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Preparing for Surgery

Thank you for entrusting me with your surgical care. The following pages will answer many of the questions that you may have regarding your surgery. Please read through these instructions carefully so that your road from surgery to recovery may be as smooth as possible.

Scheduling Surgery

Dr. Williams operates every Monday and Wednesday. Please call to schedule your surgery as soon as you have a date in mind. We make every effort to accommodate your schedule. We can request an early or late time but it can not be guaranteed. Procedure times can not be confirmed until 1 business day prior to surgery. You will receive a call, from the Ambulatory Surgery nurses not our office, between 2pm – 7pm.

Insurance Authorization

Once a date has been confirmed we will reach out to your insurance to obtain authorization. Check with your insurance to obtain any required referral. Please check with your insurance company and obtain any needed referral.

Medications

As of today, please be mindful of your medications. It is very important that you do not take any medication that contains ASPIRIN (Anacin, Bufferin), IBUPROFEN (Advil, Motrin, Nuprin) or NAPROXEN (Aleve) just prior to your surgery. These medications, along with all other Nonsteroidal Anti-Inflammatory (NSAID) drugs should be discontinued at least 3 days prior to your procedure. These drugs promote bleeding and may adversely affect your surgical outcome. Acetaminophen (Tylenol) is an acceptable alternative for pain relief just prior to surgery.

Please check the labels of all your medications to be sure that you are not taking any aspirin or aspirin-like substances, even those medications that you purchase without a doctor's prescription. Please inform my staff if you are taking medications to treat chronic pain, cardiovascular conditions, neurological conditions or psychiatric conditions. Also, blood thinners such as Plavix and Coumadin (Warfarin) must be adjusted or discontinued well before your procedure is performed. My staff and I will aid you in cases where you are on these medications.

Multivitamins should be avoided at least two weeks prior to surgery. Such vitamins can be started again a week after your procedure. Vitamin C has been found to aid in preventing bruising, and aiding surgical recovery. Approximately 2 weeks prior to

surgery please begin taking 500 to 1000 mg of Vitamin C daily; this dosing should continue at least 2 weeks after surgery.

We will provide you with your prescriptions for surgery during your preoperative visit. Please make a good effort to have these medications filled prior to your surgery. In most circumstances you will receive two medications: a narcotic-based pain killer (Percocet, Vicodin, Norco) and an anti-inflammatory drug (Meloxicam, Indocin, Toradol, Naproxen). These medications are designed to work in concert to control postoperative pain. DO NOT TAKE THESE MEDS UNTIL AFTER SURGERY.

Antibiotics are not typically needed after surgery, except in rare circumstances. Please note that prior to all orthopedic procedures all patients do receive an intravenous dose of antibiotics as a prophylactic measure. Patients who are undergoing joint replacement procedures will receive 24 hours of IV antibiotics in the hospital as part of our standard protocol here at HSS. Most outpatient procedures, however, do not require the use of oral antibiotics by patients in the days following their surgery. Please be sure to remind us of any drug allergies that you have (especially antibiotics) prior to your procedure.

For those patients concerned about postoperative swelling, we suggest the use of Arnica Montana a natural herbal medication. This medication can be bought at most health food stores, online, and at some local pharmacies. The suggested dosing is three tablets under the tongue four times a day. This medication should be started three days prior to surgery and continue for a week postoperatively.

Please stop smoking! If you smoke, you must stop at least 2 weeks prior to your procedure, and 2 weeks following your surgery. Smoking drastically reduces the circulation in the small blood vessels by causing them to constrict. This constriction limits blood flow to needed areas, and can seriously impede healing, and increase the risk of infection, wound healing problems, and other postoperative complications.

Patients should also limit their alcohol intake prior to surgery. Alcohol causes blood vessels to dilate, which can cause increased bleeding during and after surgery. Postoperative swelling can also be exacerbated by alcohol intake. Do not drink alcoholic beverages at least one week prior to and following surgery.

