Daniel L. Wohl, MD, FACS, FAAP

Sunbeam Professional Park
4114 Sunbeam Road, Suite 403
Jacksonville, FL 32257
(904) 262-7368

Instructions for Parents

ADENOIDECTOMY & TONSILLECTOMY

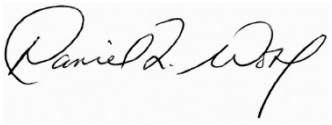
The following instructions have been created to assist you in the care of your child after adenoidectomy and/or tonsillectomy. *They are presented for your review during the two week recovery period and until you return for your child's first postoperative follow-up visit. Please understand that every 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.*

Please provide these instructions to any other adult who will be caring for your child while they are still recovering from surgery.

A great deal of detail has been placed in these instructions for your benefit. Please read them as often as you need to. You can refer to the index on Page 1 to locate each particular section. I recommend printing out all or some of the appendices at the end for your convenience.

Your questions and concerns are always important to me. During the first few weeks after surgery, please contact my office, or the on-call physician if instructed, should significant medical/surgical issues arise

Thank you.



Background:

***What is their function?* – Tonsils and Adenoids** are lymph glands in the back and top of the throat. They help the body filter infectious material. In children, they can become especially active and may, therefore, grow in size or even remain a source for continued infections for many years. When enlarged they may obstruct a significant portion of your child's airway.

***Where are they located?* –** The **adenoids** grow at the very top of the throat (nasopharynx), above the roof-of-mouth (palate) and behind the back exit of the nose. The **tonsils** can be seen through the mouth (oral cavity) on each side and extend into the mid part of the throat (oropharynx) where the tongue curves into lower part of the throat (hypopharynx).

Why are they taken out? – The **adenoids** are surgically removed typically for:
1) significant obstructed breathing, 2) associated reasons with the placement of "ear tubes," or 3) children who have a long-term history of "chronic sinusitis." The **tonsils** are surgically removed typically for: 1) significant obstructed breathing or 2) significant recurrent tonsil infections (chronic tonsillitis or recurrent strep throat).

When are they removed? – The adenoids usually become obstructive in size earlier in childhood than the tonsils, so it is not uncommon to have just the adenoids removed in some, usually younger, children. While there are no strict age limitations, **adenoids** usually do not become a significant problem in children less than one year of age and large **tonsils** usually do not become a significant problem in children less than two-and-a-half years of age.

What is the long-term effect of surgery? – Many parents wonder if removing the tonsils

and adenoids can harm their child by reducing their ability to fight future infections. The tonsils and adenoids are just the largest collection of lymph glands in and around the throat. There is a fairly substantial collection of "tonsil tissue" at the base of the tongue, deep in the lower throat, and there are small clusters "tonsil tissue" surrounding the hundreds of minor salivary glands in the mouth. Your child's body, therefore, has a healthy excess amount of "tonsil tissue" so you need not worry about their future ability to fight off throat infections after adenoidectomy or tonsillectomy. To date, there are no long term studies that conclusively demonstrate any sustained immune system deficit. These questions are repeatedly asked in medical research and you are encouraged to speak with your otolaryngologist about the latest research findings.

What are the risks of anesthesia? – Your child will have their procedure under general anesthesia. This will require placement of an intravenous catheter ("IV") and an oral endotracheal tube ("breathing tube") for the duration of the relatively short amount of time required to perform the operation, typically under 20-30 minutes. General anesthesia in otherwise healthy children, provided by pediatric trained anesthesiologists in high volume facilities, has become a very safe enterprise in the United States. To date, there are no long term studies to warrant concern of any sustained ill affect from general anesthesia in children for short procedures such as adenoidectomy or tonsillectomy. You will have the opportunity to speak with your anesthesiologist before the operation and are encouraged to ask questions then or in advance of the scheduled surgery date.

Hospital Course:

The throat has to heal in several stages regardless of whether your child has had an adenoidectomy or tonsillectomy. Although general anesthesia for both procedures is the same, **it is usually an easier recovery when just the adenoids are removed** because of their location above, and protected by, the palate (*see "Background" above*)**.** Nonetheless, whether your child underwent an adenoidectomy or tonsillectomy, s/he will need time to allow for recovery from anesthesia and then for the natural wound healing processes to occur over two week.

STAGE 1: Following surgery, your child will go from the Operating Room to the Post Anesthesia Care Unit (aka: "the Recovery Room") for the first stage of recovery. There, s/he will be under continuous nursing care and monitoring until the early effects of general anesthesia wear off, such as early return of consciousness and full spontaneous breathing. Getting through this stage usually takes about 15-30 minutes.

STAGE 2: As your child comes out from under general anesthesia, s/he will begin to fully regain consciousness and begin to voluntarily cough as well as follow simple commands ("open your eyes"). Once in this second stage of recovery, your child will be transferred to the Pediatric Post-Surgical Area where s/he will be repeatedly evaluated by readily available nursing care. There, you and your child can stay together until this stage of recovery is completed. **Remember, when your child is first brought to you, s/he will still be relatively early in the recovery process so be prepared for the possibility that s/he may be disoriented or may even appear physically upset. They may dislike being attached to monitors or to the intravenous fluid line.** Comfort them, assist them in relaxing (be relaxed yourself) and they will settle down and probably go in and out of sleep over the next hour-or-so while you are still at the hospital or surgical facility.

