is no history of barotrauma or chronic sinusitis, the presence of polypoid turbinates alone is NCD. As opposed to nasal polyps, sinus polyps are NCD, but the underlying diseases which led to their formation may be CD. However, sinus mucus retention cysts are often mistakenly called "polyps", and these cysts are NCD. X-rays revealing a very large cyst may be sent to NAMI

ENT for a decision as to the need for drainage. Since radiologists often cannot differentiate between a sinus cyst and polyp, it is fair to call them cysts unless there is obvious evidence of mucosal thickening elsewhere, in which case the diagnosis is more likely chronic sinusitis. This is CD and needs treatment as in section 6.2.

**ICD-9 CODES:**

**471 Nasal Polyps**

**P21.31 Nasal Polypectomy within last 12 months**

**471.0 Polyp of Nasal Cavity**

**471.8 Polyp of Sinus Cavity**

**471.9 Nasal Polyp, site unspecified**

## 6.4 DISORDERS OF THE SALIVARY GLANDS

**AEROMEDICAL CONCERNS:** Pain or discomfort will usually result from retained salivary stones, especially after eating or drinking. Tumors may interfere with oxygen mask fit.

**WAIVER:** Following successful treatment of salivary stones or tumors, a waiver may be granted provided there is no facial deformity or nerve damage that would interfere with flight duties.

### **INFORMATION REQUIRED:**

1. Copies of all pertinent consultations
2. CT/MRI reports (and films, if available)
3. Operative report (if applicable)
4. Pathology reports (if applicable)

If pathology reports indicate a malignant process, the following information is also required:

1. Oncology evaluation

**TREATMENT:** Stone or gland excision (partial or total) is compatible with waiver, as are most cases of benign tumor removal; extensive surgery for malignancy may not be, so each case of malignancy will be considered in detail by NAMI ENT before a recommendation can be made.

**DISCUSSION:** Mixed tumors (pleomorphic adenomas) comprise 65% of all salivary gland tumors; only a small number of these (5-6%) are malignant. The great majority of salivary tumors (85%) occur in the parotid gland, and 60% of these are the benign mixed type. Another benign tumor, the Warthin's tumor, accounts for 7% of parotid neoplasms, while malignant tumors (in descending order of frequency: mucoepidermoid carcinoma; malignant mixed tumor; acinous cell, adenoid cystic, and squamous cell carcinomas), and other rare lesions account for the remaining 33%. Benign mixed tumors have a recurrence rate of approximately 2%, usually due to incomplete removal, or seeding at the time of removal. Malignant tumors have a much higher rate of recurrence. With adenoid cystic carcinoma, 40% have metastasized by the time of diagnosis; 5-year survival is 45-82%, depending on the study, falling to as low as 13% at 20 years. The corresponding figure for adenocarcinoma is 49-75% at 5 years, with a drop to 41-60% at 10 years. The 20-year survival figures are not readily available. Fortunately, salivary gland disorders of any kind are rare in our population, so this section does not go into great detail. When questions arise that aren't answered here, please consult with NAMI ENT.

### **ICD-9 CODES:**

**527 Disorders of the Salivary Glands**

**527.2 Sialoadenitis**

**527.5 Sialolithiasis**

**527.9 Disease of Salivary Gland, unspecified**

**142.9 Malignant neoplasm of Salivary Gland**

**210.2 Benign Neoplasm of Salivary Gland**

## 6.5 HEARING LOSS / STAPEDECTOMY

**AEROMEDICAL CONCERNS:** The inability to clearly hear cockpit radio transmissions and warning tones can have a significant impact on flight safety.

**WAIVER:** Waivers will be considered depending on the degree of hearing loss, and the member's functional capability. Waivers following surgical treatment of conductive hearing loss may or may not be necessary, depending on the final hearing result and the nature of the surgery. For instance, repair of a traumatic eardrum perforation resulting in full correction and normal hearing would not require a waiver. However, a stapedectomy done to treat otosclerosis is CD and requires a waiver. Designated aviators are grounded for three months following stapedectomy, before waiver being recommended to SG1. For NFO and other Class II personnel, a waiver is also considered for duty involving flying after three months. Waiver criteria include:

1. Asymptomatic
2. Passes a current flight physical
3. Prosthesis used was not a wire loop/gelfoam (a piston prosthesis and tissue graft is preferred versus a blood seal)

No waiver will be recommended if there are signs of vestibular dysfunction, spontaneous nystagmus, or sudden/progressive neurosensory hearing loss is present. Bilateral stapedectomy is not waived. Applicants with a history of stapedectomy are CD, no waiver.