Many patients are sensitive about scarring. Fortunately most of the procedures performed are done using minimally invasive surgical techniques. In all cases, please limit one's sun exposure after surgery. Sun exposure will cause scars to enlarge and become dark and pigmented. We recommend the use of high strength sun block on these areas for the first year following surgery to minimize this process.

Typically, during the 2 days prior to surgery, patients should start to monitor their diet. While it is not necessary to switch to a clear liquid or soft diet prior to surgery, we do recommend that you eat lightly over the two days prior to your procedure. It is required that patients do not eat or drink after midnight on the evening prior to his or her

procedure. If you take medicines on a daily basis, please check with our staff as to whether or not these medicines should be taken on the morning of surgery.

Preoperative Studies & Labs

All patients undergoing surgery will have routine laboratory work done (CBC, PT/PTT) within 10 days of the scheduled procedure. Some patients will also need other studies (i.e. Chest X-ray or EKG); a note from your personal physician that you are healthy enough for surgery may also be necessary. Our office staff will let you know which of these you will need to prepare for surgery. Please note that all patients are responsible for ensuring the office has received their preoperative laboratory work and test results. Once forwarded, please confirm that the office staff has received your information. Please do your best to provide us with the above results no less than 3 days prior to your procedure. If the office does not receive results and clearance 3 days prior to surgery the procedure may be delayed or cancelled. Please fax all documents to the office at: 212-774-2895

All surgical candidates who will require an inpatient hospital stay will need to be cleared medically by one of *our* hospital affiliated medical doctors. This is a requirement at the Hospital for Special Surgery, and by design, assures that an internist at HSS is familiar with your medical issues. This consult does NOT affect your current relationship with your own primary care physician.

The Day of Surgery

Most ambulatory procedures are carried out on the 9th floor of the Main Hospital building at HSS. Total joint and other larger inpatient surgeries are done on the 4th floor. Patients are asked to arrive at least 2 ½ hours prior to their scheduled surgical time. You will be advised about your surgery time on the day prior to your procedure. My office or a representative from HSS will call you with this information. Just prior to surgery, you and I will discuss any last minute issues or questions. Please do not make any extraneous markings on your body. I will mark the appropriate limb for surgery in the patient holding area just before surgery. As a note, all women must undergo a urine pregnancy test immediately prior to surgery; this is a required test that is carried out by our hospital preoperative area staff.

All surgical candidates will consult with their anesthesiologist immediately prior to surgery. This doctor will sit with you, and determine the best method of anesthesia for you based on the type of surgery that is planned, and your medical history. Overwhelmingly, the majority of upper and lower extremity procedures done at HSS are regional / local blocks (i.e. epidural blocks, spinal blocks, interscalene blocks). These regional blocks are very safe, and eliminate the need for general anesthesia and its

associated risks. Please be ready to discuss your medical history with our anesthesiologists in the preoperative holding area.

Most ambulatory procedures take about an hour or so to perform; I will tell you the expected surgical time prior to your procedure. Remember that in addition to the surgical time, you will be in the operating room for the administration of your anesthesia, surgical preparation and transfers. As such, the total amount of time that you spend in the operating room is roughly an hour or so longer than your actual surgery. Please make note of this to family and friend who accompany you to surgery so that they don't worry.

Please know that while HSS does train residents and fellows, I perform all surgical procedures on my patients.

Some procedures require the use of a postoperative brace or sling. We will arrangement for you to receive these devices the day of surgery.

I typically recommend the use of a motorized ice-machine (Game Ready, Ice-Man) for use following surgery. These devices are very helpful in minimizing pain and swelling after surgery.

Following surgery

Following your procedure you will recover in the postoperative recovery room. It is here where you will initially recuperate from your surgery. Most patients will spend an average of 2 to 4 hours in the recovery room. After you have awakened, our nurses typically titrate your pain medication appropriately for your comfort. Later, you will receive a light meal, crutch training and/or home exercise instruction from a physical therapist, and instructions for home care. We have a number of local pharmacies in the area that may fill your prescriptions. If you so wish, family members or friends may fill these prescriptions for you during your procedure to expedite a smooth transition from the recovery room to your home.

