

**Edward M. DelSole, MD
Orthopaedic Surgery – Spine
Keystone Spine and Pain Management
2607 Keiser Blvd., Unit 200
Wyomissing, PA 19610
Phone: (484) 509-0840**

Spinal Deformity/Scoliosis Reconstruction Information Sheet

Introduction

Dear Patient,

You are about to embark on an important journey to improve your overall health and quality of life. Our goals are the same as yours: To relieve your pain and return you back to a more active and healthy lifestyle as rapidly, comfortably and safely as possible.

In order to achieve this, we have assembled a large multidisciplinary team of anesthesiologists, pain management experts, skilled peri-operative and intra-operative orthopaedic nurses, physical therapists, physician assistants, nurse practitioners, office support staff and clinical care coordinators. All of these team members are focused on making your spine surgery a success. Working together we have combined our expertise to develop a spine surgery program with your safety and satisfaction as the number one priority.

The purpose of this guide is to provide you and your family with information regarding your medical condition and planned surgery. This information is part of your medical “Informed Consent”. Please read it and follow the advice carefully. You should retain the guide for future reference and bring it with you to office appointments and to the hospital for reference. Your active participation and willingness to recover is needed to make your surgery a success and to ensure the best possible outcome. It is therefore imperative that you read this entire booklet and carry it with you throughout the process. It will serve as your “playbook” and provide you with crucial information. Please share this booklet with those who are closest to you and who will be serving as your support system throughout your recovery. We highly recommend that you establish one point person who will serve as your “coach” through this process.

Above all, remember that you are never alone!

If there are any issues that you feel are necessary to discuss, please remember to call Keystone Spine and Pain Management at any time.

Dr. DelSole’s Team:

Mellisa Carroll – Administrative Assistant and Surgical Scheduler
Courtney Bates, CRNP – Spine Specialized Nurse Practitioner

Changes in Your Medical Status

We want you to be in your best possible health for your surgery. If you develop any new medical problems (e.g., sore throat, colds, fevers, infections, skin eruptions, dental issues, etc.) or any changes in your medical status, you must inform Dr. DeSole's team immediately by phone. If you have young children and are exposed to any viral illness like chicken pox within two weeks of surgery, you must also call the office.

Scheduled Pre-Operative Appointments

Please write down and review all appointments made for you. Do not change or cancel any appointments without consulting our office. If you need to change the time for any of your appointments, please call our office. We will do what we can to accommodate you.

If you show up more than one hour late for any of your pre-operative appointments, the appointment will be canceled and your surgery may also be canceled. You will have the following pre-operative appointments:

- Pre-Operative Bloodwork appointment will be scheduled after you schedule surgery.
- History and Physical – If you were seen by Dr. DeSole more than 30 days before your scheduled surgery, you will need to return to the office for a history and physical visit with a team member.
- Medical Clearance or Subspecialty Clearance – If necessary for your medical safety during surgery, you may have to attend pre-operative visits with your primary care physician or your subspecialty physician (for example, your cardiologist) to get their approval that it is safe to proceed with surgery. *If we do not have approval to proceed with your surgery 10 days prior to surgery, your surgery may need to be rescheduled to a later date.*

Understanding Adult Spinal Deformity Surgery: What to Expect

If you are considering surgery for adult spinal deformity—such as scoliosis or a condition that affects how your spine curves forward (sagittal imbalance)—it's important to understand what the surgery involves and what your journey may look like. These surgeries can be life-changing, especially for people with daily back and leg pain, difficulty standing upright, or problems with walking and balance. But they are also major procedures with important things to know before you take the next step.