### INFORMATION REQUIRED:

1. ENT consult
2. Audiology consult (must include speech reception thresholds and speech discrimination scores)
3. Surgical report (if applicable)

Wearers of hearing aids will also require:

1. Cockpit/in-flight hearing evaluation (to demonstrate the ability of the subject to communicate adequately in that noisy environment)

Testing in a multiplace aircraft will suffice for testing of aviators normally assigned to single seat aircraft, provided ambient noise levels are similar. Newer aids that sit entirely within the ear canal are comfortable enough to be compatible with in-flight use, although they may not improve one's ability to hear in that environment and may actually be detrimental. Therefore an in-flight hearing test should be performed both with and without the aid(s). In the past, use of the US Air Force in-flight hearing test was advised, but it proved to be difficult to administer. Instead, it would seem most practical to have the member repeat a list of common aviation phrases, such as checklist items and responses, air traffic control commands, air-to-air communications, etc. The list of phrases can be tailored to the aircraft and its mission. Admittedly, there would be no data on how well a normal-hearing individual would do on such a test, but at least you and the

member will have an idea of where you stand. A third party with normal hearing can take the test at the same time so that there will be some means of comparison. Such testing should not be necessary unless the member fails to meet SG1 hearing standards and/or is interested in trying a hearing aid in flight. Testing should also be considered in the rare instance of an aircrew member who is having communication difficulties in the aircraft in spite of an audiogram that shows pure tone thresholds to be above standards.

**TREATMENT:** Conductive hearing loss may well be improved with amplification (hearing aid) if surgical treatment is not a reasonable alternative. Benefits from amplification for neurosensory losses are variable, but often beneficial. The use of hearing aids in flight, however, is not necessarily advantageous due to possible interference with wearing of the helmet and the perceived lack of benefit in the noisy cockpit environment. Hearing aid users will often do well without the aids in the cockpit as long as they have a properly fitting helmet, wear noise attenuating plugs, and carefully adjust their radio volumes. Hence the in-flight hearing test gives the most information if performed both with and without the aid(s). In some aircraft it is possible to utilize active noise reduction headsets (e.g. those made by Bose and David Clark) which will further enhance speech intelligibility, although at some financial cost.

**DISCUSSION:** Persons with conductive hearing losses usually hear relatively well in noisy backgrounds, while those with sensorineural loss are more often handicapped when there is significant background noise such as in the cockpit. Therefore, aeromedical decisions should be based on evaluation of hearing on the ground **and** in the cockpit, especially if the loss is severe enough to warrant use of a hearing aid or aids on the ground. Unilateral hearing losses present few operational problems, but new or progressive unilateral losses can have significant medical implications and ENT consultation is necessary to rule out such conditions as acoustic neuroma or atypical Meniere's.

A stapedectomy may present problems because the operation creates an opening into the labyrinth, and involves the placement of a prosthesis in most cases. There is a risk of postoperative perilymph fistula, as well as subsequent shifting of the prosthesis, both of which can result in sudden attacks of vertigo. The post-op waiting period allows for healing, which reduces the chances that barotrauma (or an over enthusiastic Valsalva maneuver) will cause a perilymph leak.

**ICD-9 CODES:**

**389.0 Conductive Hearing Loss/Stapedectomy**

**389.1 Sensorineural Hearing Loss**

**387 Otosclerosis**

**P19.1 Stapedectomy**

## 6.6 MENIERE'S DISEASE / VERTIGO

**AEROMEDICAL CONCERNS:** Incapacitating vertigo may occur suddenly in flight, which is obviously a potentially catastrophic occurrence. Attacks may be precipitated by stress and fatigue. A fluctuating hearing loss usually accompanies the labyrinthine symptoms, and may progress over a period of time to a significant and permanent impairment.

**WAIVER:** Due to the unpredictable and sudden nature of the vertigo episodes in many patients, and the tendency for the condition to become bilateral, waivers are very rarely granted for a diagnosis of Meniere's Disease. Other causes of vertigo may be waiverable, hence the importance of gathering as much diagnostic information as possible.