General Recovery Information:

STAGE 3: (Home!) Most children do well the day of surgery and, usually, for the next 24 hours, probably due to the combination of the intraoperative medications given and the natural adrenalin response to the physiological stress of an operation. Perhaps somewhat surprisingly, therefore, **the "worst days" for recovery are usually 2-4 days after surgery.** Stay with the postoperative medication and fluid intake protocols and once you get past that "clinical hurdle," you will most likely see your child progress steadily day by day. Until that time, it is recommended to have an adult available at all times to closely supervise and monitor your child because of the potential for ongoing pain and dehydration from poor food and/or drink intake.

Return to normal activities with normal energy levels may take the full two weeks or more, but your child will most likely be able to rejoin his/her peer group setting within one week. Plan ahead and contact your child's teacher(s) for upcoming assignments, preparing to "home-school" until they are ready to go back on their own. It would be unreasonable to expect the school nurse to monitor your child's fluid intake every hour or to administer medications repeatedly throughout the day. It usually takes several days following an adenoidectomy and up to one week following a tonsillectomy for parents to feel comfortable that their child will *not* need the school nurse more than once during school hours.

Wound Healing:

Usually, no surgical sutures ("stitches") are required when removing tonsil tissue. This means that **the region(s) where the adenoids and tonsils were removed heal by what is called *secondary intention*, from the edges inward.** First, a soft, relatively thick, yellow-white mucous crust (scab) forms over 48-72 hours. (*think of an adherent fibrous cottage cheese layer!)* This layer matures so that underneath a new protective layer of mucosa (inner skin) can grow over the raw surface, sealing the surgical site. This process usually takes two weeks for complete healing, just like any scab anywhere else on the body. On a rare occasion, where the adenoids and tonsils were removed, fresh exuberant granulation scar tissue growth prevents completion of the remucosalization process and an obstructing granulation polyp may develop requiring additional medication or, sometimes, surgical removal.

Bleeding:

Bleeding can be a serious complication of tonsillectomy and adenoidectomy and may occur in the first few hours after surgery or, more commonly, at 6-10 days later when the soft mucous crusts come off the healing areas. However, *excessive and prolonged bleeding is not expected, occurring, on average, in less than 1 in every 100 patients.* **If bleeding does occur, you should report this immediately to our office or on-call physician** at (904) 262-7368.

If necessary, call 911 or take your child to the nearest Emergency Department.

Bloody "spotting" may occur in the first several days after surgery and results from a few

drops of blood mixing with saliva as the soft mucous crust matures. **Bleeding and bloody vomiting may occur towards the beginning of the second week of recovery** and typically results from dehydration and drying of the mucous crust(s) which then do not gradually dissolve away but come off in larger clumps exposing vulnerable, incompletely healed raw surfaces.

If you should see fresh red blood dripping out of the nose or coating the top of the tongue that does not stop and clear within five to ten minutes (the body's normal clotting time), or if there is repeated bloody vomiting, this may represent significant bleeding. *Repeated rinsing and spitting very cold water (ice chips in water) over 15-30 minutes can help clear out the throat and stop minor bleeding.* **Usually, delayed postoperative bleeding is minor and resolves spontaneously *or* can be assessed and controlled in the Emergency Department.** On occasion, your child may need to be admitted to the Hospital for intravenous hydration or possibly taken to the operating room for control of bleeding.

Nausea & Vomiting:

One or two episodes of nausea, with or without vomiting, are not unusual after "T & A" surgery and are often a side-effect of the general anesthesia that needs to fully wear off. Nausea may also occur if any blood is swallowed. On occasion, some children experience nausea and vomiting over several days. Excessive vomiting is unusual and should be reported. In children 2 years of age or older, you will most likely have a prescription for promethazine (Phenergan) or ondansetron (Zofran) to help control postoperative nausea or vomiting.

Throat Pain:

Pain occurs after tonsil and adenoid surgery to varying degrees depending on the individual child**. Sharp, stinging pain is common in the first several days**, more with tonsillectomy, as the underlying tissue, which may include sensory nerve fibers, is exposed. As the mucous scab (soft healing crust) forms, this pain becomes more of a "dull, internal muscle ache" which gradually fades away in approximately 7-10 more days.

The tissue beneath the tonsils and adenoids is typically not closed with stitches after surgery, resulting in an open sore, similar to an ulcer. This means that healing has to occur by gradual regrowth of mucosa, the inner skin lining. This is called *remucosalization.* Until this process is complete, your child will have a "healing ulcer". Pain management recommendations are based on the understanding of these healing principles.