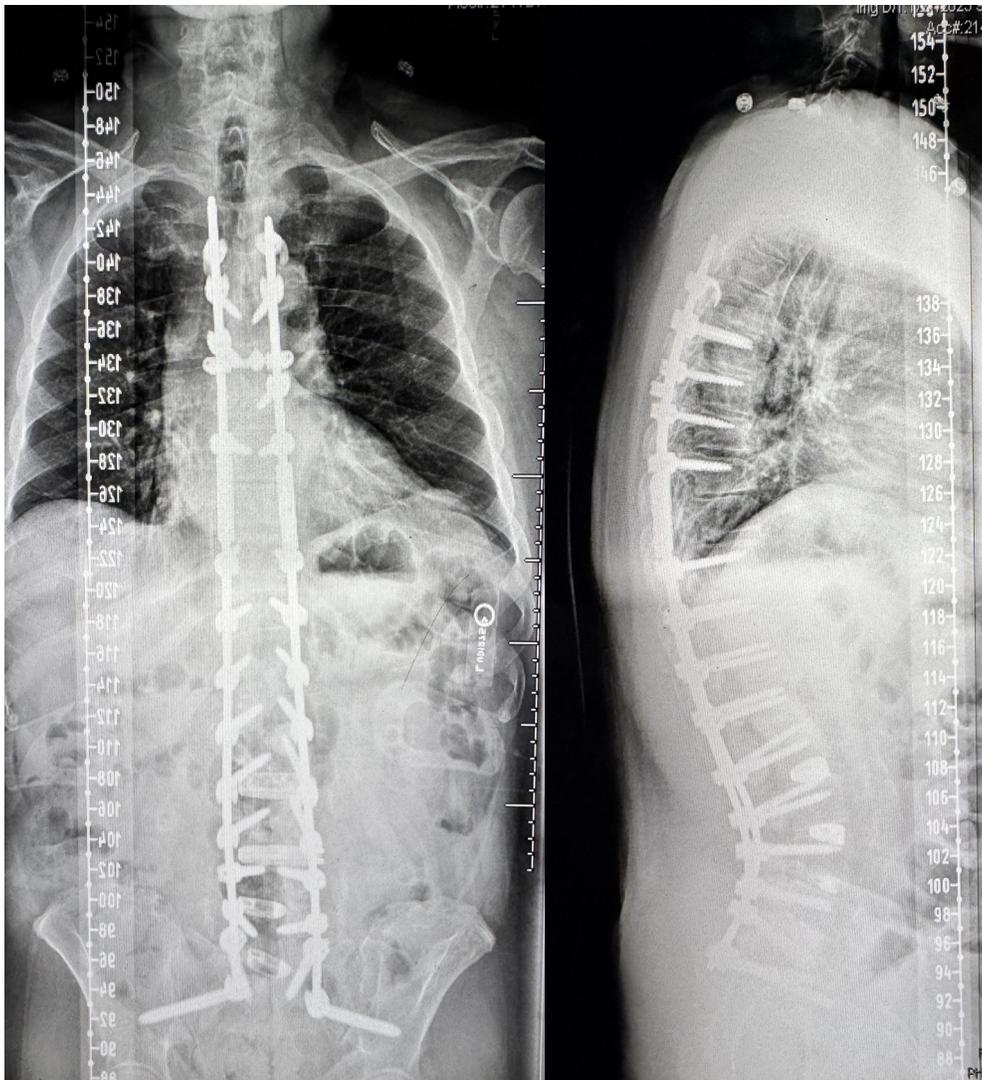
What Is Adult Spinal Deformity Surgery?

Adult spinal deformity surgery is done to straighten and support the spine, reduce pain, and help patients stand and move better. These surgeries often involve several levels of the spine and require precise planning and advanced techniques.

During surgery, **Dr. DelSole** will place **screws into the bones of your spine** to give strong anchor points. Then, **rods are connected to those screws**, which help to pull the spine into better alignment. Think of it like realigning the frame of a house to make it stable again.

To support the spine from the front, **Dr. DelSole** may use **interbody fusion devices**, which are small spacers placed between the vertebrae (spinal bones). These devices help restore the height between bones and allow the bones to fuse—or grow together—over time.

Sometimes, to correct a stiff or very crooked spine, **Dr. DelSole** may need to do **osteotomies**. This means carefully cutting or reshaping parts of the bone to allow the spine to move into a straighter, healthier position. This part of the surgery is carefully planned to improve alignment and balance.



In some cases Dr. DelSole will plan to do your operation in two stages. The first stage will be from the front of the spine, which is called an anterior or lateral approach. This is done through incisions on the

abdomen. Through this approach, disks are removed, the spine loosened up and realigned, and “cages” are placed where the disk used to be. This helps to decompress nerves and restore normal spinal alignment. When this is completed, Dr. DeSole will perform the second stage of the procedure through the incision on your back (this is when screws will be placed). Sometimes, Dr. DeSole will do this all in the same day. In some cases, it is advisable to perform these procedures on separate days.

Why Is This Surgery Done?

Many people with adult spinal deformity struggle with chronic back pain, nerve pain, or difficulty walking and standing. Over time, the spine can tilt forward or curve to the side, making it harder to stay active and independent. For some patients, physical therapy, injections, or medications may help for a while, but if symptoms continue or worsen, surgery can offer long-term relief. After surgery, many patients experience better posture, less pain, and improved ability to move and live independently.

What Are the Risks?

These are complex surgeries, and like any big operation, there are risks. These include bleeding, infection, problems with wound healing, injury to the nerves or spinal cord, and issues with the hardware (screws or rods) placed during surgery. Some patients may need another surgery in the future, especially if the spine continues to change or if hardware breaks or becomes loose. Medical problems like blood clots or pneumonia can also happen, especially in older patients or those with other health issues.

What Is Recovery Like?

Recovery from spinal deformity surgery takes time. Most patients stay in the hospital for several days, and many go to a rehab center afterward to work with physical therapists. It can take 3 to 6 months to get back to light activities, and up to a full year to feel the full benefits of surgery. During this time, you'll gradually build up strength and stamina. Some restrictions—like lifting limits or bending—will apply in the early months. Regular follow-up visits and imaging are important to check healing and monitor your progress.

A Journey Toward Better Function

While these surgeries are big, many patients are glad they made the choice. If you're struggling to stay upright, walk, or live your life the way you want to, this surgery may offer a real improvement in your daily function and comfort. It's not an easy journey, but with the right expectations, preparation, and support, it's one that can lead to a better quality of life.

Dr. DeSole and the care team will guide you through each step and make sure you have the information and support you need along the way.