### INFORMATION REQUIRED:

1. ENT evaluation
2. Audiology evaluation

Not all vertigo is Meniere's, and causes which are self-limiting and non-recurrent may well be waiverable once symptoms have abated. A neurology consultation can be of great help in making or ruling out specific diagnoses, and should be included with waiver submission if performed.

**TREATMENT:** Treatment with low sodium diet, thiazide diuretics, stress management, and vestibular sedatives such as diazepam may diminish symptoms, but the underlying condition persists and is very unlikely to be waiverable. Surgery (labyrinthectomy, endolymphatic sac drainage or decompression, and vestibular nerve section) is of variable effectiveness. Surgery may diminish or even abolish some of the more severe symptoms, but the patient may be left with some vestibular dysfunction so waiver remains highly individualized. Transtympanic middle-ear gentamicin therapy via microcatheter is being done at a few centers, but the number of patients is still small, and the relief of vertigo is variable, so this treatment has not yet been considered for waiver. At present, very few aviators have received waivers. The two most recent aviators who received a waiver received SG3 waivers only after undergoing vestibular nerve section followed by a one-year period of observation and balance testing. Vestibular nerve section is not an operation to be taken lightly, and there is no guarantee that a waiver will be granted if surgery is done.

**DISCUSSION:** The cause of symptoms in Meniere's Disease is an increase in pressure of the endolymph within the labyrinth. The reason for this increase is not known, although multiple theories abound. The average age of onset is in the forties, with a range between 20 and 60, which includes virtually all military aviation personnel. The disease is progressive in approximately 10% of patients, with a relentless worsening of the vertigo episodes and hearing loss. Medical treatment is usually of no help, and surgery is often the only option. The other 90% can expect some symptomatic relief from medical therapy, and on occasion may show spontaneous long-term remission, although the underlying pathology is not actually altered by medical therapy. One should therefore be reluctant to say that a case of Meniere's is cured or "burned out", even in the face of a prolonged symptom-free interval. Even when Meniere's has

been successfully treated, there is approximately a 20% incidence of the disease later striking the other ear, hence the reluctance to waiver to SG1 no matter what the result of treatment has been.

Other vertigo-producing labyrinthine disorders, such as vestibular neuronitis and Benign Paroxysmal Positional Vertigo (BPPV) are not nearly as likely as Meniere's Disease to be recurrent, and recovery is usually complete, so a waiver for these conditions is far more likely. A precise diagnosis is not always possible in cases of vertigo, but if a waiver is sought, the more specific a diagnosis one has, the easier it is to determine waiverability.

**ICD-9 CODES:**

**386.0 Meniere's Disease / Vertigo**

**780.48 Vertigo, not otherwise specified**

**386.12 Vestibular neuronitis**

**386.11 Benign paroxysmal positional vertigo**

## 6.7 CHOLESTEOTOMA

**AEROMEDICAL CONCERNS:** This is a concern in aviation personnel due to hearing loss and risk of recurrence, with the possibility of labyrinthine involvement, and even intracranial extension in the more advanced cases.

**WAIVER:** A history of cholesteatoma is CD. It must be surgically removed before a waiver can be considered. Since the recurrence rate is approximately 35%, initial waivers are for one year only; an ENT consultation must be submitted before the waiver will be continued. Persistence of cholesteatoma would be cause for waiver withdrawal, pending the outcome of further surgery.

### **INFORMATION REQUIRED:**

1. Current ENT evaluation
2. Current audiology evaluation
3. Operative report

Since cholesteatoma surgery usually involves the mastoid, there is risk to hearing, balance, and facial nerve function. Any impairment in these areas should be addressed in the waiver request. Post-op hearing that is below standards will also require a waiver (see section on Hearing Loss).

**TREATMENT:** Surgical removal.

**DISCUSSION:** Given the relatively high recurrence rate, it is important that every attempt is made to assure that there is no residual disease. Recurrent or continuous drainage following surgery may indicate the presence of persistent cholesteatoma, and is not waivable until adequately treated. Occasionally, the surgeon will plan (or advise) a re-exploration of the ear at a specific time in the future, usually 12-18 months. Every attempt should be made to have this done, as the surgeon most likely feels that the chance of there being persistent disease is fairly good. **If re-exploration uncovers residual disease, the waiver process must be repeated.** As a rule, each time residual cholesteatoma is found, the surgeon will recommend re-exploration at yet a later date until no further cholesteatoma is found. There is no policy stating the maximum number of repeat surgeries that are allowed before a waiver is permanently revoked, but **Code 42 and ENT need to be advised each time a surgery is performed for recurrent cholesteatoma.**

### **ICD-9 CODES:**

**385.3 Cholesteatoma**

**P18.29 Excision of cholesteatoma**

## 6.8 ACOUSTIC NEUROMA

**AEROMEDICAL CONCERNS:** Progressive hearing loss, tinnitus, trigeminal hyperesthesia, imbalance, and occasionally true vertigo have all been attributed to acoustic neuromas. Following operation, total hearing loss, labyrinthine dysfunction, and facial nerve weakness or paralysis can be present on the side of surgery.

