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# THE COMPLETE SCOLIOSIS SURGERY HANDBOOK FOR PATIENTS

An In-Depth and Unbiased Look Into What to Expect Before and During Scoliosis Surgery

**DR. KEVIN LAU**

Author of

"Your Plan for Natural Scoliosis Prevention and Treatment"

# **The Complete Scoliosis Surgery Handbook for Patients**

An In-Depth and Unbiased Look Into What to Expect Before  
and During Scoliosis Surgery

**By Dr. Kevin Lau D.C.**  
**Foreword by Dr. Siddhant Kapoor M.D..**

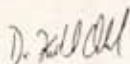


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## Handbook for Patients

# The Complete Scoliosis Surgery

### About the Author

A graduate of RMIT University in Melbourne, Australia and Clayton College in Alabama, America, Dr. Kevin Lau D.C., combines university education with a lifetime of practicing natural and preventive medicine. His immensely successful holistic approach for treating scoliosis attempts to free your mind, body as well as the spirit from all the remnants of the disease.



Watch out for the most amazing array of books, journals, tools and devices to aid you on the road to recovery from scoliosis. Dr. Kevin Lau brings to you never-before, information-rich volumes and books on scoliosis, presented in an extremely reader-friendly manner. Look for some of the best natural forms of treatment in the Amazon bestseller 'Your Plan for Natural Scoliosis Prevention and Treatment'. Acting as a perfect accompaniment to this, 'Your Natural Scoliosis Treatment Journal' is just the companion you need on the path to treatment. To guide your way through the world of parenthood, Dr. Lau also brings to you 'An Essential Guide for Scoliosis and a Healthy Pregnancy', a path-breaking and pioneering compilation of practical knowledge on how to handle conception and pregnancy in scoliosis.

Being a man of the contemporary, Dr. Kevin Lau also perfectly combines technology with healthcare practices. The Scoliosis Exercises DVD is the most comprehensive compilation of correction exercises you could ever look for. Also try the innovative ScolioTrack, the top ranking iTunes for Medical Apps and Scoliometer, the state of the art of app that can help you keep track of your deformity and monitor your progress.

After counseling hundreds of patients diagnosed with scoliosis and a host of other diseases, Dr. Lau discovered ground-breaking research that established, beyond a doubt, the clear merits of non-surgical treatment of scoliosis.

A firm believer in the ideology that health and sickness are within our control, Dr. Lau's main grounding has come from his own life experiences. His patients hail from all walks of life and have ranged in age from young children to ninety-year-olds. Dr. Lau was honored with the "Best Healthcare Provider Award" from the major newspaper publication in Singapore, Straits Time Newspaper.

Over the course of his career and based on his experiences, Dr. Lau has gained special expertise in treating patients with scoliosis, diabetes, depression, osteoarthritis, high blood pressure/hypertension, heart conditions, chronic neck and low back pain, and chronic tiredness, as well as several other "modern diseases".

Dr. Lau knows that the best medicine in the world comes straight from nature and it cannot be produced and mass marketed from a lab.

### **Dr. Kevin Lau's Mission Statement**

The true cure for scoliosis lies in the eradication of its root cause. I, hereby reinforce my commitment to the research to unravel the factors that cause scoliosis. The current research is limited to the analysis of bracing and surgical techniques which only treat the symptoms and impact of the disorder. The research to identify and treat the core cause of scoliosis still offers a vast scope.

Towards this end, I promise to dedicate a portion of proceeds of my books to the research focused on understanding the root cause of scoliosis, which will help us protect our future generations from this widespread spinal deformity. .

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# Foreword

The human race is at its perplexing and unnerving best today. The scramble for the zenith was never that intense as it is now. With the mechanism as God has gifted, modern medicine and science continues to endeavor its way through the world of research, discoveries and amazing inventions. To be a befitting part of this scenario, contribute to it effectively and gain from it as desired, it is imperative for the mind and body to be in perfect form. Disease and infirmities are an integral part of our lifestyle, especially owing to the inadvertent, unhealthy constituents and boons of modern life.

When it comes to the impact of our occupational and lifestyle hazards on our existence, it is our body, the physical and biological mechanism created by God that perhaps takes the maximum impact.

And form thereon comes the disastrous toll on the component that literally holds up our body straight. Recent research showed that back problems including scoliosis are fast becoming the most oft-reported reason for fatal illnesses in the US.

*The Complete Scoliosis Surgery Handbook for Patients* is an effort to understand the mechanics of the human spine in a crystal clear fashion. It is a comprehensive volume on scoliosis, one of the most common deformities of the spine. The distortion and disruption caused by the deformity is discussed threadbare along with other related dimensions. The author has laid out all the essential aspects of the deformity in a step-wise method for the reader to understand and correlate with their own lives. From why does the curve happen in the first place, to assessing its severity, analyzing the modes of treatment and finally to the specifics of the spinal corrective surgery, the publication covers it all.