Pre-operative Medical Optimization

It is of the utmost importance that your medical health is optimized prior to undergoing adult deformity

surgery. Your heart, lungs, kidneys, and all vital organs should be working as well as possible so that you can recover well from the procedure and minimize your risk of complications. We will consult with your medical team if needed to help with this. There are some specific aspects of your health that we will need to consider, including:

1. Bone Health

As we age, sometimes our bones become weaker due to natural changes that occur to our bodies. We call this *osteoporosis*. Having osteoporosis can increase your risk of complications from these operations. Therefore, in some cases we will have to test you for osteoporosis and, if that diagnosis is made, will obtain treatment for osteoporosis prior to undergoing surgery. In some cases, 6 months of medical treatment is required before surgery can be performed.

2. Smoking

If you are currently smoking, surgery will not be performed until you are nicotine-free and committed to remaining nicotine-free for 3 months after your operation. We will test your urine for nicotine prior to surgery. The reason we take this seriously is because smoking decreases your ability to heal after this operation. Failure to heal adequately will create the need for revision surgery, and certainly decrease your satisfaction with the results of surgery.

3. Nutrition Optimization

Nutrition is a complicated topic to address in a document like this, however it is critical for a good result that your nutrition and weight be optimized. Pre-operative laboratory studies will help us determine any added nutritional needs that should be addressed prior to surgery. For all patients undergoing scoliosis surgery, Dr. DeSole recommends utilizing a nutritional supplement in the perioperative period to maximize your strength and minimize post-operative muscle loss. Patients that carry excess weight may not be able to have surgery until weight loss occurs. In general, Body Mass Index (BMI) is used to ensure safe scoliosis surgery. While BMI is not a perfect tool, it is suggested that BMI be less than 35 prior to undergoing scoliosis surgery to ensure the procedure and recovery is as safe as possible.

Please discuss any nutritional supplements that you currently take with Dr. DeSole, as some should be discontinued prior to surgery.

Perioperative nutritional supplements are available from Keystone Spine and Pain Management and recommended to optimize your nutrition surrounding surgery. Please ask Dr. DeSole's team if you would like more information on this.

Post-Operative Care

After surgery you should expect to be in the hospital for approximately 5-7 days for medical observation, pain control, and physical therapy. It is expected that you will participate in therapy and be out of bed the day after surgery working to become mobile again. It will take time to feel strong enough and comfortable enough to move around with confidence, so **be patient with your body**.

In some most cases, patients are unable to go home right away after surgery. In these cases, the hospital social workers will help to place you in a rehabilitation unit where you will obtain more physical therapy prior to going home. The typical length of stay in “rehab” is approximately 14 days, sometimes longer.

What to Expect

After scoliosis surgery you should expect your spine to be stiff because it has been fused. This will change how you walk and the activities that you can perform. Remember, the goal of surgery is to decrease pain, prevent progression of deformity over time, and help you to stand and walk with less difficulty. The goal is not to return you to high-level sports such as golf or cycling. If there are specific questions about your own surgical goals, please speak with Dr. DelSole before having surgery.

You can expect to be in pain for several weeks after your surgery. Medication will be provided to help manage this. Pain medication should keep the pain at tolerable levels such that you can move about your home and complete physical therapy. Medications will not be able to eliminate all of your pain after surgery. If your pain is poorly controlled, our team will work to adjust your medications to improve it.

You can expect to be constipated after surgery. Dr. DelSole will recommend all patients to have a pre-surgical bowel prep with Miralax and to continue Miralax after surgery until bowel movements have resumed.

You can expect a 1- or 2-year total recovery time. During the first few weeks after surgery, the goal is to get you standing and walking. Your body will begin to return to normal functions over this time. Beginning week 3, physical therapy will be used to rehabilitate your spine.

You can expect life to be different after scoliosis surgery. In childhood, many scoliosis patients go back to doing the vast majority of activities they want to do – even high-level athletics. As adults, sometimes the activities we want to do are not compatible with a surgically corrected spine. These operations are good for patients who want to be able to stand, walk, and complete the typical activities of life with less pain and better function. They are not so good for patients who hope to return to competitive golf, mountain biking, scuba diving, etc. Having realistic expectations of life after scoliosis surgery is very important in order to be happy with your result and to prevent future complications.

What is Fusion?

Fusion refers to the process of *bone healing between the vertebral bones*. Dr. DelSole will take great care to create an environment in the spine in which the bones can heal to one another. This will prevent painful, abnormal motion in the spine and also ensure any corrected deformity maintains its correction. In order for bones to fuse, bone graft is applied. Cages are sometimes placed between the vertebral bones to achieve fusion. Dr. DelSole uses your own bone taken from your spine to do this, and this is usually mixed with bone from a bone bank or other growth factors to help fusion occur. This bone has been sterilized to prevent infections. In rare cases Dr. DelSole will take bone from your hip/pelvis in order to achieve a fusion. In those cases, Dr. DelSole will speak with you explicitly about this part of the operation.

How big is my incision?

Depending upon each patient's individual needs, you can expect an incision that is between 12 and 30 inches in length.

How Does Dr. DeSole Protect My Spinal Cord During Surgery?