**WAIVER:** One year following successful excision of a unilateral tumor, a waiver may be considered if there are no serious sequelae. Vertigo, ataxia, and facial paralysis are examples of unacceptable complications. Unilateral hearing loss, even total loss, may well be waivable provided adequate hearing remains in the other ear and the hearing loss is compatible with the member's mission.

### INFORMATION REQUIRED:

1. ENT consult
2. Audiology consult
3. MRI
4. Neurology consult
5. Neurosurgery consult
6. Surgical report
7. Pathology report

Untoward postoperative symptoms, as well as complications, need to be especially well documented in the Aeromedical Summary and waiver request.

**TREATMENT:** Surgical excision.

**DISCUSSION:** Acoustic neuromas have a peak incidence between 40 and 50 years. The majority are Schwannomas arising from the superior vestibular division of the eighth nerve, usually extending from the internal auditory canal into the cerebellopontine angle as they enlarge. In patients with neurofibromatosis, neuromas can occasionally be bilateral. Acoustic neuromas are virtually always benign. Operative morbidity is related to the size of the tumor, and hearing is often affected. Up to 50% of patients will have no useful hearing in the involved ear after surgery. Other cranial nerves also may be damaged during surgery (i.e. trigeminal and facial). Facial paralysis may make wearing of an oxygen mask difficult, may result in speech problems, and can cause eye symptoms due to inability to close the eyelids.

### ICD-9 CODE:

**225.1 Acoustic Neuroma**

## 6.9 OVAL/ROUND WINDOW FISTULA

**AEROMEDICAL CONCERNS:** A perilymph fistula can result in either the sudden onset of sensorineural hearing loss or a rapidly progressive and/or fluctuating loss, with or without episodic vertigo. It may mimic Meniere's Disease.

**WAIVER:** A history of fistula is CD, no waiver, for all applicants. For a unilateral healed fistula in DNA, ground for six months, SG3 for six months, then SG1. For NFO's and all Class II personnel, ground for six months, then up. Call NAMI ENT in the rare case of bilateral fistulae.

### **INFORMATION REQUIRED:**

1. Copies of all records involving the initial clinical presentation
2. All ENT consults, notes, tests, operation reports, etc.
3. Audiology report
4. Vestibular test results

**TREATMENT:** Initial treatment is conservative, with avoidance of lifting and straining or exposure to significant barometric pressure changes, especially ones that might require a Valsalva maneuver. If hearing and vestibular symptoms don't improve, and certainly if they worsen, exploratory tympanotomy is indicated. If a fistula is present, it can be surgically sealed.

**DISCUSSION:** While fistulae may occur spontaneously, most are associated with head injury or barotrauma, especially in the active duty population. They may also occur as a result of Q-tip misadventure or improper cerumen irrigation technique. As surgery does not always seal the fistula, and recurrence is possible, various waiting periods are prescribed for different classes of personnel. The longest period is for DNA's, as there is a considerable safety issue should acute vertigo occur during flight.

### **ICD-9 CODE:**

**386.4 Oval/Round Window Fistula**

## **6.10 SURGICAL PROCEDURES THAT DO NOT REQUIRE A WAIVER**

Assuming that recovery is uncomplicated and there are no other significant factors, the following surgical procedures do not require a waiver. If there is any question regarding suitability for aviation duties following one of these procedures, please communicate with NAMI ENT at 850-452-3256/3251 (commercial) or 922-3256/3251 (DSN).

**NASAL SURGERY:** If any of the following procedures are done in conjunction with sinus surgery (endoscopic or otherwise), then the patient will require a waiver.

Septoplasty: Cautery or submucous resection of the inferior turbinates (or any other means of reducing the size of the inferior turbinates, such as coblation, cryotherapy, radiofrequency ablation, etc.).

