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INSTRUCTIONS FOR PARENTS

EAR SURGERY

The following instructions are presented for your review over the next several weeks. Please understand that every child is unique and that these instructions are offered as guidelines. Every child will handle each situation differently and every parent is similarly entitled to respond uniquely to their child's needs during the recovery and postoperative period of time.

A great deal of detail has been placed in these instructions. Please refer to the index on Page 1 to locate each particular category.

Thank you.

Background:

Your child is having ear surgery most likely for one or more of the following reasons:

- to repair a hole (perforation) or weakness (retraction) in the ear drum (tympanic membrane)
- to stop long term ear drainage (otorrhea)
- to remove an expanding skin cyst (cholesteotoma), usually from behind the ear drum
- to repair the bones of hearing (ossicles)

Other less common reasons include:

- chronic non-draining infection (chronic mastoiditis)
- complications of acute or chronic mastoiditis

Children on only very rare occasions require major ear surgery for ear masses (tumors)

How do the Ears work?

The **outer ear** is what people see. It consists of the soft ear lobe (lobule) and the firm, funny shaped, skin covered, oval cartilage (auricle). In the center is the opening into the outer ear canal (concha or external auditory meatus). Sound is captured in the auricle and passes into the external auditory canal until it comes in contact with the ear drum (tympanic membrane).

The **middle ear** is the area between the eardrum and the organ of hearing (cochlea) which is a part of the inner ear. The middle ear contains a chain of three connected bones of hearing (ossicles) which are attached to the eardrum at one end and to the cochlea at the other end. The middle ear space is designed to be filled with air in order for sound vibrations to be accurately transmitted (conducted) from the eardrum, through the bones of hearing, to the organ of hearing.

The **inner ear** consists of the inter-connected fluid filled organs of hearing (cochlea) and balance (vestibule and semicircular canals). Sound is changed into a characteristic pattern of nerve impulses in the cochlea, which then pass along the auditory nerve fibers, moving and interchanging, bilaterally, through multiple junction sites (nuclei) up to the brain for interpretation. The inner ear is a delicate membranous organ and is contained and protected within the hardest bone of the body (the petrous portion of the temporal bone).

The **temporal bone** has many parts to it. The middle ear and inner ear have been described. Another part, in the back, is filled with a series of chambers called the mastoid. The "mastoid air cell system" is connected to the middle ear space and is normally air filled. It functions for the ears, very much like the nasal sinuses function for the nose.

The Eustachian Tube is a thin tissue lined connection between the front of the middle ear and the upper throat. It allows the middle ear and mastoid chamber to remain filled with air by a process called "middle ear ventilation." You can demonstrate how the Eustachian Tube works by "popping your ears."

Goals of Ear Surgery

Most ear surgery has the same basic goal: create a disease free, air filled middle ear space that allows sound to be transmitted to the inner ear.

In order to accomplish this goal, the ear surgeon has to make choices throughout the procedure. The preferred decision is to fix the eardrum and bones of hearing while keeping the middle ear filled with air from the eustachian tube, all with the least amount of surgery. Sometimes, however, it is necessary to remove a portion of the outer bone of the mastoid or outer ear canal in order to complete the surgery. On occasion, the bones of hearing have to removed or replaced.

On occasion, the ear disease is so extensive that the basic goal of surgery is to first create a "safe and dry ear" before attempting to restore or improve hearing. In these children, a "second look" operation may be recommended to assure that there is no recurrent disease.

We will explain your child's ear problem and the anticipated surgical procedure(s) to you. Questions about ear surgery are common. If you think of additional questions prior to your surgery, please don't hesitate to ask us.

Recovery

In general, ear surgery in children is performed under general anesthesia**. The initial recovery period usually occurs within 12-36 hours.** Full recovery, however, when you consider healing and return to normal activity, may take several weeks to several months, depending on what was done.

Pain

Pain may occur after surgery to varying degrees depending on the individual child. "Local" anesthesia is used, but will wear off in a few hours. We suggest firsts trying pain relief with non-narcotic acetaminophen (Tylenol, Panadol, Tempra, etc.) every 4-6 hours for the first 48 hours, and then every 4-6 hours as needed. A prescription for an acetaminophen with narcotic medication is generally provided in older children (Hycet, Lortab, Tylenol #3, Percocet, etc.) and can be helpful if there is persistent severe pain.