Managing Throat Pain:

Pain spikes can occur episodically throughout the day and night for at least one week, sometimes longer on occasion. **The key to throat pain management is to try and preemptively reduce or keep as much of the pain signals away from the brain as possible during the healing period.**

TIP: ***It is easier keeping pain sensation under manageable control rather than trying to get***

rid of pain when it returns. If there is a break in the medication schedule and significant pain develops, it often takes more medication to bring it back under reasonable control. Your child may then expect any further pain to be just as severe each time a new pain spike occurs.

On the day of surgery, your child may initially receive acetaminophen, usually in the form of preoperative medication. While under anesthesia, your child will also most likely receive a narcotic medication. This combined level of pain control typically wears off by one to two hours after surgery. **After leaving the Post-Anesthesia Care Unit (PACU = "recovery room"), your child will most likely be transferred to the Pediatric Post-Surgical Area for the remainder of their recovery time. Here is where ongoing oral, and possibly intravenous, pain medication is given and this is when your child begins his/her post-surgery "around-the-clock" dosing of oral pain medication.**

TIP: ***With tonsillectomies, many children also gain a degree of pain relief over the first few days from placing ice packs under the chin, which the post anesthesia care nurses may provide you with early on.***

POST-OP DAYS #1-5:

For pain relief during the first half-week after surgery, the currently recommended medication protocol is to *alternate* non-narcotic acetaminophen (Tylenol, etc.) *every three hours* with ibuprofen (Motrin, Advil, etc) *for up to the first 5 days after surgery*. This means that your child will receive 4 doses per day *each* of acetaminophen and ibuprofen every 24 hours.

PLEASE REFER TO APPENDIX A FOR A PICTURE CHART TO HELP YOU KEEP TRACK OF MEDICATION DOSING

TIP: ***Consider setting your smart phone timer or an alarm clock every three hours in order to get up and give medication at the scheduled time even if it means briefly awakening your child out of sleep (which will occur at night and in the early morning hours).***

You will receive a prescription for acetaminophen-with-hydrocodone (Hycet, Lortab). *THIS IS FOR "BACK UP" USE ONLY*. If you feel that the non-narcotic protocol is not sufficiently effective, you may consider giving a single dose of the prescription narcotic as a substitute at the next acetaminophen dosing time. *(Some parents find that this is helpful in the first several days, coordinating a dose at bedtime or 30" before eating to help ease painful swallowing.)*

While formulated for safe use up to every 4 hours, IT IS NOT RECOMMENDED TO GIVE YOUR CHILD "AROUND-THE-CLOCK" NARCOTIC MEDICATION. After several days, if you feel that your child still requires more than an occasional dose of narcotic, call the office and contact your surgeon.

TIP: ***You may wish to keep the acetaminophen with hydrocodone elixir in your refrigerator to decrease the potential for stinging upon swallowing, especially if the formulation has a small***

percentage of alcohol mixed in.

REMEMBER: always use the recommended pediatric dose for your child's weight and age.

The recommended dose of both acetaminophen and ibuprofen is 10mg/kg/dose.
This is roughly the equivalent of 10 milligrams for every 2.2 pounds, each dose.
Refer to the package for concentration and calculate the dose accurately.

To avoid dosing error, some manufacturers voluntarily changed the liquid acetaminophen marketed for infants from 80 mg per 1 ml to be the same concentration as the liquid acetaminophen marketed for children – 160 mg per 5mL (teaspoon). Carefully check before using.

Although the oral liquid, chewable or dissolvable forms of acetaminophen are usually preferred, a rectal suppository of non-narcotic acetaminophen is available (FeverAll, etc.) for those children who are not swallowing very well.

AFTER POST-OP DAY #5:

For pain relief after post-op Day #5, <u>stop giving ibuprofen</u> and continue only with as needed non-narcotic acetaminophen <u>or</u> acetaminophen-with hydrocodone, if necessary … and no more than one dose every five -to- six hours.

** Contact the office if you would like a refill of the narcotic prescription medication **
** Please make sure your local pharmacy has it in stock **
** Narcotics cannot be "called in", you will need to pick up a prescription at the office **

****

IT IS VERY IMPORTANT TO DISCONTINUE THE IBUPROFEN (MOTRIN, ADVIL) AFTER 5 DAYS TO AVOID THE POTENTIAL FOR BLEEDING ISSUES LATER IN THE RECOVERY PROCESS (see general pain medication information below**).**

****

GENERAL PAIN MEDICATION INFORMATION:

You should NOT give aspirin for pain as it can promote bleeding by inhibiting natural clotting factors. Aspirin-like non-steroidal anti-inflammatory medications (such as Motrin, Advil, Nuprin, Ibuprofen, etc.) are a different class of drug but should only be used as directed because excessive dosing over a prolonged period of time may also result in delayed clotting with prolonged bleeding concerns similar to aspirin use.

Acetaminophen-with-hydrocodone and other narcotics are usually prescribed for all but the youngest children. These narcotic medications should NOT be used "around-the-clock" for an excessively prolonged period of time without medical supervision because of potential life threatening complications. Please follow the instructions that were given for around the clock non-narcotic pain medication dosing.