Septorhinoplasty: For all these procedures there will be a degree of tenderness involved and it seems as though the nose becomes a target for elbows and other random blows once it has undergone surgery. When the tenderness has resolved so that the nose can be manipulated without discomfort (this can take up to 4-6 weeks for some folks) the patient can return to flight duties. There can also be a risk of bleeding that can last up to three weeks or so. For this reason, putting anyone back in the cockpit any sooner than three weeks following one of these operations is not recommended.

### **EAR SURGERY:**

Otoplasty: This procedure will frequently involve placing sutures to hold the ear in a certain position until it can scar in place and retain that position. The patient should not be manipulating the ears (as would occur when putting on and taking off a helmet) until cleared by the surgeon, which again may take up to six weeks.

Uncomplicated tympanoplasty for an otherwise uncomplicated tympanic membrane perforation. If it is the second (or subsequent) attempt to repair a perforation, or if there is a history of chronic drainage or cholesteatoma, a waiver will be required. If the history is in some way complicated by duration or symptoms, then a waiver will probably be required. An example of the type of surgery that would not require a waiver is the simple repair of a simple traumatic perforation, such as one caused by a slap injury. When in doubt, call NAMI ENT at the above number.

### **THROAT SURGERY:**

Tonsillectomy

Adenoidectomy

Uvulopalatopharyngoplasty (UPPP) for primary snoring. [If the patient has obstructive sleep apnea and undergoes a UPPP, a waiver will be required. See the neurology section of the waiver guide for OSA waiver requirements]

Palatal stiffening procedures for treatment of primary snoring (Restore© palatal implants, coblation, radiofrequency ablation, etc.). Primary snoring refers to the individual who snores, but does not have any evidence of obstructive sleep apnea. This is considered a “cosmetic” problem and may be a nuisance, but does not require a waiver. The surgical procedures to correct it do not require waivers unless there is some sort of complication that has an impact on aviation capabilities.

### **NECK PROCEDURES:**

Removal of submandibular salivary gland as long as there is no malignancy. The marginal mandibular branch of the facial nerve is sometimes injured during this procedure. If it results in no difficulties eating or using a mask, this is not disqualifying.

Parotidectomy, as long as there is no evidence of malignancy. Again, the facial nerve can be injured in this procedure with potentially significant functional deficits. If this has occurred, it will probably require a waiver and may be permanently disqualifying.

Removal of a branchial cleft cyst as long as there is no debilitating nerve injury or other complication.

Removal of other embryologic remnants such as a thyroglossal duct cysts

### **MISCELLANEOUS CONDITIONS:**

Nasal Fractures typically do not interfere with sinus function and even if the fracture is not reduced, the patient usually retains an adequate airway. As soon as the patient can wear a mask without pain or distraction from tenderness, he/she may return to flight duties. This can take 4-6 weeks.

Isolated fracture of the anterior wall of the maxillary sinus (softball to the face is a fairly common cause). These fractures do not require a waiver as long as the upper medial wall of the maxillary sinus, where the drainage pathway is located, is uninvolved. Again, it may take 4-6 weeks for tenderness to resolve to the point of being able to tolerate a mask or other safety equipment.

Peritonsillar abscess. If the patient chooses not to have an interval tonsillectomy (often done ~ six weeks after drainage of the abscess) he/she may return to aviation duties when free of pain and off medications, typically 2-3 weeks.

Face lift, or other cosmetic procedures (facial nerve injuries can also occur with this procedure and if so, must not interfere with function of masks or other equipment).

### **ICD-9 CODE:**

**P21.89 Repair and plastic operations on the nose, other**

**P21.88 Septoplasty, other**

**P21.87 Rhinoplasty, other**

**P18.79 Plastic repair of external ear, other**  
**P19.5 Tympanoplasty, other**  
**P28.2 Tonsillectomy without adenoidectomy**  
**P28.3 Tonsillectomy with adenoidectomy**  
**P28.6 Adenoidectomy without tonsillectomy**  
**P27.69 Plastic repair of palate, other**  
**P26.29 Excision of salivary gland lesion, other**  
**P29.2 Excision of branchial cleft cyst or vestige**  
**P06.7 Excision of thyroglossal duct of tract**  
**802.0 Closed fracture of nasal bones**  
**802.4 Closed fracture of molar and maxillary bones**  
**475 Peritonsillar abscess**