

# **Exercises for Injuries**

## **- Scoliosis -**

### **In This Issue of the Exercises for Injuries Report**

- Exercise Considerations for the Scoliosis Client
- Resources for Scoliosis
- Exercise Professional Interview with Ryan Ketchum
- Client Interview with Simone Icough
- Healthcare Professional Interview with Dr Will Kalla

### **Exercise Considerations for Scoliosis Clients**

Scoliosis is a disorder defined as an abnormal lateral curvature of the spine greater than 10° from the normal vertical spine. The fitness and rehabilitation professional will occasionally encounter scoliosis client in practice and should be able to design safe and effective exercise programs for these patients. This article provides a brief overview of scoliosis and offers recommendations for exercise programming in this patient population.

#### **Causes**

Scoliosis with an unknown cause is termed idiopathic scoliosis and represents 90% of observed cases in North America [1]. Congenital vertebral abnormalities are present from birth and represent 5-7% of scoliosis cases. Other less common causes of scoliosis include secondary scoliosis caused other conditions such as physical trauma and neuromuscular scoliosis, which is caused by muscle weakness or atrophy, or paralysis caused by diseases such as cerebral palsy, muscular dystrophy, spina bifida, and polio.

#### **Prevalence, Prevention, and Risk Factors**

Scoliosis prevalence is 42 cases per 1,000 population [2]. Scoliosis can not be prevented because the cause of most cases is unknown. Non-modifiable risk factors for idiopathic scoliosis include a family history of scoliosis (10-fold risk) and female gender (4-fold risk). Idiopathic scoliosis is most-commonly diagnosed in children aged 10 to 14 years and progresses until the end of adolescence.

## Symptoms

Scoliosis clients are usually free from physical symptoms, although there are numerous visual signs of this disorder. A visible side-to-side difference in hip or shoulder height may be apparent. The patient's head may appear to be off-center. The patient may also lean to one side and walk with an unstable gait. Severe cases of scoliosis can result in breathing difficulty due to the inability to fully expand the compressed ribcage during inhalation.

## Diagnosis

Scoliosis is initially diagnosed by medical history and a physical examination by a certified medical professional. The Adam's Forward Bending Test is frequently performed to visually inspect the patient's trunk and spine for abnormalities. Definitive diagnosis of scoliosis is made by taking standing x-rays of the spine. The gold standard diagnostic test for scoliosis is measurement of Cobb's angle from an anterior-posterior radiograph of the spine. A Cobb's angle of less than 10° is normal whereas an angle of 10° or greater is defined as scoliosis.

## Treatment

There are three main types of scoliosis treatment, which correspond to the severity of the disorder. Mild scoliosis (Cobb's angle = 10-25°) is typically left untreated and represents 90% of scoliosis cases. However, physical examinations and x-rays are regularly performed to monitor for progression of spinal curvature over time. Bracing is recommended only in patients with a Cobb's angle of 25-40° and with bone growth remaining. The brace serves to slow or prevent the spinal curvature from worsening. Surgery is reserved for patients with a Cobb's angle > 45° and who are at high-risk for scoliosis progression, have severe chronic pain, or present with compromised respiration from severe spinal deformation (typical Cobb's angle > 100°).

## Benefits of Exercise in Scoliosis Client

Scoliosis patients have lower aerobic capacity, less muscle strength, and limited muscular flexibility compared to healthy patients. However, these limitations are attributed to general deconditioning with no limitation caused by scoliosis itself [3]. Therefore, scoliosis patients should be encouraged to engage in regular physical activity in order to improve general fitness and reduce chronic disease risk from a sedentary lifestyle. Exercise training may also alleviate back pain, although these benefits are not limited only to scoliosis patients.

### **Exercise Programming for Scoliosis Client**

The fitness and rehabilitation professional who works with a scoliosis patient should initially take a complete medical history, exercise history, and request a physician recommendation regarding potential exercise limitations. If no contraindications to exercise are identified at the initial screening, the exercise prescription may then be developed. Scoliosis patients, regardless of the severity, should adhere to the same exercise recommendations as healthy adults. This includes aerobic exercise at 40-85% of heart rate reserve, 3-5 times per week, for 20-60 minutes per session. Exercise intensity, frequency, and duration should be prescribed conservatively if significant deconditioning is present. Scoliosis patients may also perform general muscular strength and flexibility training similarly to healthy patients. Specific exercises focused on stretching the low back, hip flexors, and hamstrings, and strengthening the low back and abdominals may alleviate symptoms in patients with chronic low back pain.

