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ADENOIDECTOMY AND BILATERAL MYRINGOTOMY AND TUBES
A Pre-Operative and Post-Operative Guide for Parents and Patients

SOME BACKGROUND INFORMATION

1. What are adenoids?
Adenoids are composed of lymphoid tissue. Adenoids are located behind the nose and soft palate. The adenoids act as filters to trap infection, virus, smog, etc. in the upper airway. Adenoids are important in fighting infections.

Adenoids become enlarged when bacteria or viruses enter into the airway and come in contact with these glands. In children, it is normal for these glands to remain enlarged due to the constant exposure to organisms not previously encountered. Enlarged adenoids in and of themselves are not indicative of infection.

2. What is an adenoidectomy?
An adenoidectomy is the removal of lymphoid tissue located on the back wall of the throat, behind the nose. This tissue is similar to tonsil tissue.

3. When should adenoids be removed?
Infected adenoids may become enlarged or chronically infected, and subsequently lead to obstructed breathing, snoring/sleep apnea, sinus or ear infection, or other problems. Often in children, the adenoids interfere with the Eustachian tube. The Eustachian tube is a tube that connects the middle ear to the back of the nose and is important in hearing. When the adenoids interfere with this tube, hearing can be affected and infections may occur. Adenoids are recommended for removal when they become the continual source of infection or when they become so enlarged that they cause obstructive symptoms.

4. Indications for adenoidectomy are:
a) Obstruction to the airway.
b) Nasal stuffiness and post nasal drip.
c) Chronic infection (infection of the adenoids usually presents itself in the form of foul smelling breath, cough or recurrent drainage.)
d) Chronic otitis media.

5. What is a bilateral myringotomy and tubes procedure?
A myringotomy is a surgically placed tiny incision in the eardrum. A small plastic tube will be inserted into the eardrums to keep the middle ear aerated for a prolonged period of time. This allows for fluids, usually thickened secretions, to be released from the middle ear. These ventilating tubes usually remain in place for about 6 months but may stay in place for up to three years. Eventually, they will move out of the eardrum and fall into the ear canal. The tube may be

removed during a routine future office visit or it may simply fall out of the ear without your child realizing it. Tubes that remain in place for 3 years will be removed by your doctor, possibly under anesthesia in the operating room.

6. When are bilateral myringotomy and tubes appropriate?
When children are diagnosed with recurrent ear infections or persistent middle ear fluid, bilateral myringotomy and tubes are used.

7. What is otitis media?
Otitis media is an inflammation of the area behind the eardrum. This area is called the middle ear. Otitis media is a bacterial ear infection that produces pus (infected fluid) within the middle ear. Bilateral myringotomy and tubes help the pus drain from the ear and keep the ear ventilated.

8. Indications for myringotomy and tubes:
a) ear pain.
b) ear fullness.
c) hearing loss.
d) irritability and fussiness in younger children.
e) difficulty in sleeping, feeding or hearing for younger children.
f) fever.

PREPARING FOR SURGERY

1. What medications should and should not be taken prior to surgery?
Aspirin or aspirin based mediations (Motrin, Advil, Bufferin, Nuprin, Aleve, Ibuprofen etc.,) as well at vitamins should not be taken for two weeks prior to, and after, the surgery. Contact our office as to whether medication regularly taken should be taken the morning of surgery.

2. What can the patient eat and drink before surgery?
All patients undergoing surgery are allowed to ingest only **clear liquids, up to 8 ounces, after midnight prior to the morning of the surgery. Adult patients must stop drinking liquids 4 hours before arrival to the hospital, while children may drink up to 3 hours prior to arrival.** Clear liquids consist of apple juice, water, clear broth or Jell-O. No solids, juice with pulp or milk products are to be given after midnight prior to the morning of surgery. In the morning, patients may brush their teeth, but cannot swallow any water.

3. Mandatory blood tests for adults and children:
All adults must have a complete blood count blood test within 14 days of the surgery and no less than three days before the surgery. If other blood test are needed our office will notify you. Patients above the age of 45, are required to have a chest x-ray and an EKG. In the case of children, a CBC should have been performed preferably within a month of surgery. All results must be faxed into the office at 212 981-9832 no later than three days before the surgery date if testing is done outside the hospital.