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*Orthopaedic Surgeon*

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# Aknowledgement

*An ode to all my loved ones, my dear friends and above all for my wonderful patients, who've always had an unflinching support and faith in my work, advice and counsel.*

*'The Complete Scoliosis Handbook Surgery for Patients' is dedicated to all my associates who've helped me evolved my own unique theory of the workings of the human spine, its deformities and the treatments.*



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## CHAPTER 7

# March of the Curve

Once your curve has been measured and classified, you will be just one step away from knowing the exact form of treatment you need for your scoliosis. In this chapter, we will examine the factors that will be considered by your doctor in estimating how far your curvature is likely to progress. We will also discuss the eventual risk factors of having progressive scoliotic curves.

### About Curve Progression

Appropriate knowledge of how much your curve is likely to progress is essential, since the curve is likely to progress at a rapid rate until the point when full skeletal maturity is reached at adolescence. Collective research over decades demonstrates that the way a scoliotic curve progresses is strongly correlated to factors like magnitude and pattern of the curve, the patient's age, the Risser sign and, in females, the stage of menarche.

So, when do you say that your curve of scoliosis has progressed? Experts define progression as an increase of 5 degrees or more in the Cobb angle. Here, let us begin by understanding a bit in detail about curve progression.

## **Important to know**

When trying to understand what scoliosis is all about, there is a very thin line between the causes of the curve and the factors responsible for curve progression. While the former talks about the reasons why an individual will develop a curve, the latter talks about the factors that are responsible for any further progression of the curve.

Being screened and diagnosed with scoliosis is merely the first step towards treatment. Before your doctor can begin any forms of treatment, he needs to know exactly how far your curve is likely to deteriorate. Towards the end of this diagnostic period, your doctor will use certain indicators which will give him an estimate of how much your curve is likely to aggravate. Extensive research shows that the factors which define the risk of progression most accurately are the growth potential and the magnitude of the curve, though other factors do exist .

While this estimate is merely an approximate one and cannot predict progression to the fullest accuracy, it gives a tentative view of how the curve might behave in the near future. In the following sections, we will tell you about the 4 main indicators or predictors used by doctors to identify the future of the curve.

## **Factors – the correlation**

Each of the factors we will be discussing is both a factor independently and also in correlation. For instance, though age is a crucial factor indicating whether the curve will progress further, progression will also depend on whether you are male or female and what is the current measurement of your curve. Hence, each of the factors matter individually as well as have a combined impact on deciding how much further the curve will progress.

## **Curve Progression – The 4 Most important factors**

Read on for a detailed explanation and insight into the four main factors or indicators that point towards the possible scope of curve progression.

## The Curve – Location and Severity

Research clearly points towards the fact that the initial Cobb angle magnitude is one of the most important indicators in the long-term progression of the curve. The Cobb angle measurement also indicates whether the curve is likely to progress beyond skeletal maturity. There is ample research to show that a Cobb angle of 25° is an important threshold magnitude for long-term curve progression. Hence, an individual detected with scoliosis of greater than 25° is much more likely to experience further progression. In fact, here the factors such as age, gender or skeletal maturity at the time of curve measurement might be less important than the Cobb angle reading.

Let's look at a few important facts here.

### Degree/Extent of curve

- If the curve is less than 30 degrees at the age of skeletal maturity, it is not likely to progress much.
- If the curve is between 30 to 50 degrees, it is likely to progress at a rate of 10 to 15 degrees across the entire lifespan.
- If the curve is more than 50 degrees at the age of skeletal maturity, it is likely to progress at a rate of more than 1 degree every year.
- Curves at 25 to 30 during years of adolescence (13 and 19 years old) are likely to experience rapid progression with further growth.

### Location of curve

- Thoracic curves are likely to progress more than thoracolumbar or lumbar curves.
- Thoracic curves that are less than 50 degrees at detection are likely to progress at a slower rate than those greater than 50 degrees.
- A curve with an apex above the T12 vertebrae is likely to progress much more than isolated lumbar curves.

- Lumbar curves of more than 30 degrees at skeletal maturity will progress much more than the curves of a lesser degree
- Double curve patterns are more likely to progress than single curve patterns.

## **Age at the time of diagnosis – Impending skeletal growth**

The rule of thumb with scoliosis says the higher the age of the child, the less tendency there is for the curve to progress. For instance, if we compare two young girls (one age 13 years and one older than 15 years) diagnosed with a curve of less than 19 degrees; the curve is likely to progress at a whopping rate of 10% for the younger child, and only at 4% for the elder one.