When you feel comfortable, begin gradually tapering the pain medication schedule from "around-the-clock" dosing, as early as after 3-4 days for adenoidectomy and usually for the full

4-5 days for tonsillectomy. In some cases, you may need to continue a pain medication taper for several more days and on an "as needed" basis until your child is fully recovered. **Response is variable but most children will no longer require any medication for throat pain within 10-14 days after surgery.**

Fever:

A low-grade fever after surgery is not unusual. It is often a non-infectious response to the lungs not fully re-expanding completely after general anesthesia. *Deep breathing and adequate hydration* will help reverse early postoperative fever spikes in most children. When your child is awake, consider deep breathing exercises at the top of every hour: a) breathe deeply through the nose; b) hold the breath for several counts; c) then completely exhale slowly through the mouth. Repeat several times. Walk them around the house on a regular basis. On occasion, you will be instructed to provide home chest physical therapy with repeated chest percussions ("playing bongos on the back").

You should take your child's temperature with a thermometer if you think it is high. An oral temperature below 101.5 degrees F is acceptable during the first 3 days of the postoperative period. On occasion, some children are, unfortunately, incubating a respiratory or GI ("gut") virus at the time of surgery and it is in the recovery period that symptoms begin to develop and become recognized. While uncommon, some children may develop a true middle ear infection after surgery, with fever being an early symptom.

> ***To help reduce the chance of fever, maintain deep breathing exercises and adequate hydration along with the recommended pain medication schedule (acetaminophen and ibuprofen are also fever reducers). Contact our office if your child does not improve or if they have an oral temperature greater than 101.5 degrees F beyond 3 days after surgery. On occasion, we may ask you to bring your child to our office or recommend that you see your primary care physician if a non-ENT cause for the fever is suspected.***

Ear Pain:

Ear pain is relatively common after T&A surgery**. It often begins to occur in the 3 to 5 day period postoperatively.** It can be bilateral or present on only one side. In the absence of fever or ear canal discharge, **it is usually "referred pain" from the common sensory nerves** that send pain signals from both the ear as well as the healing areas exposed during surgery. It is often described as a sharp, "burning sensation." It usually means that the tonsil areas are beginning to heal and the brain is trying to figure out why there are different patterns of impulses coming from that region of the body, analogous to "phantom limb pain" often experienced early on by amputees. **Resolution of referred ear pain complaints usually occur within two or three weeks following surgery. Please contact our office if prolonged ear pain occurs.**

TIP: ***If ear pain is not relieved by the medications that are already being administered then you may try a warm compress such as a warm wet wash cloth to the ear to help relieve pain. Your***

child may also benefit from drinking room temperature liquids; liquids that are too cold or hot may worsen the referred ear pain by overstimulating the raw, healing tonsil "ulcer".

Neck Pain:

Your child may develop a stiff neck or neck pain following tonsil and adenoid surgery. It is typically due to spasm or overuse of the long heavier muscles in the back of the neck to compensate for the sore, thinner muscles along the front of the spinal column behind where the adenoids were removed. It is felt to be the result of a combination of several factors including the positioning for the procedure, reduced neck movement after surgery, the technique used to stop any bleeding at the top of the throat from a thorough adenoidectomy, and generalized postoperative dehydration.

To reduce the chance of neck pain or neck stiffness from occurring and progressing: maintain hydration, continue the recommended pain medication dosing schedule, apply warm compresses (or a hot wash cloth) to the back of the neck, firmly massage the back of neck muscles from the bottom of the skull to the top of the shoulders, assure compliance with slow but gradually increasing neck turning ("range-of-motion") exercises. Continue to monitor for increasing general activity levels until fully recovered. Application of penetrating muscle ache creams may also be helpful. Resolution of neck discomfort complaints usually occurs within two weeks following surgery. **Please contact our office if severe or prolonged neck pain is noted.**

Hydration / Dehydration:

Keeping the mouth moist is very important during the healing process**. To avoid progressive dehydration difficulties, your child should be strongly encouraged to sip fluids and to take in a sufficient full liquid diet (see Appendix B) increasingly over the first 24-48 hours in order to reach and maintain his/her daily minimum fluid intake – EVERY DAY.**

AT THE VERY LEAST, YOUR CHILD NEEDS TO BEGIN TAKING IN
– AND MAINTAINING –
HER/HIS MINIMUM DAILY RECOMMENDED FLUID INTAKE BY POST-OP DAY #2.

PLEASE REFER TO APPENDIX B TO KEEP TRACK OF YOUR CHILD'S NECESSARY MINIMUM DAILY TOTAL FLUID INTAKE AND FOR A FLUID MEASUREMENT COMPARISON CHART

For the first 3 – 5 days after surgery, try to **avoid "acidic" liquids** such as citrus, tomato or cranberry juice as they tend to sting more than bland fluids, i.e. apple juice, white grape juice, etc. Similarly, very hot (temperature) drinks can "sting" during the first few days. Carbonated drinks

do not cause bleeding; however, the fizzing action may be somewhat irritating to a freshly operated, ulcerated, raw area. **Using a straw** to encourage drinking is OK, but avoid excessive, aggressive suctioning action (thin straw, too thick liquid) as this may secondarily loosen the healing crust(s) and precipitate bloody spotting.