Each surgery has its own set of unique postoperative instructions that will be given to you immediately following your procedure. I strongly recommend the use of motorized compression / cryotherapy devices for the management of postoperative pain and swelling. These devices work very well in reducing pain and stiffness in the affected surgical area, and this in turn decreases the amount of pain medicine patients need during the postoperative period. The end result of this approach is that patients need less medication, and are less likely to experience postoperative nausea. Please consult with my office staff as to the device that would work best for your procedure. Please note that in most circumstances, insurance does NOT pay for these devices. However, as your surgeon, it has been my experience that the extra expense required to obtain a cryotherapy device is well worth the cost. One of our partner vendors will reach out to

you a few days prior to surgery to review insurance and possible cost. They are also available postop to troubleshoot the devices.

Gotham Surgical: 212-983-3755 (For questions or troubleshooting).

Typically a member of my staff or the hospital will call you on the day following surgery to check on your condition. However, should you have questions or concerns at any time, please feel free to call my office directly.

As a general rule, please keep all wounds DRY! Also, please do not use any special ointments or gels on your wounds without my explicit instructions during the first couple of weeks following surgery.

Postoperative Care

Specific postoperative instructions designed to help with your postoperative recovery will be given to you on the day of your procedure. Please read these documents (along with a family member or friend) in the days following your surgery. You will receive a call from our office and the hospital on the day following your surgery to go over instructions and routine postoperative issues.

Most patients will need to return to the office 6 weeks following their procedure. This visit can be scheduled when you confirm your surgery date or will be arranged during your postoperative check call on the day after your surgery. I recommend that most patients keep their wounds dry for 12 days following surgery to prevent any wound problems. In the weeks and months following surgery, please be careful not to expose your surgical wounds to prolonged sun exposure. This may cause scarring and darkening of wounds over time. I recommend that patients use a high SPF sunscreen for at 6 months after surgery to protect against this phenomenon.

You will receive your physical therapy prescription either on the day of surgery, or during the week following your procedure. My office will fax or email this document to you. Please note that while you are welcome to do your PT here at HSS, it is not required. Physical therapy can be done near your home or work. When possible, we will make recommendations on specific PT facilities or therapists for you. Compliance with your physical therapy after surgery is very important to your recovery. As a result, we put a high premium on matching you with a therapist who will maximize the likelihood of a successful return to function.

In most cases, I will ask that you return for a postoperative visit six to eight weeks after surgery. These longer-term postoperative visits are typically short focused appointments wherein we discuss your progress, therapy and continuing issues. At this visit, I will make a determination as to whether you should return for another visit. For simple surgeries (meniscus surgery, labrum repairs, elbow tendon repairs,) no further visits are

usually needed. However for more involved procedures (i.e. rotator cuff repairs, ACL reconstruction, cartilage repair procedures, joint replacement), several longer term visits are usually needed prior to your recovering fully.

Paperwork: Disability Forms, Return to Work Letters

We understand that many of our patients will need us to fill out paperwork that is associated with their surgery. In general, the office staff addresses routine paperwork on FRIDAYS of a typical workweek. We will always do our best to get these documents back to you in a timely fashion.

Here are some general instructions if you are filing for disability, medical leave or need handicap parking after surgery:

a. On these documents, please fill out all of your personal information, and leave the medical sections blank.
b. Attach a note explaining job description, limitations, return to work date, etc.
c. Find out from your employer if a specific form is required for return to work.
d. Please understand that forms/letters require time to complete. We are not able to complete them during office visits, on patient days or operative days. Forms and letters will be completed on Fridays.
d. We highly recommend that forms are faxed/mailed/delivered as soon as possible. Same day requests will not be guaranteed or prioritized.
e. Please fax forms to 212-774-2895.