4. What should I tell my child about the procedures?
It is important that you discuss the surgery with your child before the day that it is to take place. Reassure your child that on the day of surgery, there will be one parent with them throughout the entire first stage of anesthesia and that there will be no pain felt at all during this time. Make sure

your child knows that you will be with him/her and that you will make sure everything is okay. Explain to your child that this surgery is going to help keep him/her healthier in the future. Sesame Street, Mr. Rogers and Curious George all have wonderful children's' books about going to the hospital. If you can, get a copy of these books and read them with your child before the day of surgery. Remember to relax! The calmer you feel about this procedure, the calmer your child will be on the day of surgery. Please note that there is a special pre-operative program at New York-Presbyterian Hospital to help prepare you and your child for surgery. You can obtain more information about the program from our office.

5. Clothing and accessory restrictions:
For both pediatric and adult patients, contact lenses should not be worn on the day of surgery. If you wear them to the hospital, you will be asked to take them out before the surgery is started. Patients should abstain from wearing any makeup, earrings, open-toe shoes, or hats.

THE MORNING OF SURGERY AND THE PROCEDURE

1. Arriving and signing in:
Patients are generally scheduled for surgery at either New York Hospital, Manhattan Surgery Center, or Manhattan Ear Eye and Throat Hospital. If you are having surgery at New York Hospital, when you arrive at the hospital, you will go to the 9th floor of the Starr building, room L-919, the Ambulatory Surgery Center, where you and your child will sign in. If you are scheduled at Manhattan Surgery Center or Manhattan Ear Eye and Throat Hospital, you will go t the main reception desks at 619 West 54th Street or 210 East 64th street, respectively. Once you are signed in, your child will go into a changing area in the back room and change into hospital pajamas. Generally, with the approval of the anesthesiology staff, one parent is allowed to accompany the child to the operating room (OR.) This parent will need to change into a hospital jumper at the same time and place that the patient puts on his/her pajamas. The jumper fits right over your clothes. On the day of your child's surgery, the parent going up to the OR should wear pants, as opposed to a skirt if possible. Please refrain from wearing open-toe shoes or hats.

2. The waiting room:
Once your child is signed in and has changed into pajamas, you and your child will be brought to the waiting room. Usually you will wait in this area for about 45 minutes before your child is brought up to the OR. While there are some toys in the waiting area, you should bring a favorite toy or stuffed animal if your child has one. You may also bring a video tape or iPad that can be played for your child in the waiting room. Once the doctors in the OR are ready for your child, one parent or guardian and the patient will be escorted to the OR.

3. What happens in the operating room?
Children are placed asleep by general anesthesia administered via a mask. It is important for the parents to discuss this with their child, as this procedure can be frightening if your child is unaware of what to expect. Tell your child that you will be present throughout this entire phase of anesthesia induction. Once the patient is asleep, parents must leave the OR. You will be reunited with your child once the procedure is finished and they are in the recovery room (post-anesthesia care unit). After the parents have left the OR Suite, an end tracheal tube and an intravenous line will be inserted. This is routine for all patients undergoing general anesthesia. Surgery will take approximately one to one and a half hours. While your child is in the OR, parents will be asked to wait in a waiting room.

4. Information for adult patients:
Once signed in, you will go into a changing area in the back room and change into hospital pajamas. Please leave all valuables at home or leave then with the person that will be accompanying you on the day of surgery. Adults will be brought to the OR by an orderly. Since there are no pre-medications administered, you will be asked to walk or be transported by a wheelchair. An intravenous line will be inserted by an anesthesiologist and anesthetic agents will be administered through the IV as part of the induction phase. You will become groggy and, once asleep, an endotracheal tube will be inserted. Surgery is usually completed in one to one and a half hours. After surgery, you will be transferred directly to the post-anesthesia care unit (PACU). Family members or a significant other will be informed when you have arrived in the PACU; when you are awake enough they may be allowed to visit you.