Everyone worries about being paralyzed during spine surgery! To protect you, Dr. DeSole has a dedicated team in the operating room to monitor your nerves and spinal cord during the surgery to ensure that your nerves are safe and protected. Before your surgery, a team member will place small monitors on your head and arms and legs. Throughout the surgery, we will measure the conduction of your nervous system from your brain to the arms and legs to ensure that your nervous system is safe. There is another doctor who will monitor your nervous system during the surgery at all times and will alert Dr. DeSole if there are any problems. If there are any changes in our signals, we will take protective actions to try to prevent you from having a neurological injury.

How Long Does the Surgery Take?

These operations typically take 6-10 hours to complete and are often performed over two separate days in order to minimize your bleeding and total time under anesthesia.

How long do I stay in the hospital?

The length of stay in the hospital is patient specific depending on factors such as your health and your specific operation strategy. You can expect to be in the hospital 5-7 days and your recovery may require an inpatient rehabilitation stay prior to returning to your home.

Where Does the Bone Graft Come From?

In most cases, the bone comes from your own spine (bone taken during surgery), and is mixed with bone from an organ donor. Occasionally, in people who are at high risk for not healing we take bone graft from the hip/pelvis area.

How Much Motion Will I Lose?

This is a fusion procedure, therefore some motion loss should be expected. Scoliosis fusion surgeries create significant motion loss for patients. You can expect to need to relearn how to move and function with a stiffer spine.

Why should I participate in physical therapy after surgery?

Physical therapy is necessary in order to recover your strength and function after these operations. There is no scenario where you can recover adequately after your scoliosis surgery without physical therapy. If you feel that you cannot commit to a long recovery with physical therapy, then you should not pursue scoliosis surgery.

Will I need Inpatient Rehab after my Surgery?

In many cases the answer is yes. Please discuss this with Dr. DeSole at your appointments.

What can I do before surgery to control my pain after surgery?

Some patients needing spine surgery are on a course of narcotics for pain management. Patients taking these narcotics develop a known tolerance to the medication, meaning that potentially unsafe doses are required in order to get control of the pain. You can better your chances of having adequate pain control by slowly decreasing your narcotic pain medication over the weeks just before surgery. By decreasing your tolerance your body may respond better to postoperative pain medications such as these narcotics.

Will I Have To Wear A Brace?

Typically you will be provided with a *thoracolumbosacral orthosis (TLSO)* following the operation. This is to be worn when out of bed and moving during the first 6 weeks after your operation. Dr. DelSole will discuss this with you on in the office.

What Does Dr. DelSole Do to Reduce My Postoperative Pain?

Dr. DelSole is committed to making your surgery as painless as possible. Our team uses an advanced protocol to control your pain after surgery as much as possible. Advanced pain medications are given before your surgery even begins.

If needed, you will have access to Percocet, Roxicodone, or Vicodin. However, the narcotic medications can create constipation and urinary retention, so use them with care! Narcotics are very effective for pain relief *from surgical* pain but may cause other side effects. The possible effects vary among patients and may include: sleepiness, nausea, constipation, loss of appetite, flushing, sweating, and occasionally euphoria or confused feelings. If these occur notify your nurse.

If taken in high doses, these drugs can cause inhibition of breathing and death. For your protection, you will receive narcotic medication only when you request it and if deemed medically appropriate by your physician.

What If I Have More Numbness After Surgery?

After surgery you may experience pain in the region of the incision. You may also experience leg numbness. Initially it may be of greater intensity than pre-operatively, but this should subside over time as the healing process occurs. Please report any new sensations or numbness to Dr. DelSole. However, in most cases, the numbness occurs from nerve manipulation and will decrease with time.

Diet

Your diet will begin with clear liquids, and be advanced to your normal daily diet as soon as your condition permits. Your IV will be removed at the conclusion of your hospitalization.

Dr. DelSole believes that perioperative nutritional supplementation is important to have a successful recovery. Details on Dr. DelSole's specific nutritional protocol will be provided to you before surgery.

All patients experience a sore throat and swallowing difficulty after general anesthesia. This is from manipulation of tissue and the presence of the breathing tube for anesthesia. The sore throat usually will subside within a week. Using throat lozenges or lemon drops, sipping cool liquids, or sucking ice chips may soothe this pain. Try to eat soft foods such as eggs, peas, meatloaf.

You should eat soft food after surgery in small bites. Have plenty of fluids available while eating. Almost all patients have trouble swallowing immediately after surgery.

Bowel and Bladder Function

During surgery you will have a catheter (tube) in your bladder to monitor your urine output. Upon its removal you may feel a stinging sensation for 2 to 3 days, which is normal. Some patients may have difficulty urinating after surgery. If this occurs, notify your nurse who may assist you in voiding techniques. Rarely, this may require placing a catheter in your bladder. After surgery, constipation frequently occurs from inactivity and the side effects of pain medication. Dr. DeSole's recommendation is to buy Miralax at the pharmacy and take this once per day during the three days leading up to your surgery. After surgery, you should take Miralax three times per day until you are able to use the bathroom without constipation.

Respiratory Hygiene

Deep breathing is very important after surgery to maintain lung expansion and reduce the risk of pneumonia. You will be provided with an incentive spirometer and instructed about its use before surgery. This device should be used every 15 to 30 minutes during your waking hours initially, then every 1 to 2 hours as your activity returns to normal. This device is yours to take home. Continue to use it at home for at least 1 week after your discharge. (Use it during TV commercial breaks).