Dairy products are fine, such as plain milk, chocolate milk and milk shakes, but they tend to make oral secretions thick and "gummy" when compared to popsicles, sherbets, and smoothies. Most parents do not begin to give dairy products until the day after surgery.

TIP: **It** ***is strongly recommended to keep detailed notes or a log of your child's total daily fluid intake for up to one week and place on a visible area such as the kitchen counter where it will be easy to access. (see chart provided). This is particularly helpful if more than one adult is looking after your child throughout the day and night, so that everyone providing postoperative care is truly "on the same page."***

Maintaining adequate daily fluid intake is one of the most important responsibilities a parent or supervising adult has for a child recovering from an adenoidectomy or adenotonsillectomy. While it is important that we all listen to our children, when they are a patient recovering from surgery they may not realize the clinical importance of maintaining oral fluid intake. Be advised, you may need to sit your child on your lap to have them sip steadily. Or, you may need to squirt fluids into the mouth and, sometimes, pinch the nose and tilt their head backwards to help force them to swallow.

If your child becomes progressively dehydrated, their pain will worsen, their neck muscles may stiffen, and they may become more tired and worn out. The risk of postoperative bleeding rises significantly if dehydration occurs. Physical signs of progressive dehydration are decreased amounts of urine, increasingly concentrated urine (yellow and odorous), "drying out" of the mucous membranes in the throat, a hollow looking appearance to the eyes, absence of tearing, and a weak or "thready" pulse. When you call to inform us, it may be recommended to come to the office for an evaluation or go directly to an emergency department for (awake) intravenous rehydration.

PLEASE CONTACT US IF YOU FEEL YOUR CHILD IS BECOMING DEHYDRATED.

ON OCCASION, SOME CHILDREN DO NOT TAKE IN THEIR NECESSARY MINIMUM DAILY FLUID AMOUNT AND BECOME SEVERELY DEHYDRATED

THEY MAY REQUIRE AWAKE INTRAVENOUS REHYDRATION IN AN EMERGENCY DEPARTMENT AND POSSIBLE HOSPITALIZATION FOR OBSERVATION.

Diet & Nutrition:

***** Prepare your child to be on a "mush diet" for the next two weeks! *****

FLUIDS & FULL LIQUIDS: Start with liquids and "full liquids", such as jello, sherbert, pudding, ice cream, yogurt (See Appendix B). Once these are tolerated – usually within the first 12 hours after surgery – then if is OK to *offer* a few mechanical soft food "bites" early on.

SOLIDS: Your child can try to eat any mechanical soft food as early as the day of surgery if they desire. After 3 - 5 days, the "healing crusts" have usually covered the "healing ulcers" where the tonsils and adenoids were removed and almost any *soft* food is generally well tolerated.

Most children do not want to eat a full amount of soft solid food for a few days, but some children seem to "bounce back" faster than others and may desire to eat regularly on the day of surgery. The volume of solid food intake per day is far less important than overall fluid intake, but ***do try and feed your child on a regular breakfast-lunch-dinner schedule, even if the amount is very small. Try and get some protein in every day*** – eggs and dairy products are good. Don't worry if your child seems to avoid eating. Every child returns to a normal intake volume eventually, as hunger always wins out in the end!

ACCIDENTAL INTAKE OF SCRATCHY / SHARP EDGED FOOD CAN LEAD TO INCREASED PAIN AND POSSIBLE BLEEDING.

AVOID ALL SCRATCHY / SHARP EDGED FOODS FOR 2 WEEKS UNTIL WOUND HEALING IS COMPLETED.

PLEASE REFER TO APPENDIX C FOR SOLID FOOD SUGGESTIONS

General Postoperative Advice from Parents…

Planning ahead can make the recovery a smoother process for everyone. During at least the first week following your child's surgery you should try to avoid long trips in the car. Consider the following advice and prepare a check-list for your child's post-operative care until it is convenient to go shopping again.

Suggested Pre-Operative Shopping List:

- Over-the-Counter Pain Medication (acetaminophen and ibuprofen)
- Non-acidic juices such as apple, white grape, etc.
- Variety of popsicle, sherbet, and/or Jell-O flavors
- Videos / DVD's, Books & Games for entertainment

Helpful diet & medication hints:

- *"Ice chips cool the sores and when they melt they keep everything moist."*
- *"Have your child help make juice Popsicles or pick out his or her favorite flavor at the store – before surgery."*
- *"Jell-O or Jell-O Wiggles are fun."*
- *"For my younger child, the push up sherbet on a stick was easy to handle."*
- *"We had our child make a color chart every day to keep track of her fluid intake."*
- *"For medication dosing at night once awakened, our child did better after we gave a few small spoonfuls of a crushed / half-melted popsicle to numb the surgical site first and lubricate his dried throat"*

Weight loss:

Most children will lose a little weight after tonsil or adenoid surgery because of decreased food and general fluid intake during the recovery period. Once they are fully recovered, a pleasant surprise will be the ability to smell food better than before surgery because of the return of adequate nasal breathing. Most children "catch up" to their expected weight shortly after returning to their regular, and often better, eating pattern.