When an adolescent is diagnosed with scoliosis, the risk of progression remains high if there is a major growth potential still left. There are various research reports which suggest that the rapid skeletal growth during adolescence is one of the major factors that influences the progression of a scoliotic curve.

Spinal column is expected to grow with age, and continue growing till skeletal maturity is fully achieved. Hence, the correlation between age and skeletal maturity is a strong one.

Let us understand the key underlying logic here. The rate at which the curve of a youngster might progress is dependent on the stage of skeletal maturity, which means an adolescent or a youngster who is still skeletally immature is likely to face a higher rate of curve progression than an individual who has already reached skeletal maturity.

## **What is skeletal maturity?**

Skeletal maturity is the term we give to the process of growth in an individual's bone structure or the skeletal system. A person is said to have reached the point of skeletal maturity when his vertebral growth reaches the peak of expected progress. Since the pace of growth and development in human beings is never uniform and always has episodes of acceleration and deceleration, evaluation

## Angled Wall Stretch

This particular exercise is meant to lengthen your spine and open your shoulders to create balance amongst the muscles of your upper back. Follow the below steps for the angled wall stretch:

1. Stand a few feet from a wall.
2. Keep your feet at hip-distance from each other.
3. Lean forward and place your hands on the wall, shoulder distance apart.
4. The end result should be a right angle between your torso and legs, while your hands will be pressed against the wall, right at the level of your hips.
5. With feet firmly on the ground, push into the wall with your hands.
6. Repeat 5- 6 times per session



## Hamstring stretch

Since tight hamstrings can contribute to poor posture, this exercise can prove quite useful. Follow the steps below.

1. Lie down on your back on an exercise mat.
2. Take a resistance band or towel and loop it around the band of your right foot, holding the ends of the strap in your hands.
3. Keep your left leg flat and gently extend your right leg upwards, over your head.
4. When you feel the tightness in your hamstring, pause for a second and then deepen the stretch a bit more.
5. Repeat with the other leg.





## CHAPTER 17

# In the Operation Theatre

**P** psychological mindsets have always played a major role in the world of medicine. Getting the patient and even the support staff into the right frame of mind has always been critical to the success of any medical procedure, especially the more sophisticated ones like spinal fusion for scoliosis curve correction. For you as a patient, it is important to know what is in store as you approach the operation theatre for the final moment. In this chapter, we will give you a complete view of what will happen from once you are wheeled into the operation theatre, right to the point when the surgery actually begins.

### **Knowledge is power!**

Indeed, rightly said! To be informed is truly to be empowered. When it comes to personal health, and more importantly, personal safety, you are probably never able to trust anyone but yourself. Going in for a surgery as massive as the one for scoliotic curve correction requires you to be aware, informed and duly educated about what you are headed for.

In the previous chapters, you read all about the various risks involved with your surgery, the different surgical methods used, details of financial preparations and so on. In the sections that follow, we will explain all about what exactly happens when you reach the

operation theatre, going up to the point when your surgery actually starts. Here, we will explain the entire scenario in three different steps, which include:

1. Pre-operative routines
2. Get wheeled in – Your trip to the Operation Theatre (OT) after all the initial formalities and checks have been carried out.
3. Get settled, monitored and sedated – The way you will be physically placed on the operating table depends on the surgical approach that will be used. Various devices and monitoring tools will be attached in order to spot any potential risks. Eventually, you will be sedated for the purpose of surgery.

Read on for a detailed explanation of each one of these steps.

## **I. Pre-operative routines**

Foremost, as we discussed in the earlier chapters, by now you would have already gone through the major pre-operative assessments and examinations. These are done in order to ensure that you are medically fit for such a surgery. These checks will usually include the following:

- X-rays, to help plan the surgical approach
- An Electrocardiograph (ECG), to ensure that your heart is working in a normal manner
- Lung function tests to ensure normal breathing patterns
- Medical photography, for record purposes, so that pictures of before and after the surgery can be maintained
- Blood tests to rule out any infections or other complications

Each of these procedures/tests will be usually performed a few days prior to your surgery as a part of the formal pre-operative assessment. Once done, you will then be assigned a specific date for your operation. While some hospitals will require you to be admitted on the same day, some of them would want you to get admitted a night before to ensure proper screening and preparation.

Once you are admitted and all the routine formalities are over, you will be handed over a set of instructions for the next few hours.

Briefly before you are wheeled into the OT, the medical staff will undertake the following steps:

- Take details of your weight and height
- Take your body temperature, heart rate, breathing rate and blood pressure
- Ask about the last food and beverages consumed
- Give you an identity band which you are likely to wear around your wrist
- Fill out a few important forms, like the consent form
- Take some blood for autologous blood donation, if decided earlier (refer to chapter 13 for details)

Just before you are taken in, you will be given a set of clothes to wear which will usually be a gown, knickers and a cap. You will then be wheeled into the operation theatre for the next procedure to start.