Smoking is absolutely forbidden. There is clear evidence that smoking dramatically increases your risk of post-operative complications. There is also evidence that smoking adversely affects bone healing and nerve recovery. Second hand smoke also applies. If you are actively using nicotine, you should not pursue scoliosis reconstruction.

Follow-Up Appointment

A follow-up appointment was made for Dr. DeSole's office 3 weeks from the date of surgery. At your first follow-up visit, you will be evaluated and the incision will be checked. You will then be seen at 8 weeks by telemedicine, 14 weeks in the office, 6 months, and 1 year or more after surgery.

Incision Care and Hygiene

Your dressing should remain in place for 7 days and then can be removed. If you are in a rehabilitation unit, it is advisable to keep the incision covered during your stay. You may shower on the 3rd day after surgery, but keep the incision dry. On day 7, the incision can get wet. Allow it to air dry. Do not soak your dressing or incision. **NO LOTIONS/OINTMENTS, BATHS, HOT TUBS, OR POOLS FOR 6 WEEKS AFTER SURGERY**, it will increase your risk of infection.

Collagen Dressings

In some cases, when insurance will approve it, we will ship collagen dressings to your home. There is evidence that these dressings can create an environment for optimal wound healing. Please note that if you are not approved for collagen dressings, Dr. DeSole is still confident that your wound will heal appropriately. Instructions for applying collagen dressings will be supplied to you, but in general, plan to apply the dressings once per day, beginning when you have received the dressings, and then the original surgical dressing has been removed.

Inflammation

Please take your temperature every afternoon for the first week after you are discharged from the hospital. Call your physician if:

1. Your temperature, taken by thermometer, is more than 101.5 degrees,
OR
2. Your incision becomes reddened, swollen or any increase or change in drainage occurs.

3. You develop difficulty with swallowing or talking that seems to be worse since you left the hospital.

Home Pain and Medication

Everyone has a different pain tolerance that will dictate the amount of pain medication required. A decreased dose and less frequent use of pain medication will occur during your recovery period. A gradual weaning of medications should begin as soon as possible, generally within 2 to 4 weeks. Conservative use of narcotic pain medication is advised. While using narcotic pain medication you SHOULD NOT drive. One should try non-narcotic medication, such as Tylenol and reserve narcotics for only the difficult times. Importantly, some of the narcotic medications can have Tylenol as a component (Tylenol may also be called acetaminophen or APAP), and it is important not to take more than 3,000 mg of Tylenol per day

Patients will be prescribed no more than 6 weeks of narcotic pain medications following surgery. Further narcotic requirements must be supplied by your pain management or primary care physician. The goal should be complete taper off of these medications.

Driving

The ability to resume driving depends on the patient. All patients refrain from driving for a minimum of two weeks after surgery. After this, the patient must be off all narcotic pain medications, and must feel comfortable quickly looking over the shoulder, applying the break and applying the gas. At 2-3 weeks after surgery if you are off of narcotic pain medication you may begin to drive. I recommend going out for a drive with a “spotter” in the passenger seat for the first few times out after surgery.

The First Week

- Early to bed, late to rise and frequent rest periods throughout the day. Get at least 8 hours of sleep each night. A disrupted sleep pattern is common after discharge from the hospital and will return to normal over time.
- You may not drive, but you may be driven, for short distances, using proper restraints such as shoulder and lap belts. At 2-3 weeks after surgery if you are off of narcotic pain medication you may begin to drive. I recommend going out for a drive with a “spotter” in the passenger seat for the first few times out after surgery.
- No lifting of more than 10 pounds
- May climb stairs with hand rail
- Avoid sitting for longer than 20 minutes at a time
- Begin a daily walking program with 1 to 2 blocks initially; schedule a daily time and increase distance daily.
- Eat a regular, balanced diet.
- Take medications as prescribed, using narcotics only as needed.

The Second Week

- Resume normal rising and retiring schedule
- Continue to wear your brace as instructed if applicable.
- You may not drive.
- No lifting of anything weighing more than 10 pounds.
- May climb stairs with hand rail
- Continue scheduled walking, increasing distance and frequency as able.
- May resume sexual relations when comfortable.
- Begin narcotic weaning as pain diminishes, relying mainly on non-narcotic medication

The Third Week

- Resume normal rising and retiring schedule, resting as needed.
- May resume light work around the home; lifting not to exceed 10 pounds.
- Continue scheduled walking.

The Fourth Week

- Resume normal rising and retiring schedule, resting as needed.
- May resume light work around the home; lifting not to exceed 10 pounds.
- Continue scheduled walking.
- Begin physical therapy and progress with activity and lifting under the supervision of your therapist.

Disability

The usual period of recovery for adult scoliosis surgery is 6-12 months, and complete healing may take 1-2 years. Some patients may return to work sooner than others depending on their job, response to surgery, and ability to perform other lighter tasks in the workplace. Physician approval is required prior to returning to work.

If your employer requires documentation of your work status, our office will provide the necessary information to your employer or other concerned parties. All disability matters may be handled by contacting our office.