### **Contraindicated Exercises in Scoliosis Client**

No absolute contraindications to exercise training exist in scoliosis patients [4]. However, several considerations should be kept in mind in this patient population. Patients with moderate scoliosis who wear a corrective brace during exercise have a reduced aerobic capacity [5, 6] and limited torso flexibility. Patients with severe scoliosis who have undergone spinal fusion surgery should avoid exercises that induce intense rotation of the vertebral bodies or exert high downward pressure through the vertebral column such as with squats.

Exercises with the goal of correcting the spinal angle, such as asymmetrical strengthening and stretching of the paraspinal muscles, should be avoided. The Scoliosis Research Society has stated that chiropractic medicine, physical therapy, and yoga have demonstrated no scientific value in scoliosis treatment and should not be used to improve spinal curvature. However, the Society did state that these alternative treatments may provide physical benefits such as core strengthening and symptom relief [7]. Therefore, the fitness professional may be subject to litigation if an exercise regimen designed to correct spinal angle results in patient injury.

### **Conclusions**

In summary, scoliosis is an uncommon disorder with an unknown etiology in most cases. Scoliosis patients should be encouraged to participate in a regular exercise program. Scoliosis patients have lower exercise participation rates than healthy controls [8] and sedentary lifestyle explains most of the deconditioning observed in these patients [3]. Scoliosis in itself is not a contraindication to exercise training and no formal exercise guidelines exist specific to this patient population. Exercise will not correct spinal angle in scoliosis patients, but will

improve overall fitness and may reduce chronic back pain. The fitness and rehabilitation professional should always mandate that a physician referral is provided before the patient begins a structured exercise regimen.

## References

1. Weinstein SL: Adolescent idiopathic scoliosis: Prevalence and natural history. In: *The pediatric spine: Principle and practice*. Edited by Weinstein SL, vol. 1. New York: Lippincott Williams & Wilkins; 1994: 463-478.
2. Morais T, Bernier M, Turcotte F: Age-and sex-specific prevalence of scoliosis and the value of school screening programs. *Am J Public Health* 1985, 75(12):1377-1380.
3. Kesten S, Garfinkel SK, Wright T, Rebuck AS: Impaired exercise capacity in adults with moderate scoliosis. *Chest* 1991, 99(3):663-666.
4. Durstine JL, Moore GE: ACSM's Exercise Management for Persons With Chronic Diseases and Disabilities, 2nd edn. Philadelphia: Lippincott Williams & Wilkins; 2002.
5. Margonato V, Fronte F, Rainero G, Merati G, Veicsteinas A: Effects of short term cast wearing on respiratory and cardiac responses to submaximal and maximal exercise in adolescents with idiopathic scoliosis. *Eura Medicophys* 2005, 41(2):135-140.
6. Bayar B, Uygur F, Bayar K, Bek N, Yakut Y: The short -term effects of an exercise programme as an adjunct to an orthosis in neuromuscular scoliosis. *Prosthet Orthot Int* 2004, 28(3):273-277.
7. Adolescent Idiopathic Scoliosis Treatment [<http://www.srs.org/professionals/education/adolescent/idiopathic/treatment.php>], 2009
8. Lenke LG, White DK, Kemp JS, Bridwell KH, Blanke KM, Engsberg JR: Evaluation of ventilatory efficiency during exercise in patients with idiopathic scoliosis undergoing spinal fusion. *Spine* 2002, 27(18):2041-2045.

## **Resources for Scoliosis**

### **Scoliosis Research Society**

The Scoliosis Research Society (SRS) has gained recognition as one of the world's premier spine societies. The SRS has maintained a commitment to research and education in the field of spinal deformities. Strict membership criteria ensure that the individual Fellows support that commitment. Current membership includes over 1,000 of the world's leading spine surgeons, researchers, physician assistants and orthotists who are involved in research and treatment of spinal deformities.

<http://www.srs.org>

### **Scoliosis Association UK**

The Scoliosis Association (UK) is the only independent support group for scoliosis in the UK. There is no cure for scoliosis, only corrective treatment for the twisting and curving spine. SAUK aims to provide information about scoliosis, eliminate fear and stigma, and offer contacts for shared experiences.

<http://www.sauk.org.uk/>

### **Scoliosis Care Foundation**

The Scoliosis Care Foundation is a national non-profit organization founded to engage in scientific research into scoliosis, conduct educational activities to train healthcare professionals on scoliosis and increase public awareness about early detection of scoliosis.