Foul Odor:

It is common to notice a foul odor coming from your child's mouth beginning several days after surgery. The healing areas collect mucus and food particles. The human oral cavity has a high density of bacteria. This combination can create a very potent mix! Usually, the tonsil healing crusts are more self-cleansing compared to the adenoids healing crust which is protected by the palate.

While aggressive gargling is NOT recommended in the first few days after surgery, once the healing crusts have formed, gentle saline rinses, both nasally and orally, and use of a more pleasant smelling nasal emollient (available at our office if needed) can be helpful. Once the healing crusts dissolve and come off (10-14 days), the foul odor usually goes away.

Oral and Nasal Hygiene:

It is okay to **brush the teeth**. Just be careful not to push the toothbrush way into the back of the throat where it could inadvertently irritate the surgical site. And, be aware that some brands of toothpaste can sting a little more than others.

If your child has to sneeze, have them use an "open mouth" technique. This will reduce the possibility of excessive positive pressure, which could be painful or cause bleeding.

A **raised white-yellow patch of discoloration may develop over the upper tongue surface** during the first week, in some children. This is typically from relative dehydration and limited solid food intake and resolves spontaneously by the end of the first week. In rare cases, a true "thrush" infection occurs which needs to be treated with a prescription medication.

Possible Soft Tissue Injury:

After surgery, there may be temporary **tongue swelling** or shallow **"tongue ulcers"** from the pressure created by the mouth opening device. Sometimes, you may see **tongue indentations** on the side surfaces. These soft tissue changes typically return to normal by the end of the first week.

On occasion, a **swollen uvula** may be seen dangling at the bottom of the soft palate. This soft tissue swelling is due to a change in early lymphatic drainage following surgery and generally resolves by the end of the first week..

On occasion, there may be a **swollen lip**, or a **small cut on one lip**. This is a soft tissue injury that probably resulted from a combination of dry lips and the techniques utilized. Care and attention to technique detail is always applied but when they occur these small soft tissue injuries are relatively minor and generally heal completely beginning in several days.

On occasion, there is **jaw discomfort** after surgery. Think of the discomfort as a mild form of temporomandibular joint irritation. This soft tissue injury is most likely due to the need to open the mouth wide enough to provide adequate visual access and will generally resolve over the recovery period. Your child will be on an appropriate medication and will be taking a mechanically soft diet. If desired, warm compresses (hot wash cloth) over the area can be soothing and helpful. Resolution of this symptom may take up to several weeks.

Breathing Patterns:

If your child has had a noisy or irregular breathing pattern it may not improve right away and may even worsen a little following surgery. You should **expect a varying degree of postoperative congestion, snoring, and/or coughing** which may be relieved with nasal saline, topical over-the-counter decongestant nasal sprays, or with use of a decongesting nasal emollient.

Once the postoperative swelling resolves (several days to about one week), your child's breathing and sleeping patterns should steadily improve. Coughing may persist a bit longer due to increased postoperative mucus production, especially if your child has an Asthma or Reactive Airway Disease history, but typically subsides once the mucous crusts have fully dissolved away.

Voice Changes:

Be prepared to hear a change in your child's voice. Immediately after surgery there may be modest throat swelling that will make your child's voice sound muffled. This usually resolves in a few days. Commonly, if your child has had significantly large adenoids removed, their voice may temporarily become very "breathy" or "nasal." What has happened is that the moveable soft palate muscles have to work harder now that there is no longer a large adenoid pad to contact. This results in air, and sometimes liquid or food particles, freely passing up through the nose. Your child will have to "learn" to have their soft palate touch the back wall of their throat. **With continued chewing, swallowing, and speaking, your child's soft palate should adjust and their vocal quality will most likely improve over time.** This process may take a week or two, or in some cases a month or two, occasionally longer.

Activity:

It is recommended to limit aggressive activity, including physical education classes, until two weeks following surgery. This would include no swimming or diving. If your child plays a wind instrument, they should also refrain from practicing for 2 weeks. On the other hand, "normal" activities of daily living are reasonable to encourage, with limited expectations early on because your child may still tire easily until fully recovered. In general, most children get back to Day Care / Preschool / Elementary-Middle-High School once tolerating at least a soft food diet (usually within 5-7 days, sooner with Adenoidectomy only). They may still not be 100% at this time, however. **Expect full return of energy and activity levels by the end of the second week of recovery. Please let us know if a note recommending activity restriction for school is required.**

REMEMBER: Think of the total recovery period as two weeks. The first week you are taking care of your child. During the second week, they begin to increasingly resume taking care of themselves to their level of maturity. Be aware that many children will often try to do more than they are ready to do! *(Age differences may affect the interpretation and application of the above principal.)*