Medication Management

There are certain general medications that you should continue taking throughout your surgical event. These include most cardiac, pulmonary, seizure, anxiety, thyroid, reflux, stomach, and antibiotic medications. Some specific examples are below.

You should continue your beta blockers. Examples of beta blockers include:

- | | |
|-------------|-------------|
| • Betapace | • Lopressor |
| • Blocadren | • Normodyne |
| • Bystolic | • Sectral |
| • Cartrol | • Tenoretic |
| • Coreg | • Tenormin |
| • Corgard | • Timolide |
| • Corzide | • Toprol |
| • Inderal | • Triandate |
| • Inderide | • Viskazide |
| • Kerlone | • Zebeta |
| • Levatol | • Ziac |

You should continue your cholesterol medications. Examples of cholesterol medications include:

- | | |
|------------|-------------|
| • Advicor | • Lipitor |
| • Altoprey | • Mevacor |
| • Caduet | • Pravachol |
| • Crestor | • Simcor |
| • Lescol | • Vytorin |
| • Lexcol | • Zocor |

You should continue medications for Attention Deficit Hyperactivity Disorder (ADHD). Examples of ADHD medications include:

- Metadate
- Methylin

You should continue certain anti-psychotic medications such as:

- Isocarboxazid
- Phenelzine
- Selegiline
- Tranylcypromine
- Rasagline

Stopping Medications Before Surgery

Please read the following information very carefully. Failure to follow these instructions may result in postponement of your procedure for your own safety.

(1) Blood Thinners

As soon as you schedule your surgical date, you must speak to your primary care physician or cardiologist about stopping any blood thinners that you may be taking. Your primary care physician or cardiologist may suggest an alternate timeline, or wish to switch you to a different blood thinner. This is especially important if you are taking a blood thinner because of a previous stroke or cancer. If possible, *all blood thinners should be held for 7 days following spine surgery to prevent excessive bleeding.*

Dr. DeSole suggests the following timeline to stop blood thinners before surgery. Please share this timeline with your other physicians.

- | | |
|---------------------------------|-----------|
| • Warfarin (Coumadin) | INR < 1.5 |
| • Eptifibatide (Integrilin) | 8 Hours |
| • Tirofiban (Aggrastat) | 8 Hours |
| • Enoxaparin (Lovenox) 40mg | 24 Hours |
| • Enoxaparin (Lovenox) 1.5mg/kg | 24 Hours |
| • Abxicimab (Reopro) | 48 Hours |
| • Apixaban (Eliquis) | 48 Hours |
| • Rivaroxaban (Xarelto) | 48 Hours |
| • Dabigatran (Pradaxa) | 7 Days |
| • Clopidogrel (Plavix) | 7 Days |
| • Prasugrel (Effient) | 7 Days |
| • Ticlopidine (Ticlid) | 14 Days |

You should also avoid the following medications that can affect a person's normal blood clotting process...

- Davron Compound
- Decagesic
- Fiorinal
- Measurin
- Meclomen
- Pepto Bismol
- Stilbestrol
- Vitamin E

- Zactirin
- Zomax

You should also avoid hormonal medications that can increase your risk of blood clots. Examples of those medications are the following...

- Female hormones
- Premarin
- Hormonal birth control (pills, ring, patch, injection)

(2) Herbal Medications

You should stop all herbal and alternative medications at least 10 days prior to surgery.

(3) Diuretics (“Water Pills”)

You should not take any diuretic medication on the morning of the surgery, unless you have a diagnosis of congestive heart failure (CHF). If you have been diagnosed with CHF, then please take your diuretic as prescribed the morning of surgery. Examples of diuretics are the following medications...

- | | |
|---------------|-----------------------|
| • Aldactazide | • Hydrochlorothiazide |
| • Aldactone | • Lasix |
| • Amiloride | • Lozol, Lozide |
| • Bumex | • Maxzide |
| • Demadex | • Moduretic |
| • Dyazide | • Thalitone |
| • Edecrin | • Triamterene |
| • Enduron | • Zaroxolyn |

(4) Blood Pressure Medications

You should not take any blood pressure medications on the morning of surgery. Examples of blood pressure medications are the following...

- | | |
|------------------------|-------------|
| • Lotensin | • Teveten |
| • Vasotec | • Avapro |
| • Monopril | • Cozaar |
| • Prinivil, Zestril | • Benicar |
| • Univas | • Micardis |
| • Aceon | • Diovan |
| • Accupril | • Avalide |
| • Altace | • Hyzaar |
| • Mavik | • Azor |
| • Vaseretic | • Tribenzor |
| • Prinizide, Zesoretic | • Twynsta |
| • Uniretic | • Exforge |
| • Accuretic | • Valturna |
| • Tarka | • Tekturna |
| • Edarbi | • Valturna |
| • Atacand | |

(5) Diabetes Medications

You should not take any diabetes medications the morning of surgery. There are also some diabetic medications that you should not take the night before surgery (marked with an *). Examples include...