You may want to set your alarm clock to get up and give the pain medication. In older children, if you choose to give the prescription pain medication, remember that you are giving a narcotic and be careful to try and not use it "around the clock". It should be given only if the plain non-narcotic acetaminophen does not give adequate pain relief.

Do NOT give aspirin or aspirin-like products, such as non-steroidal anti-inflammatory medications (Motrin, Advil, Nuprin, naproxen, ibuprofen, etc.), for pain relief. They are a different class of drug and can promote bleeding by inhibiting natural clotting factors.

Bleeding

Bleeding is uncommon after ear surgery because stitches ("sutures") are placed to close any skin incision and packing is usually placed within the ear canal. However, there may be spotting from blood mixing with the absorbable packing and medicated eardrops in the ear canal, particularly in the first several days following surgery. If you should see this, simply dab the excess drainage and place a new piece of cotton in the outer aspect of the ear canal.

Significant bleeding is possible but highly unlikely. The major arteries and veins that are near the temporal bone are usually well protected by bone. Under certain conditions, there is a greater risk for bleeding and if so, this will be explained to you.

Fever

A low-grade fever is not uncommon in the first day or two. It is often a response of the lungs after general anesthesia and is generally not a result of the surgery. You should take you child's temperature with a thermometer if you think it is high. **A temperature up to 101 degrees F is generally acceptable within two days of surgery**. Remind your child to breathe deeply on a regular basis. **Contact your doctor if a temperature of greater than 101 degrees F persists beyond this time – OR – if your child's fever doesn't respond to medication.**

Nausea and Vomiting

One or two episodes of vomiting is not unusual after ear surgery and can result from the combination of anesthesia and possible intraoperative stimulation of the organ of balance within the inner ear. Nausea and vomiting generally resolve within a day or two after surgery. Excessive nausea and vomiting within 24 hours, or nausea and vomiting beyond 48 hours, is unusual and should be reported.

Dizziness

Dizziness can occur after ear surgery because of intraoperative stimulation of the organ balance within the inner ear or also, less commonly, from the effects of general anesthesia. In most cases, this sensation of movement resolves within several days. If true spinning sensations persist, please call us.

Facial Weakness

The nerve that supplies the muscles of facial expression travels within the inner ear and passes through the middle ear and mastoid before leaving the temporal bone near the top of the jaw joint. It is a very important anatomic structure that can be injured by the ear disease itself or, sometimes, during the surgery to correct the ear disease.

It remains an unlikely complication
– BUT –
If you should suspect facial weakness at any time after ear surgery
please contact us immediately.

Head Bandages

Your child may have a pressure-dressing bandage to assure that there is no bleeding following surgery and to protect the incision site. It is generally removed 1-2 days after surgery. There are two types of bandages: hand woven and pre-manufactured.

To remove **the pre-manufactured plastic cup bandage**, simply separate the Velcro strap and remove the plastic cup. Then, gently remove the underlying dressing off the operated ear with care being taken to keep any ear canal packing in place. To remove the **hand woven bandage**, simply cut the tightening bands, usually located just above the eyebrows on both sides. Then, cut the entire dressing band on the side opposite of surgery or completely unroll the bandage. Next, gently peel the bandage and the dressing off the operated ear with care being taken to keep any ear canal packing in place.

With either type of head bandage, look for the cotton in the outer ear canal and keep it in position. Care should be taken not to disrupt any exposed stitches (sutures), which may be either in front of or behind the ear.

On occasion, your child may complain that the head bandage is too tight the night of surgery. With the hand woven type, it is OK to cut off one of the two tightening bands. With the pre-manufactured type, it is OK to loosen the Velcro strap a little as long as it remain snug enough to keep the cup over the outer ear.

Some children like to wear the commercial plastic cup with Velcro straps, without the gauze “fluffs”, as a reminder to protect the ear for several days or even a few weeks after surgery.

Ear Packing and Incision Care

In general, your child will have an absorbable material deep in the ear canal (Gelfoam) that is held in place with layered gauze or a non-absorbable sponge (Pope-Wick). A small piece of cotton is generally placed on top of the gauze or sponge in outer ear. **You can change the cotton carefully, as needed, but remember that it is helping to keep the canal packing in position.**

If there is gauze or a sponge in the ear canal, it should be kept moist and clean with use of an antibiotic eardrop preparation, a few drops every day. This will help keep the surgery site clean on the inside and allow for easier removal at you child’s post-operative appointment.