Emotional Changes

Even though every effort is made to minimize the potential for psychological trauma during the perioperative experience, some children will exhibit episodic spasms of emotional stress, sometimes described as "night terrors" although daytime behavior changes can also occur. Beginning usually in the first recovery week, they may awaken from sleep in fear and, possibly, complain of, or display, uncontrollable anxiety, sometimes periodically throughout the day. These feelings may compound with each episode and regressive emotional behavior is occasionally seen. Although no specific medication is generally recommended to relieve the sensations, rest assured that over time – sometimes two to three weeks or more – and with continued close, loving attention to their physical and emotional needs, a return to normal is expected to occur, usually shortly after the wound healing process is completed and a normal diet is achieved. **If you have a child with known or suspected emotional development challenges, please bring this to our attention as additional pre- and intraoperative suggestions and intervention can be discussed and planned for.**

Medications:

You will most likely receive up to three prescriptions for postoperative medications:

- **Acetaminophen-with-hydrocodone elixir.**
  As previously indicated, this liquid medication is intended for as-needed "back-up" use only. It should only be used as instructed by your physician – and always with caution – with preference given to rotating non-narcotic acetaminophen and ibuprofen on a fixed 3 hour rotation schedule.

- **Phenergan (over 2 years old) Suppository / Syrup – or – Zofran**
  This can be used for significant or recurring postoperative nausea or vomiting. The

dose is up to 3-4 times per day, depending on which medication you are giving.

- **Sucralfate suspension (for tonsillectomy only.)**
  This is a liquid anti-ulcer medication that coats the fresh surgical site, speeds up healing and, secondarily, reduces pain sensation. The dose is 3-4 times per day, "swish and swallow", for 3 days, and is best used more than 30 minutes before or just after eating. *(It is not used for a stomach ulcer, so there is no need to follow any pharmacy provided packet insert restrictions.)*

During the two week recovery period, if there is a foul odor, you may want to ask about acquiring a bottle of the following nasal nasal emollient.

- **Ponaris Oil Nasal Emollient**
  This combination of oils can be used in the nose after surgery to mask the foul odor that can develop. If the odor becomes uncomfortable to deal with, several drops of the oily compound in the nose, or simply coating the inside of the front part of the nose with a moistened cotton swab, 2-3 times a day, is usually sufficient to cover up the smell coming from the healing mucous crusts.

Discharge to Home:

In general, the timing of your child's "discharge to home" from the hospital is determined by the parent(s) level of comfort with postoperative care.

1) If your child is breathing spontaneously, AND
2) If oxygen supplementation is not required, AND
3) If repetitive breathing treatments are not required, AND
4) If there is no evidence of postoperative bleeding, AND
5) If adequate pain relief is obtained with oral medication, AND
6) If their oral fluid intake is baseline satisfactory, AND…
7) If there is no excessive nausea or vomiting, AND
8) If they have voided urine satisfactorily, AND
9) If there are no prolonged effects from general anesthesia, **THEN…**

Consider taking your child home if the post-anesthesia nurses confirm that there are no physiological or psychological restrictions to their discharge. When you feel you are capable of handling the continued postoperative care at home, discuss this with your nurse(s) as they can prepare you and your child for discharge.

When deemed appropriate, because of very young age, co-existing medical condition(s), or response to surgery, some children will have extended observation throughout the day or

remain overnight in "23-hour observation status" for clinical safety reasons. This is usually prepared for in advance, but on occasion, it is necessary to change a child from an outpatient status to an extended or overnight observation status on the day of surgery.

Should you need to travel more than one hour, you may feel more comfortable waiting a period of time comparable to the length of your drive home. If no "inadvertent event(s)" occur(s) at the surgical facility over that time frame you will most likely be more reassured that your upcoming drive time will also be uneventful. Should you need to travel a great distance, you may have been advised to make arrangements for local overnight lodging.

Follow-Up Appointment:

A routine postoperative follow-up examination is usually scheduled for approximately one month from the surgery date. You should have already received a first post-operative follow-up appointment at the time of your surgery counseling in the office. Please inform the post-anesthesia nurses if you already have this appointment. If you think you need to schedule a follow-up appointment, please call our office within one or two days following surgery so that a convenient first postoperative follow-up appointment can be scheduled. Please indicate that you are calling to schedule a *"first post-operative follow-up appointment."*

MEDICATION DOSING:

ACETAMINOPHEN (Tylenol, Panadol, Tempra, etc.)

Rotate with ibuprofen on a 3 hour fixed schedule.
Pediatric dosing is based on weight.
Suggested dose is 10mg/kg/dose (approx. = 10mg per every 2.2 pounds per dose)
It could be given every 4-6 hours, BUT
it is not recommended to receive more than 5 full doses in a 24-hour period.

IBUPROFEN (Motrin, Advil, etc.)

Rotate with acetaminophen on a 3 hour fixed schedule.
Pediatric dosing is based on weight.
Suggested dose is 10mg/kg/dose (approx. = 10mg per every 2.2 pounds per dose)
It could be given every 6-8 hours, BUT
it is not recommended to receive more than 4 doses in a 24-hour period.

HYDROCODONE (Hycet, Lortab)

Routine use is not recommended as first line intervention.

Pediatric dosing is based on weight and should not be given more than every 4-6 hours. Repetitive dosing may lead to constipation, stomach cramps, and decreased breathing.