- *Actoplus*
- Amaryl
- *Avandamet*
- Avandaryk
- Avandia
- Diabeta
- Diabinase
- Duetact
- Glucamide
- *Glucophage*
- Glucotrol
- *Glucovance*
- Glycron
- Glynase
- Glyset
- *Junamet*
- Junavia
- *Metaglip*
- Micronase
- Onglyza
- Orinase
- Oramide
- *Prandimet*
- Prandin
- Precose
- Ronase
- Starlix
- Tolinase

PLEASE NOTE: SGLT-2 Inhibitor Medications Must be stopped 4 days prior to surgery. These include:

- Jardiance (empagliflozin)
- Invokana (canagliflozin)
- Farxiga (dapagliflozin)
- Steglatro (ertugliflozin)

(6) Insulin

You must follow the exact recommendations of your primary care physician or endocrinologist regarding the use of insulin before your surgery. In the hospital, we will check your blood sugar and administer insulin to you.

(7) Other Medications:

There are some other medications that you might need to stop before surgery. Examples include:

- Hormones
- Vitamins
- Prostate medications
- Iron Supplements. If you do not currently take oral iron supplements, please do not start taking iron supplements before your surgery. This may differ from the recommendations that you are given by other healthcare providers. However, if you were already taking oral iron supplements prior to meeting Dr. DelSole, you may continue to take the same doses that you were already taking.
- Opiate Pain Medications. If you are already taking opiate pain medication, you must gradually cut your doses in half in the weeks leading up to your surgery. If you do not taper down your dose, it will be more difficult to control your post-operative pain.

(8) Biologics

If you are being treated for rheumatoid arthritis, psoriatic arthritis, lupus, ankylosing spondylitis, Crohn's disease, ulcerative colitis, or another inflammatory disease you may be taking biologic medications. These medications must be stopped in anticipation of surgery.

BIOLOGIC AGENTS: STOP these medications prior to surgery and schedule surgery at the end of the dosing cycle. RESUME medications at minimum 14 days after surgery in the absence of wound healing problems, surgical site infection, or systemic infection.	Dosing Interval	Schedule Surgery (relative to last biologic agent dose administered) during
Adalimumab (Humira)	Weekly or every 2 weeks	Week 2 or 3
Etanercept (Enbrel)	Weekly or twice weekly	Week 2
Golimumab (Simponi)	Every 4 weeks (SQ) or every 8 weeks (IV)	Week 5 Week 9
Infliximab (Remicade)	Every 4, 6, or 8 weeks	Week 5, 7, or 9
Abatacept (Orencia)	Monthly (IV) or weekly (SQ)	Week 5 Week 2
Certolizumab (Cimzia)	Every 2 or 4 weeks	Week 3 or 5
Rituximab (Rituxan)	2 doses 2 weeks apart every 4-6 months	Month 7
Tocilizumab (Actemra)	Every week (SQ) or every 4 weeks (IV)	Week 2 Week 5
Anakinra (Kineret)	Daily	Day 2
Secukinumab (Cosentyx)	Every 4 weeks	Week 5
Ustekinumab (Stelara)	Every 12 weeks	Week 13
Belimumab (Benlysta)	Every 4 weeks	Week 5
Tofacitinib (Xeljanz): STOP this medication 7 days prior to surgery.	Daily or twice daily	7 days after last dose

Goodman et al. 2017 ACR/AAHKS Guidelines, *Arthritis Care and Research*

(9) Aspirin

If you take aspirin every day, it may be important to stop your aspirin if possible before your spine surgery. Dr. DelSole's preference is:

- Aspirin 325mg daily – stop this medication 7 days prior to surgery
- Aspirin 81mg daily – if possible, this medication should be stopped 5 days before surgery

Exceptions to this rule would be only if your cardiologist says it is absolutely necessary to continue this medication through surgery. *This will have to be discussed in detail with Dr. DelSole as there will potentially be added risk if continued through the operation.*

(10) GLP-1 Agonists

This is a class of medications used to manage diabetes and can assist with weight loss. **These medications must be stopped 1 week prior to surgery. If you take these medications, it is important that you have only clear liquids for your diet beginning 24 hours prior to surgery.** If you take any of the medications listed in the chart below, please follow the instructions in the chart.

Brand Name	Generic Name	Stop Medication	Clear Liquid Diet Required
Trulicity	Dulaglutide	1 week prior to surgery	24 hours prior to surgery
Mounjaro	Tirzepatide	1 week prior to surgery	24 hours prior to surgery
Bydureon Bcise	Exenatide (ER)	1 week prior to surgery	24 hours prior to surgery
Ozempic	Semaglutide	1 week prior to surgery	24 hours prior to surgery
Wegovy	Semaglutide	1 week prior to surgery	24 hours prior to surgery
Byetta	Exenatide (IR)	Stop the day of surgery	24 hours prior to surgery
Saxenda	Liraglutide	Stop the day of surgery	24 hours prior to surgery
Adlyxin	Lixisenatide	Stop the day of surgery	24 hours prior to surgery
Rybelsus	Semaglutide	Stop the day of surgery	24 hours prior to surgery

(11) Anti-Inflammatory Medications

Please Stop Taking NSAIDs 1 Week Before Surgery

Before your surgery with Dr. DelSole, it's very important to stop taking any NSAID medications (non-steroidal anti-inflammatory drugs) at least **7 days before your surgery date.**

NSAIDs can increase your risk of bleeding during surgery. Stopping them ahead of time helps keep you safe during and after your procedure.