Frequently Asked Questions

1. **How likely is it that I can undo or ruin the surgical procedure performed?**
   This is very common question. Patients will often accidentally step on an operating leg or reached with an operated arm and worry that the surgery has been undone because of the noted increase in pain in the area. While it is possible that repaired tendons, ligaments, and cartilage may be damaged after surgery, this is VERY RARE. Stepping and reaching are low energy activities that are not likely to do permanent harm. In most cases, the pain from such activities will resolve over a few days.

2. **What is the clicking and popping in my shoulder or knee? Is this a problem?**
   This is perhaps one of the most commonly asked questions I receive postoperatively. For reasons unknown to us joint surgeons, clicking and popping increase greatly in the months following a procedure. In the knee this is typically due to maltracking of the knee-cap (patella) caused by a weak quadriceps muscle.

This knee clicking tends to improve as quadriceps strength improves (over about 2-4 months). In the shoulder, small adhesions and bursal thickening above the rotator cuff can cause clicking and catching after any type of shoulder surgery. In either case, pain-free clicking is not a problem or a predictor of any trouble ahead.

3. **When can I return to work?**
   This questions really hinges on two issues: the type of work that you do and the type of surgery that you are having. For all procedures, you will be given specific activity instructions to follow. As long as these instructions are followed, there no empiric limits on one's ability to return to work. However, I would in all cases recommend at least 2-7 days off at a minimum. You will be a bit drowsy the day after surgery, and trying to be your feet too soon may result in the development of unnecessary swelling or pain in the operated limb. My general rule of thumb is to take as much time as is practical off from work so that you can recover fully without anxiety or undue pain. Also, please keep in mind your work commute as taking subways, buses and other modes of public transportation may be daunting during the first two weeks after surgery.

4. **When can I drive?**
   You may drive only when you do not require the use of narcotic based pain relievers (oxycodone, hydroxycodone, Vicodin, Norco, Percocet) during the day. Most patients are able to drive approximately 2 weeks after surgery; this figure varies greatly from procedure to procedure.

5. **When can I go back to my activities?**
   This answer depends on the type of surgery that you are undergoing. Please check with Dr. Williams regarding specific types of activities and the proper timing after your surgery.

6. **How long must I keep my wound dry?**
   Typically for simple knee arthroscopy and shoulder arthroscopy, wounds should be kept dry for 12-14 days after surgery. Cover all portal wounds with tape, plastic-wrap, tegaderm dressings, or other water barrier coverings during showers after your procedure. If you have had a procedure where a cut was made, plan on keeping the area dry for at least 72 hours after the sutures have been removed in my office. Sutures are usually removed 7-10 days after surgery.

7. **Who does my surgery?**
   While Dr. Williams does teach residents and fellows as part of his academic duties at the Hospital for Special Surgery, he is the primary operating surgeon for all of his surgical cases.

8. **What type of anesthesia will I receive?**
   Most of the procedures done at HSS are done using regional anesthesia. In other words, most procedures are done using local anesthesia blocks of nerves that innervate the part of the body that is being treated. For knee procedures, epidural blocks are used commonly. For shoulder and elbow procedures, local nerve blocks to the upper extremity are usually employed. General anesthesia (where there patient is intubated and paralyzed using medicines) is seldom used at our institution. Regional anesthesia is usually accompanied by intravenous drugs that will relax you and make you drowsy. However, you will breath on your own throughout the entire case.

9. **Do I need to do my physical therapy at HSS?**
   In a word, NO. While we do regard our therapists at HSS as some of the best in the area, it is not feasible to ask most of our patients to commute to the East Side of Manhattan for PT. As such, my staff will engage you in finding a therapist near where you live or work who can help you in your postoperative recovery program.

10. **Where are the surgeries done?**
    The surgeries are done on the 9th floor of the main hospital building at HSS. This is the ambulatory surgery center at HSS. You will be notified by the hospital staff, on the day before surgery, as to what time you should report to HSS for your preoperative workup. Typically, the surgical case times are posted around noon the day before the procedure is to be done.

11. **What time should I stop eating before surgery?**
    We typically recommend that all patients stop eating by midnight the night before the surgery is to be done. Patients should take nothing by mouth after midnight. Special exceptions to this rule can be arranged, however, please note that eating after midnight (even taking medicines) can put you in jeopardy of having your case canceled.