## **2. Get wheeled in**

Once into the operating theatre, you will face a different scenario altogether. You will suddenly witness an army of complicated machinery, wires and tools all over with men and women garbed in green. It often serves best to keep yourself focused and try staying calm, even if it means practicing a few relaxation techniques. Some of the professionals preparing for the procedure in the OT will include:

- Chief surgeon
- Anesthetists
- Nursing staff
- Technicians
- Other specialists

## **The Anesthetist**

At this stage, you will also have an important conversation with the chief anesthetist. He is the professional who will be responsible for getting you under sedation for the surgery and ensuring that you stay as sedated as is required to ensure intra-operative monitoring, like spinal cord monitoring. This is important to ensure that no damage is taking place to the spinal cord or other functions of the body

during the surgery. Refer to Chapter 10 on risks and complications to know more about such tests.

Your anaesthetist will ask you some important questions regarding your previous medical history and whether there are any allergies you suffer from. This is in order to ensure that your body complies with the important drugs which he is going to use for the purpose of sedation.

### **Keeping your wits in control...**

There are quite a few surgeons who advise their patients to take a professional's help in case they are too stressed out about their operation. After all, your psychological state plays a very crucial role in the success of our surgery. All the paraphernalia of wires and instruments in the OT can be intimidating even for the calmest patient. It helps to consciously keep your composure and try not to get fidgety as you approach the final stage of the procedure.

### **3. Get settled, monitored and sedated**

At this stage, once you are in the OT, your doctor will start preparing to place you suitably on the operating table. The position and precautions that will be taken depend on the method or approach of the surgery decided, such as posterior, anterior, combined approach or even the VATS approach. You can read more about these methods in chapter 15 on 'Types of Surgery'.

### **Padding and Positioning**

Accordingly, you will be placed on the operating table and adequate padding and positioning would be done. For instance, if you've been set up for spinal fusion through the posterior approach (from the back), you will be then placed in padded frame, with your

# An In-Depth and Unbiased Look Into What to Expect Before and During Scoliosis Surgery

Scoliosis surgery doesn't have to be a daunting, problematic and anxiety-ridden experience. In fact, with the proper information, advice and knowledge you can have the ability to make confident and informed decisions about the best and most suitable treatment options. Dr. Kevin Lau's latest book will help you to discover current and crucial information that will guide you in making informed decisions about your future spinal health.

## You will discover:

- 7 Questions To Ask Yourself – The truth is that while surgery is suitable to some patients, it isn't necessarily right for all. Consider these seven simple questions to help you determine if surgery is your best option.
- Different Types of Scoliosis Surgery – Including understanding components of the surgery itself such as why the rods put inside in your body during surgery (fusion) are meant to remain there.
- Real Life Stories – Learn from real case studies, the successes and hardships surgery patients encounter on the road to a normal, healthy life.
- How to Evaluate the Risks associated with the many types of scoliosis surgery.
- Practical Tips On - How to afford your surgery and how to choose the best time, place and surgeon for your needs.

Dr. Kevin Lau has made it his life's work to explore, investigate and share the truths about scoliosis. In *The Complete Scoliosis Surgery Handbook for Patients*, Dr. Lau explores the ins and outs of the scoliosis including the condition itself, surgery, and when a patient would benefit most from surgery. Dr. Lau reveals poignant and life-changing wisdom that no scoliosis sufferer should go without. Treat this book as your best friend and your guide on the journey to effective spinal health. This book is a compilation of the wisdom of many spinal professionals, including surgery physicians, orthopedic doctors, physiotherapists and chiropractors and includes valuable insights from real-life sufferers. Carefully examining each treatment avenue a patient may consider, it allows individuals to feel confident and informed throughout the decision making process.

While Dr. Lau believes in and teaches non-surgical practices, he acknowledges the many benefits of scoliosis surgery and strives to keep his readers and patients educated about every viable avenue for effective scoliosis treatment. Making an informed decision is the best way to ensure any success, and mental preparation is at least as important as the surgery itself. Knowing what to expect and how to mitigate the loss of money, time and effort will help you build a stable emotional foundation, minimizing fear, anxiety and surprises along the way. We all feel better knowing what to expect and this book will help you feel prepared, knowledgeable and in control.



### About the Author

In 2005, Dr. Lau was the first in Singapore to provide a non-surgical treatment for scoliosis. Since then he has educated patients from all over the world with his best-selling book *"Natural Scoliosis Prevention and Treatment: Health In Your Hands"*.

Recipient of the Best Health-Care Provider Award by the Straits Time, the leading newspaper publication in Singapore. He was also featured on Prime Time Channel News Asia and continues to attract media attention for his upcoming works.