



General Surgeons

Of Western Colorado

Expert Care Where You Live™

*Craig H. Andersen * Eric J. Hanly *James J. Hanosh *Douglas A. Hirth* Alero T Nanna* Steven T. O'Day * Joel W. Schaefer
*Joyce Sekharan * Teyen P. Shiao * Christopher J. Wibbelsman

2440 North 11th Street, Grand Junction, CO 81501 Telephone: 970-243-0900 Fax: 970-245-4235

Pre-op LINX information

RISKS

Any operation involves some risks, these will be discussed with you prior to scheduling surgery and are noted below for your information. These risks are listed on the informed consent you will sign with your surgeon prior to surgery scheduling. Please let your surgeon know if you have any questions about these risks.

Risks specific to this procedure are as follows: Damage to the esophagus, stomach or surrounding structures; problems swallowing; difficulty belching or vomiting associated with bloating; problems with stomach emptying; recurrence of heartburn or reflux; recurrence of hiatal hernia; shoulder or neck pain (typically temporary); persistent symptoms if surgery done for chest pain, cough or asthma; persistent/progression of Barrett's esophagus; migration or erosion of the LINK device; the risks with revisional surgery are double that of initial surgery.

Common surgical risks include; infection, bleeding, nerve injury, blood clots, heart attack, allergic reactions and pneumonia.

PRE-OP TESTING

Make sure that any pre-operative testing that has been ordered for you by our surgery scheduler is completed no less than 1 week prior to your scheduled surgery.

LINX card

You will be given a LINX implant device card after your surgery and this should be kept with you at all times. If you ever have the need for an MRI in the future this will be information that the radiologist will need prior to your scan.

DIET

If you received a pre-operative diet please make sure you review and begin this as instructed. You will have specific post-operative instructions within this pack please make sure you review this information and call us with any questions.

Preoperative 10 day diet

It is recommended by your surgeon to follow a low sugar, liquid diet 10 days before surgery. The purpose of this liquid diet is to deplete your glycogen stores, this will shrink your liver, which in turn will make laparoscopic surgery easier because there will be more space for your surgeon to work. Here are examples of liquids you can have during this time period.

Liquids that must be used **ONLY IN MODERATION** as they contain large amounts of sugar:

- **Juice, Gatorade®, or Powerade®** – limit to 2 cups or less each day (choose juices that are low in sugar such as apple or orange)
- **Regular Jell-O, popsicles, or no sugar added fudgsicles** – 3 or less servings each day
- **1 cup of milk** (skim, 1%, Lactaid®, or 2%) or **8 oz. Light Yogurt** (Dannon light, Yoplait light or Colombo light) or **½ cup cottage cheese** – 3 or less servings each day.
- **Atkins Shakes or Carb Solutions Shakes** – 1-2 a day (These are found at Rite-Aid, City Market, or Wal-Mart) **DO NOT BUY** Slim Fast, Ensure, Boost etc.

Liquids that can be taken in **ANY AMOUNT** since they do not contain sugar are the following:

- Sugar-free beverages such as crystal light, Wyler's light, Sugar-free Kool-Aid or Sugar free Tang, diet Snapple, diet sodas, Fruit2O, Propel, coffee or tea with sugar substitute or water.
- Broth soups all varieties
- Sugar-free popsicles and sugar free Jell-O

DISCHARGE INSTRUCTIONS AFTER LINX PROCEDURE

DIET

- **Small bites of soft food eaten slowly and regularly is the key to a good outcome. Do this for 2 months.** Start with yogurt / mushy consistency and increase the consistency as your swallowing allows. Chew food very well and eat very slowly. Stay away from bread and meats until you know you are swallowing well (generally about 4 weeks but maybe up to 10 weeks). It is important that you continue to eat regular food during this time, even if the food feels as though it is getting stuck.
- **Swallow a few bites of soft food every hour while awake.**
- Slow down: wait at least 60 seconds between bites if things aren't going down easily
- Swallowing may be temporarily worse around 2 to 4 weeks - keep up the small bites every hour!
- **Please contact us if you are unable to tolerate a bite of yogurt every hour, cannot stay hydrated, or have continuous vomiting!**
- If you become constipated it is okay to use a laxative as needed.

ACTIVITY

In general, you may resume normal non strenuous activity as soon as you are up to it. Aerobic activity as tolerated as long as you can speak in full sentences. If you cannot complete a full sentence without taking a breath, you are working too hard.

You should not lift anything 10lbs or greater for 2 weeks after surgery. If you had a hernia repair at the time of LINX placement, no heavy lifting for 6 weeks after surgery.

CHEST AND SHOULDER PAIN

Sometimes patients will experience shoulder pain or deep pain in the chest after surgery. This is due, in part, to the gas used at laparoscopy, but more so to the sutures placed in the diaphragm muscle; and should gradually resolve. Heat applied to the shoulders tends to help this pain the best. It may be difficult / uncomfortable to take a deep breath or lie flat immediately after surgery as breathing uses the diaphragm muscle. This will slowly improve as you heal from surgery.

Doing slow deep meditation type breathing will help with recovery.

PAIN MEDICATION & MEDICATION RECONCILIATION

You will have been given a prescription for a narcotic pain reliever such as oxycodone. You may take acetaminophen (Tylenol) and/or anti-inflammatories (ibuprofen) as directed on the package in addition to pain medication if needed.

You may resume other medications you were on prior to surgery unless otherwise directed by your surgeon.

The LINX surgery should stop the need for antacid (heartburn) medications such as; Prilosec, Prevacid, Nexium, Pepcid, Zantac Etc. However, we recommend gradually tapering off these medications over 6-8 weeks after your surgery.