12. **Does Dr. Williams need the MRI disc that I brought to the initial consultation?**
    Yes, please bring all imaging materials that you may have taken with you after the first consult in my office, to the hospital on the day of your surgery. Dr. Williams needs these images to direct his attention to the proper place during the surgery. Remember, he needs the actual images, NOT the report.

13. **Do I really need the icing machines that Dr. Williams recommend for me?**
    Dr. Williams has no financial interest in any cold therapy device that he recommends for your recovery. Cold therapy machines (Game-Ready, Ice-Man, Cor-flex, Polar Care) are designed to limit swelling and inflammation in the postoperative joint. The use of the devices can decrease swelling, decrease pain and speed recovery after surgery. As such, if these devices are within your reach,

I strongly recommend their use following any procedure done on the knee, shoulder or elbow.

14. **Can I see what is going to be done during my surgery?**
    Please note that videos for this and other types of surgeries done can be viewed online at www.hss.edu or www.rileywilliamsmd.com.

Cartilage Surgery FAQs

1. What is Cartilage?
   Articular cartilage is the cushion that lines the ends of all our bones within each of our joints. This cartilage is smooth and allows for easy, near frictionless movement of one bone on another. Our cartilage has the feel of "gristle" at the end of a chicken drumstick. Cartilage has no blood supply or nerve supply. Consequently, once an area of cartilage is injured, the resulting defect has no way of healing itself. In fact, the area tends to get bigger with time.

2. Why do I need to have my injured cartilage fixed?
   Because cartilage defects does not heal spontaneously, a surgeon must replace the cartilage or stimulate healing in the affected area. As mentioned, injured cartilage areas get bigger with time, and ultimately can cause gross erosion of cartilage over the bony surface. This loss of cartilage is better know as arthritis. No doubt that on of the reasons that you consulted our practice was because of some pain or functional limitation associated with your injury. Thus fixing the cartilage should accomplish three things: a. reduce pain b. restore joint function c. decrease the likelihood of cartilage loss moving forward.

3. Which is the best approach for my cartilage problem?
   This is a very complicated and nuanced question. Typically I consider many factors when determining what approach will be best for a patient: age, activity level, lesion location, lesion size, and body weight. Whether this is the first surgery for a problem or a revision scenario also plays a big role. Once Dr. Williams has the opportunity to go over all these factors he will discuss with you the pros & cons of each recommended approach.

   Here is a brief summary of some approaches used in the area

   a) Microfracture: The gold-standard in the U.S. In this approach, the surgeon cleans out the cartilage defect and then makes holes in the bone at the base of the defect to promote bleeding. This is done to facilitate the movement of bone marrow cells into the defective area. The resulting clot ultimately changes over to fibrocartilage over several months. This approach is best fro smaller lesion (less than 400 mm^2) this approach requires that patients stay on

crutches for several weeks following surgery. The total rehab time is approximately 6 months.

b) OATs (Mosaicplasty) procedure: In this procedure, the surgeon moves small cylinders of bone and cartilage from a healthy part of the knee to the defective area. Usually several of these cylinders are needed to fill a defect. This is done using a small incision. Because there is only a limited amount of donor tissue available to transfer, this approach is best for smaller lesions (less than 400 mm^2). This approach requires that patients stay on crutches for several weeks. Once healed, the OATs treated lesion is very strong as the repair is made of mature articular cartilage. The total rehab time is approximately 4-6 months.

c) Synthetic Scaffold Mosaicplasty: In this procedure, the surgeons fills the cartilage defect(s) with a synthetic, biphasic implant that mimics the structure and strength of a bone-cartilage plug. This biologic is designed to promote the formation of bone and cartilage in the treated area over time. Typically the plugs are pre-loaded with marrow blood (taken at the time of surgery) from the patient, and then inserted in the cartilage defect using a small incision. This facilitates the placement of marrow based stem cells into the area of damage; this speeds healing of the lesion. Over several years, the plugs disappear and the area is replaced with new cartilage-like tissue. This approach allows for the treatment of several lesions, and patients are typically fully weight bearing about a week after surgery. The total rehab time is approximately 4-6 months.