Common NSAIDs to Stop Taking Include:

- **Ibuprofen** (Advil®, Motrin®)
- **Naproxen** (Aleve®, Naprosyn®)
- **Meloxicam** (Mobic®)
- **Diclofenac** (Voltaren®)
- **Celecoxib** (Celebrex®)
- **Indomethacin** (Indocin®)
- **Ketorolac** (Toradol®)
- **Etodolac** (Lodine®)
- **Piroxicam** (Feldene®)

If you're not sure whether a medication you take is an NSAID, please ask your doctor or pharmacist. Also, let us know about **all** the medications and supplements you are taking.

Hydration Before Surgery

Please remember to adequately hydrate on the final days leading up to your surgery. We encourage the use of electrolyte drinks like Catalyte. It is recommended that you do not drink any alcohol whatsoever the week prior to your surgery.

The Final Days Before Surgery

You will receive a phone call before your surgery to tell you what time to arrive at the hospital. If you have not been called by 7:00 pm the business day before your procedure, please call our office.

Very Important: There are restrictions to what you can eat or drink before surgery:

- Clear Liquids = Stop 2 hours before surgery
- Light Meal (e.g. toast and clear liquids) = Stop 12 hours before surgery
- Fried foods, fatty foods, meats = Stop 12 hours before surgery

As a general rule, **do not eat after midnight the night before surgery**. You may have clear liquids (Water, Gatorade) up until 2 hours prior to your surgery.

Similarly, do not use any kind of tobacco product after midnight on the night before your surgery.

On the day of surgery, you do not need to bring any of our own medications to the hospital. The hospital has a list of your medications that you provide to us before surgery

You do not need to donate blood for the surgery. In scoliosis surgery, it is common to need a blood transfusion during or after surgery. Dr. DeSole will use a special device to recycle your own blood during surgery, but this does not guarantee you will not require a blood transfusion. If you are opposed to blood product transfusion for religious or other reasons you must discuss this with Dr. DeSole prior to your surgery.

Information About Anesthesia

The Department of Anesthesiology will help care for you when you have your surgery or procedure. At this time, Dr. DelSole performs all spine surgeries under general anesthesia. This means that you are completely asleep, and a breathing machine (ventilator) breathes for you. This is the standard of care for spine surgery across the globe. You can discuss this in detail with the anesthesiologist or Dr. DelSole at your office visit.

Good luck! We look forward to taking care of you and helping you get back to a normal life and routine. Please stop and ask questions along the way. The entire team is here for YOU!

Edward M. DelSole, MD

Patient Disclosure: Consulting Agreements with Orthopaedic Companies

Dear Patient:

As you prepare for your upcoming surgery, I want to provide you with some information regarding my consulting agreements with orthopaedic companies.

In my career I have been active in research and development of new implants, as well as improving surgical and biological techniques in spine surgery. As part of my work, I collaborate with orthopaedic companies and other national and international surgeons to provide consulting services on orthopaedic products as well as input on new product research and development. In addition, I conduct instructional lectures on implants and surgical techniques for other surgeons and medical personnel. In return for this time and expertise as a fellowship-trained spine surgeon, I receive consulting fees.

I regularly use products from several major orthopaedic companies such as Depuy/Synthes, Medacta International, Globus Medical, Nuvasive, Cerapedics, SI-BONE, Alevio Spine, and Medtronic. Currently, I am a clinical consultant for:

- Depuy/Synthes
- Medacta International
- Cerapedics
- Alevio Spine
- Foundation Surgical

I am also a shareholder of ROMTech, a rehabilitation company that provides in-home physical therapy services. I am also a shareholder and Clinical Advisory Board member of RevelAI, a healthcare-related artificial intelligence company.

I want to assure you that the selection of which product I use in your care is based solely on what I believe is best for you, not on which company makes the product. Furthermore, consulting agreements are specifically written and reviewed to remain independent of product selection and usage. In other words, I do not receive fees for using specific implants in your surgery.

I am certified by the American Board of Orthopaedic Surgery and am a fellow of the American Academy of Orthopaedic Surgeons (AAOS). Both groups hold their members to extremely high ethical standards to protect the trust that patients place in their surgeons. Furthermore, the AAOS has adopted Standards of Professionalism that require its orthopaedic surgeon members to identify and disclose all consulting agreements to their patients, the public, and colleagues. These standards also clearly articulate how and under what circumstances AAOS members may work with and be compensated by orthopaedic companies.

You can learn more about these standards of professionalism at the AAOS website:
<http://www.aaos.org/member/profcomp/SOPConflictsIndustry.pdf>

It is important to me that you are aware of my consultation with orthopaedic companies. I put the interests of my patients first, and am available to answer any questions that you may have.

Sincerely,

A handwritten signature in blue ink, appearing to read 'E. DeSole', with a stylized flourish at the end.

Edward M. DeSole, MD, FAAOS

Reading Hospital | Surgical Institute of Reading

Keystone Spine and Pain Management

2607 Keiser Blvd., Unit 200

Wyomissing, PA 19610

Phone: (484) 509-0840