Should the gauze unfold a little bit or the sponge comes partially out, simply push either one back in place, gently. If the unfolded gauze is dry and does not stay in position, trimming the outer portion is acceptable. If the sponge falls out completely, that's OK. Simply continue administering the eardrops as you have been doing.

If there is an incision, either in front of or behind the ear, it is recommended that antibiotic ointment be used over the incision site twice a day. This will keep the area moist and relatively clean while the incision is healing.

Activity

We request restricting aggressive, "body pounding", activity for the two-week period after surgery. This would include swimming and diving or strenuous exercising. If your child plays a wind instrument, they are also advised to refrain from practicing to limit positive pressure activities which may inadvertently push air through the Eustachian Tube up into the healing middle ear prematurely.

In general, it is requested that you observe fairly strict dry ear precautions in the immediate post-operative period, and more modestly so for the initial four to six weeks, or as directed by your ENT doctor.

At your first post-operative visit, you will receive instructions for gradual increase in activities over the subsequent four to six weeks, after which healing should be complete.

Please remember, if significant reconstruction involving bones of hearing have been performed, there may necessarily be modest prolonged, or even lifelong, activity restrictions or precautions suggested.

Hearing

If packing is still in the ear canal, or if there was absorbable material placed in the middle ear space during surgery**, your child may have a temporary hearing loss on the operated side.** Depending upon the extent of surgery performed, this "conductive hearing loss" usually resolves within six to eight weeks. However, if there has been substantial surgery involving the bones of hearing, or if chronic ear disease has resulted in disruption in the bones of hearing, prolonged conductive hearing loss should be anticipated.

Permanent hearing loss from ear disease or injury to the organ of hearing within the inner ear is called "sensorineural hearing loss" and is uncommon after most ear surgery. Under certain conditions, such loss is a possibility, and if so this will be explained to you.

If you have a school age child, when they return to classes - which is usually within 1-2 days following surgery - please inform their teachers that there is a hearing loss on the operated side and that they need to have preferential seating at the front of the classroom until the ear has fully healed

Discharge to Home

In general, the timing of your child's "discharge to home" from the hospital is determined by the patient's child's recovery from general anesthesia and the parent(s) level of comfort with postoperative care. If your child is breathing spontaneously, if there is no evidence of postoperative bleeding, if their oral intake is baseline satisfactory, and if there is no excessive nausea or vomiting, then there are no general restrictions to discharge. When you feel you are capable of handling the postoperative care, discuss this with your nurse and they will prepare you and your child for discharge.

Follow-Up Appointment

If there is ear canal packing, the routine postoperative follow-up examination is usually scheduled approximately two to four weeks after the surgery, depending on the nature of the procedure planned. This first post-operative follow-up appointment date is usually scheduled when your child's surgery date is selected to appropriately coordinate the two days. If this has not already been done, please call our office within one to two days following the surgery so that a convenient postoperative follow-up appointment can be scheduled.

Medications

You will most likely receive a number of prescriptions for postoperative medications:

Antibiotic – a "systemic antibiotic" taken by mouth.
This is generally prescribed for several days and helps reduce the potential for infection developing in the middle ear space or incision site.

Acetaminophen with codeine or hydrocodone
This is a narcotic pain relief medication ("analgesic") for "backup" coverage, if needed. It is generally not necessary to use every four hours; rather, please use only as needed to bring severe pain, if present, under better control.

Ear Drops
This topical, antibiotic medication is used to keep the canal packing moist and clean until it is removed 1 ½ - 3 weeks later or fully dissolves away. Usually once a day is sufficient.

Anti-Nausea /Vomiting medication
This class of medication can be given intravenously if still in the hospital, but is prescribed to be taken orally or rectally as needed once at home.

You will most likely also receive a recommendation to obtain the following:

Antibiotic Ointment
This medication is available over-the-counter and should be applied twice a day to two weeks or until the external stitches (sutures) dissolve or until the incision site has fully healed.

Telephone Instructions

We encourage you to contact our office between 8:30am and 4:30 pm, Monday though Thursday, or until 2pm on Fridays, for routine or urgent questions, if possible. If you have "after hours" or emergent questions, please call (904) 262-7368 and follow the voice prompts to reach Dr. Wohl (extension 230) or the on-call physician.

Thank you for entrusting us with the care of your child.