If you have a prescription for an anti-nausea medication such as Ondansetron (Zofran). Use this as directed if you are nauseated, it helps lessen vomiting/ retching. You may wish to keep this

on hand if in the future you get very nauseated. If you don't have an anti-nausea medication and feel you need it, please call the office for a prescription.

SWALLOWING MAY GET WORSE A FEW WEEKS AFTER SURGERY

A few weeks after surgery generally 2 to 4 weeks, scar tissue temporarily thickens. Swallowing may become much more difficult during this time. Be sure to swallow small bites every hour while you are awake. Please let us know if you are not able to swallow yogurt consistency most of the time (over 50% of the time). After a few weeks this should improve.

SWALLOWING AND MEDICATIONS

You may take your normal prescription medications. It is sometimes helpful to take them with yogurt or applesauce instead of water. If you are still having problems swallowing them, you can check with your pharmacist and see if you can crush or break them. Hold off on large vitamins or supplements until you are swallowing without difficulty.

HICCUPS

Hiccups are most often due to fluid and/or food that has not passed out of the esophagus. Typically, they will stop in a few minutes. Wait until the hiccups have passed before resuming oral intake.

SALIVA

If you find that you are regurgitating saliva or liquids, this is usually due to their building up in the esophagus. Especially saliva (foamy stuff) has a hard time being cleared by the esophagus. Saliva and liquids tend to build up between meals and before going to bed. Taking 1-2 saltine crackers between meals and before bed will help absorb the fluid so the esophagus can push it through the links.

SPASM

Some patients experience spasms, chest tightness that can take your breath away during the recovery period. Typically, this will last a minute or so. Spasm is most often due to food getting stuck in the lower esophagus though sometimes will occur spontaneously. Although it can be very uncomfortable, it is not serious, and the frequency and severity will decrease as time goes by. If after 4 weeks you are having spasms every time you eat, please make an appointment to see us, or at least contact our office by phone.

HEARTBURN OR REGURGITATION AFTER SURGERY

Some patients will feel heartburn after surgery. It is very unlikely this is due to reflux. Heartburn can occur with esophageal irritation of any type including surgery - not just from acid reflux. Heartburn can also occur after drinking acidic liquids (e.g. lemonade) that don't clear immediately after swallowing.

Regurgitation during the recovery phase is reflux of fluid within the esophagus, and not from the stomach. Don't be alarmed if this happens, it should resolve as a swelling goes down and swallowing improves.

It is very unlikely you should need acid suppressive reflux medications after surgery. If in the future, someone wants to prescribe reflux medications for you, or you are concerned your reflux is back, please let us know. We strongly recommend a pH test to document reflux prior to starting on reflux medications, after surgery.

FINAL THOUGHTS

Most of the healing process occurs in the first 4 weeks after surgery, which is when the swallowing can be the most difficult. Swallowing should slowly improve after that. It can take some patients a few months to be "normal".

Eat very slowly. Take small bites, chew very well, and have smaller but more frequent meals.

Eat a bite something of yogurt consistency or thicker every hour while you are awake for the first 4-6 weeks. Some patients may need to do this for a few months or more. If you are on the go, there are a lot of choices; string cheese, PowerBar, dried fruit, trail mix, crackers... Anything that is yogurt consistency or thicker (liquids do not count).

INCISIONS

You will have typically 5 small incisions between your belly button and your rib cage. The incisions are sealed with a surgical skin glue. You may shower or bathe; avoiding placing oil/lotions on the glue. The glue will peel off over time. Some swelling and a lump under the incision will develop and is part of the natural healing process; you don't need to be alarmed. Bruising may occur there as well.

Call

Fever over 101.5° F, continuous vomiting, significant inability to swallow yogurt consistency foods, unusual chest or leg pain; increasingly red or hot incisions.

Questions and concerns

For questions please call our office at 970-243-0900 if you have concerns after business hours you may speak with the on-call surgeon at the same phone number.

SWALLOWING AFTER THE LINX PROCEDURE

Diet progression after LINX

There is not a specific list of foods to eat during recovery from Linx surgery. You should be swallowing at least mushy, soft foods as soon as possible (applesauce, yogurt, saline crackers with sips of water, cottage cheese are examples). Each patient tolerates different consistencies at different times of the recovery, and some patients have no difficulty swallowing after surgery. Gradually increase the consistency of your diet over the next week as your body permits.

Physical therapy for the esophagus: “swallow something every hour”

It is a normal healing process for the body to form scar tissue around the esophagus and LINX. It is essential that the scar tissue remain flexible for the LINX to function properly so it needs regular stretching. To stretch the scar tissue - swallow a few tablespoons of yogurt consistency or thicker food every hour while you are awake for the first 4-6 weeks after surgery. This can be uncomfortable at times, but it is the most important part of your recovery, so keep doing it even if uncomfortable. You may also have 3-4 small meals per day.

Eat slowly: “wait one minute in between each bite”

It takes 30 seconds for the esophagus to regain its strength after a swallow. If food seems to be hanging up, slow down and wait at least one minute between bites. Large bites are likely to have harder time going down, and are more likely to lead to spasms or hiccups. Tablespoon size bites of soft, mushy foods are better. During regular meals still follow the one bite every minute principle (you'll be the last one at the dinner table, learn to enjoy each bite)

If water or other liquids aren't going down well, add some food

The esophagus generates better pressures with semi solid foods and exercises the links better than liquids. If liquids aren't going down well, the first thing we recommend is taking a few saltine crackers or soft mushy foods: the higher pressures from more solid foods will often help clear the liquids as well.

Warm or room temperature liquids tend to be more comfortable than cold. Cold liquids lead to the weakest pressures (meaning more difficult for things to go down) Small sips frequently are helpful to prevent dehydration. Sometimes a sip of carbonated beverage helps to pressurize and push food through. **Not** more than a sip