THE RECOVERY PERIOD

1. The who, what and where of the pediatric recovery period in the post-anesthesia care unit:
Upon completion of surgery, children will be brought to the PACU. Both parents will be brought to the PACU, in most cases, prior to the child's arrival. Parents will be allowed to be with the child until discharged or transferred to a floor. On arrival to the PACU, children will have humidified oxygen directed towards their face to help alleviate the effects of anesthesia. Vital signs (blood pressure, pulse, respiration) will be taken every 20 minutes in the PACU. Temperatures will be taken every hour on children. The IV that was placed in the OR will remain in until the child is tolerating fluids. Your child will be placed on a cardiac monitor temporarily to observe cardiac rhythm . Pain medication will be administered as needed. Most children, under the age of 5, will have received a Tylenol suppository in the OR. When your child is able to drink fluids, we will offer clear fluids such as fruit juice, Jell-O and water. Even though it hurts to suck and swallow, it is very important for your child to drink plenty of fluids. Please remember, **the more your child drinks, the quicker your child will recover.** When your child can drink at least one glass of juice or water without vomiting, the IV can be removed. Ambulatory patients will be discharged in approximately two hours. Children to be admitted overnight will be transferred to the floor when a bed is available. Parents should bring a toy or book for the child as there may be a wait for a bed.

2. The adult patient recovery period in the PACU:
For adults, on arrival to the PACU, oxygen will be administered by nasal prongs to alleviate the effects of anesthesia. The IV will remain in place until you are able to tolerate fluids and you will remain on a cardiac monitor until discharge. The average length of time in the PACU is 1-2 hours if you are any ambulatory patient or until a bed is available if you are to be admitted overnight. Pain medication will be administered as needed in the PACU, and vital signs taken every 20 minutes until discharge from the PACU. Patients sometimes complain of feeling cold in the PACU. This is due to the effects of the anesthesia wearing off. Patients are reunited with their families in the PACU when they are awake enough to receive visitors. Generally, adult patients do not have to spend a night in the hospital.

DISCHARGE INSTRUCTIONS

1. Limit activity:

After discharge from the hospital or ambulatory unit, you are to go home immediately. Your child should remain in bed the first day and out of school for one week. Encourage your child to have frequent rest periods in the first few days after surgery. Adults and older children may need longer periods of healing. On the day of anesthesia, direct continuous parent supervision is advised for 24 hours. You and your child should have a day of quiet activities: Watch television, read, play board games. Do not play any contact sports, swim, climb, bike-ride, roller or ice skate, do gymnastics or other strenuous activities. Adults should remain home and quiet for one week. Please be aware that most patients do not feel fully recovered for about ten days. Exposure to the sun should be avoided as it may cause some bleeding. For the first 5-7 days, it is helpful to use a vaporizer or humidifier when your child is sleeping. This improves breathing, reduces crusting in the nose and throat. **No travel for two weeks after surgery.**

2. Diet:
Although there is no specific diet, we recommend light meals to start as your child may feel slightly nauseated from the anesthesia. Soft foods are encouraged for the first 2-3 days. Occasionally, children may vomit one or two times immediately after surgery. However, if vomiting persists, your doctor may prescribe medication to settle the stomach.

3. Medication for pain and infection prevention:
a) Your child should experience minimal pain from this surgery. Tylenol is usually sufficient. Tylenol should be administered every four hours as needed. If your child is not receiving adequate pain relief, please contact our office in order for Oxycodone to be prescribed.
b) You will be given ear drops to use after surgery to decrease the incidence of infection. You should put 5 drops both ears twice a day for the first three days following surgery. The ear drops may hurt the first time used. **Please give your child Tylenol 20 minutes prior to administering the first drops.**
c) **Do not use aspirin (Motrin, Advil, Bufferin, Nuprin, Aleve, Ibuprofen etc.,) throat gargles or aspergum during the recuperation phase.** These products may interfere with blood clotting capacity which may lead to bleeding. Read all medication labels carefully to insure that they do not contain aspirin.

5. In the event of bleeding:
If you notice any significant bleeding coming from your child's nose or ears, please contact our office. There may be a slight oozing of blood from the nose or ears. This is normal. If the bleeding is continuous or a significant amount is noted, please contact us.

6. Things to avoid:
Avoid sneezing and violent blowing of the nose for these actions may cause bleeding. If sneezing is imperative, it should be done with the mouth open.

7. Ventilation tube care:
Significant amounts of water must not enter into the ear canal while the tubes are in place. This usually does not occur with normal bathing and swimming. Diving and swimming under the water deeper than three feet increases the chance of water entering the ear. Ear plugs are available for eight dollars a pair in the office.

8. You will need to make an appointment for three weeks after the scheduled surgery. Please call the office after surgery to set up this visit. Tubes will be checked every three months during office visits to be scheduled after this preliminary three-week checkup.