d) Osteochondral allograft: In this procedure, the surgeon fills a large cartilage defect(s) with a large bone-cartilage cylinder that is obtained from a donor specimen. We reserve the use of this cartilage repair technique for large lesions (greater than 400 mm2), and for the treatment of lesions that have failed other methods of treatment. These are fresh grafts where they specimen must be implanted with four weeks of retrieval. All grafts are thoroughly tested for bacteria, virus and fungus prior to release for use. As they are fresh grafts, the cells in the cartilage maintain the grafts structure into perpetuity – this makes this approach very durable. If opting for this approach, please note that these grafts must match size and shape of your knee. Dr. Williams' staff will submit your MRI or X-ray studies to the organ donor network for matching. When a graft is available, you will be contacted. The surgery is usually performed within two weeks of this notification. Patients are usually on crutches for one to two weeks, and a brace is used for approximately the same duration

e) FDA trials: From time to time, Dr. Williams participates in FDA sponsored trials that are designed to test the clinical effectiveness of new implants and devices for the treatment of cartilage lesions. Please check with Dr. Williams' staff as to the current offerings. Please note that most of these studies are randomized (Dr. Williams does not assign the treatments being compared),

and require a significant time commitment in exchange for participating in the study.

4. How long is cartilage surgery rehabilitation?
   One can expect to use crutches for about a week to six weeks after surgery, depending on the procedure. We recommend the use of postoperative knee brace for about three weeks after surgery. You do NOT have to sleep in this brace after the first week.

   In all, the rehabilitation takes approximately six months. This is the time needed for the treated cartilage to mature to a point where Dr. Williams is assured that the graft strength is suitable for you to resume all activities. Your diligent participation in fitness exercise and PT during this period is crucial to your timely full recovery from surgery. If you have had symptoms for a year, plan on a year of rehabilitation. If you have symptoms for two years….. (you get the idea). Recovery is a combination of pain relief and restoration of strength. I will do the job of fixing the lesion; patients tend to the work of restoring their fitness in order to maximize the surgery's benefit.

   On average plan on two visits to PT a week. An additional two independent work-outs should be scheduled per week to adequately address the involved limb.

5. What are the risks of cartilage surgery?
   There are two primary risks associated with cartilage surgery. The first risk is infection. While very uncommon, infections do occur and are typically associated with poor wound healing. As such, we recommend keeping these wounds dry for at least 2 weeks after surgery. Please do not use ointments or other compounds on these wounds until instructed to do so by the staff. Again, smoking interferes with wound healing, so discontinuing smoking 2 weeks prior and following surgery is recommended.

   Blood clots (DVT, deep vein thrombosis) occur rarely following all types of surgery. Your best bet in decreasing likelihood of a clot is to GET UP and MOVING following surgery. Moving your feet and ankles, ambulating, ranging your knee, doing leg lifts etc. all contributes to keeping the blood moving in your legs circulating. This in turn helps to prevent clotting. If you feel pain in your calf area, or note swelling there – immediately notify the office staff. A quick and painless test (ultrasound) can be arranged to see if you have a DVT. Again, these issues are rare, but if you do experience a clot, you will need to go onto a blood thinner (Warfarin, Coumadin) until the clot disappears.

6. Is there anything else that I need to do following surgery?
   Plan to return to the office at 6 weeks, 3 months, 6 months, and 1 year following surgery. These are quick visits designed to go over your progress and address issues germane to your recovery. Call to make these appointments as soon as possible, the schedule fills up quickly.

We typically will have you get an MRI of your surgically repaired knee approximately one year following surgery. This will allow Dr. Williams to assess the progress of your cartilage repair. He will let you know if more studies are required. Also, a strength test (Isokinetic Test), usually done at HSS, may be requested prior to your final clearance.