PROMETHAZINE (Phenergan)

Pediatric dosing is based on weight and should not be given more than every 6-8 hours. It is not recommended for patients under 2 years of age. Repetitive dosing may lead to excessive drowsiness.

ONDANSETRON (Zofran)

Pediatric dosing is based on weight and should not be given more than every 4 hours. Repetitive use may result in decreased effectiveness.

Telephone Instructions

Particularly during the first postoperative week, and within the first month after surgery, in general, please consider contacting our office first as we have a great deal of experience with relevant perioperative issues. The office staff is available for your questions during regular working hours. For routine or urgent questions, please contact our office between 8:30am and 4:30pm, Monday thru Thursday, and until 1pm on Friday. You may need to leave a message on a Medical Assistant line with your name and number.

For routine or urgent questions <u>after hours or on weekends and holidays</u>, please call (904) 262-7368 and follow the voice prompts to contact Dr. Wohl (ext. 230) via his pager network – you may be further instructed to contact an on-call physician.

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

SUMMARY

WOHL POST OPERATIVE TONSIL AND ADENOID INSTRUCTIONS

1. ***"Keep them comfortable"***
   a. **Every 3 hour alternating pain medication schedule**
   b. **Non-narcotic acetaminophen and ibuprofen**
   c. **Narcotic use only on a limited as-needed basis**

2. ***"Maintain their fluids"***
   a. **Meet or exceed their daily "magic number" every day**
   b. **Close is not good enough**
   c. **Monitor urine output**
   d. **Dehydration will result in IV placement**

3. ***"Respect the scab"***
   a. **It takes 2 weeks for a scab to heal**
   b. **Bleeding remains a risk until fully healed**
   c. **Nothing abrasive to eat for 2 weeks**

FOR URGENT "AFTER HOURS" QUESTIONS
PLEASE CONTACT DR. WOHL THROUGH HIS PAGER SERVICE:

PLEASE PRINT OUT PAGES 19 & 20 (APPENDICES A & B)
AND BRING WITH YOU ON THE DAY OF SURGERY

Appendix A

PAIN MEDICATION SCHEDULE

Acetaminophen 12:00 am/pm

Ibuprofen 9:00 am/pm

Ibuprofen 3:00 am/pm

Acetaminophen 6:00 am/pm

DOSE OF ACETAMINOPHEN (160mg/5ml = 1 tsp)

DOSE OF IBUPROFEN (100mg/5ml = 1 tsp)

Day 1

Day 2

Day 3

Day 4

Day 5

insert medication times in boxes:** ***Please use the dose Dr. Wohl provides you with on the day of surgery. Use only the prescribed amount of the narcotic medication if needed.

NO IBUPROFEN AFTER 5 DAYS OF USE

Appendix B

RECOMMENDED MINIMUM DAILY FLUID INTAKE CHART

POUNDS	AMOUNT PER 24 HOURS
20	2 pints (32 ounces)
30	2 ½ pints (40 ounces)
45	3 pints (48 ounces)
65	3 ½ pints (56 ounces)
90	4 pints (64 ounces)
130	4 ½ pints (72 ounces)
175	5 pints (80 ounces)
200+	5 ½+ pints (85+ ounces)

Your child's minimum total ounces for each day = ☐

"Daily Fluid Intake" equals the total *daily* volume of

"Full Liquid" Diet

which means:

water, juice, Jello, sherbet, yogurt, pudding, ice cream, applesauce, popsicles, snow cones, "slushies" & smoothies, milk, ice cream, milkshakes, cottage cheese, chicken noodle soup, etc.

Keep a daily running total of fluid intake until the amount of normal solid food intake has returned to normal

Appendix C

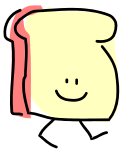
FOODS TO AVOID

Chicken Nuggets
Pretzels
Potato chips
Nachos
Cookies
Crackers
Dry cereal
Fried foods
Pizza
Wild Rice
Steak
Hot Dogs
Sausage
Deli Meat

FOODS OKAY TO EAT

Scrambled eggs
Pancakes
Grits
Hot cereal
Soggy cold cereal
Oatmeal
Pasta varieties
Mashed potatoes
Soft boiled rice
Soups (not too hot!)
Pulled BBQ
Blenderized solid food

Consider "non-scratchy solid foods" once soft solid foods are well tolerated, often towards the middle-to-end of the first recovery week. You can try sandwiches with soft bread (no whole grain or sharp crust) and varieties of fine ground meat or fish (not too spicy!) Later on, you can be creative with blenderized solid food.



FLUID MEASUREMENT COMPARISON CHART

Appendix D

Medicine Cup
30 mL
1 oz
1/8 cup

Small Milk Carton
240 mL
8 0z
1 cup

Soda Can
360 mL
12 0z
1.5 cups

Large Styrofoam Cup
480 mL
160z
2 cups

Baby Bottle
240 mL
8 0z
1 cup

Bottled Water
500 mL
16 0z
2 cups

Popsicle
90 ml
3 0z 1/3

Sports Drink
32 0z
4 cups

Soup Can
220 mL
7 0z
1 cup