COMMON CONCERNS, QUESTIONS AND POSSIBLE COMPLICATIONS

*** If there are any concerns or questions regarding your post-operative care, please read the following post-operative care instructions and information below. If further information is required, please contact our office:**

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1. Why is my child nauseous and/or vomiting?
It is common for this to occur due to the anesthetic and the swallowing of small amounts of blood during the operation. We will give your child medication to control the vomiting. If your child is vomiting at home, there are things you can do to help. Encourage rest. Do not give any fluids or food for 30 minutes and then slowly start to give small amounts of clear fluids. If vomiting persists 24 hours after surgery, or is severe, please call our office.

2. What should I do if my child is running a fever?
A low grade fever is normal after any surgery. If your child has a fever higher than 102 F and has not had Tylenol within the past four hours, give your child some Tylenol (the amount recommended by the doctor.) If the temperature is higher than 102 F after treatment with Tylenol and persists over six hours, please call our office. Occasionally, post-operative infection occurs. The infection will present itself as unrelenting pain and fever about 102 F and/or headache. If this happens, again, please call our office.

3. Is coughing normal after surgery?
A loose cough is expected after adenoidectomy due to the excess mucous. This will clear over time.

4. Is it normal for the patient to be drowsy or dizzy after the surgery?
Yes, after the operation, your child may be drowsy and/or dizzy. This will usually improve prior to the time of your child's discharge. Because your child may be a little unsteady at the time of discharge and the 24 hours after surgery, it is important to support him/her until your child can walk safely. Supervise your child to prevent falls or injuries during this time.

5. Will the patient's voice be affected from the surgery?
Adenoid removal may result in a voice change. This is usually temporary, however, in rare instances, it may be permanent.

6. Is it abnormal for my child to be "stuffy" following surgery?
No, this is normal. Many children have nasal stuffiness following surgery. The nasal stuffiness may last for several weeks as swelling decreases.

7. Why is my child snoring after surgery?
You may notice persistent or even louder snoring for several weeks. This occurs because of tissue swelling in the back of the nose and the soft palate because of the surgery. As swelling decreases, snoring should subside.

8. My child's ear is draining fluid, what should I do?
Ear draining may occur immediately after the procedure or at any time while the tubes are in place. Yellow clear fluid or mucous may drain for several days to weeks after the surgery. It is not unusual to see a bloody discharge following surgery. Cotton can be kept in the ear canal and should be changed as needed to keep dry.

9. The fluid draining from the ear has a foul odor. Is this normal?
Foul odor is not normal and should be monitored. If profuse, foul-smelling discharge drains from the ear, an infection is indicated. When this occurs, you should begin by using your ear drops for 3 days. Give your child Tylenol 20 minutes before administering the first drops as this first time might sting. If drainage continues beyond 3 days, please call contact our office to determine if additional medicine and/or an office visit is necessary.

10. My child complains of pain when I put drops in. Is there anything I can do to prevent this pain?
Yes, there are steps you can take to alleviate your child's pain. If your child is having difficulty with the drops, please administer Tylenol 20 minutes before placing the drops. This should help prevent the pain or stinging that may occur from the ear drops.

11. Can my child go swimming?
Swimming is not a problem if the correct precautions are taken. Your child does not need any ear plugs if they do not put their heads more than three feet under the surface of the water. If your child dives or swims deeper than three feet beneath the water, plugs should be used. Plugs should be used with deep swimming until the tubes have fallen out of the ears.

12. Should bathing or showering be regulated?
Bathing and showering are perfectly fine after tube placement. While showering is tolerated, no water should be directed into the eardrum from a shower head as this may cause fluid to leak into the middle ear.

13. What are the rules for airplane travel?
Traveling on a plane can be done 2 weeks after surgery and should not pose any difficulties for your child.

14. How can I tell if my child's tubes have fallen out?
There isn't any good indicator of the tubes disengaging. Occasionally, there will be a small amount of blood which drains from the ear. This is from the rubbing caused by the tubes as they dislodge and move into the ear canal. This blood can be a sign that the tubes have fallen out, but you will still need a doctor's visit to remove the tubes from the ear canal and to check on your child's progress. **In most instances, you will be unable to determine if the tubes have fallen out or not** and will need to arrange checkups for your child.

15. What should be done if the tubes remain in place for more than 3 years?
Tubes should be removed at the three year mark. If the tubes have not fallen out on their own or the doctor has not yet removed the tubes, make an appointment with us to have the tubes taken out. This procedure may need to be performed in the hospital or surgery center with anesthesia.