<http://www.scoliosiscare.org/>

### **Scoliosis Nutty**

Scoliosis group welcomes discussion on everything Scoliosis related. It aims to bring Scoliosis patients closer together, share life stories and lean on members for support while you live with Scoliosis.

<http://www.scoliosisnutty.com/>

## **Exercise Professional Interview with Ryan Ketchum**

### ***Ryan Ketchum***

*Ryan Ketchum is the owner and fitness/strength coach at Be Force, fitness and performance. He has been involved in fitness and athletics all of his life. He earned BSc from Indiana University (Kinesiology) with an emphasis as a Fitness Specialist. For more information on Ryan visit [beforefit.com](http://beforefit.com) [BloomingtonBootcamp.com](http://BloomingtonBootcamp.com).*

**Rick Kaselj:** Hello, exercise and injury listeners! This is Rick Kaselj with another interview with an exercise professional providing us with his experience when it comes to working with clients with injuries or chronic conditions and special populations. So today, I have Ryan Ketchum. He's going to talk to us about scoliosis. His experience with exercise and designing exercise programs for the clients with scoliosis. He is going to giving us some tips to remember, when designing the program for the scoliosis client and a couple of things not to do. So, Ryan, I'll get you to introduce yourself to the exercises for injuries listeners.

**Ryan Ketchum:** Alright, well, thank you Rick. It's certainly an honor to be asked to do this interview and my pleasure to be able to do it. I am Ryan, and I am an owner- the owner of Force, fitness and performance. We're in Bloomington, Indiana, here in the USA. We specialize a lot with fat-loss and athletic performance. But the way we train our athletes and our fat-loss clients tends to lead us to quite a few people that have anywhere from hip immobility to shoulder problems, to scoliosis. We use a lot of functional corrections that we have to deal with everyday. And so, that's where my experience takes me with working with injured population or clients with scoliosis, and that sort of thing.

We just really strive here to help people improve their lives, whether that be, you know, improving their back health, living without pain, losing fifty pounds or preparing them for their post high school or post secondary school career as an athlete.

**Rick:** OK. And how long have you been training for?

**Ryan:** I am 26 years old. I've been training for almost three years now. Officially, out of school for three years. I did a lot of work when I was in school with the "Strength and Conditioning program". I was an athlete at Indiana University and got a lot of experience with that. And training has been a passion of mine, ever since I can remember.

**Rick:** What is your experience with clients? Do you have clients that come in that are perfect? Do they not have any previous injuries or no chronic conditions?

Or do you find that pretty much, every single person has some sort of previous condition that you need to consider when designing their exercise program?

**Ryan:** I would say that 95% of the population that comes to see us, you know that athletes or highest level athletes; sometimes they're the hardest to find it on. But if you look hard enough, you can find some considerations and some immobility, injury, something that you need to watch out for, when you're designing their programs to give them the best results at the end. And also to keep them healthy. Yeah, what we state that a lot with our athletes is: the number one thing is going to be keeping them on the fields, keeping them on the courts. If they're hurt, they can't play. And the same thing goes with our adult population.

If they're hurt because we train them too hard, or somebody trains them the wrong way and they get injured while they're in here training for fat-loss or just general health. And they have to sit out two or three weeks because of that. That does nothing but inhibit their progress. It does nothing but inhibit their results.

So for us, the biggest thing is keeping them healthy, working in a natural line of progression with out exercises, and keeping them motivated as well.

**Rick:** On this call; we're focusing on scoliosis. So maybe you can give us a bit of a background on some of your experiences, training clients with scoliosis.

**Ryan:** Absolutely! I still remember my first scoliosis client. It was probably six months after I started training. There was a very petite lady in her late forties. And pretty severe curvature of the spine. And she was living with back pain almost every day. Very active, but just thought that she had to live with that pain. And came to me to try to deal with that. And so, from there, I did a lot of research. Looked into a lot of things, and tried to give my client the best program that I could possibly give them. And it turns out that it became a little bit of a passion.

I took a look into hip immobility and lower back problems, and lumbar stability and figure out how I can use those things to fit them into the life of my clients, and into the programs with the clients we have with scoliosis.

From there it progressed to where we have five or six clients, currently in the facility that have one form of variation of scoliosis with different severities of the curvature plus different limiting factors. And some live their life perfectly fine, and others we have to make quite a few adjustments for.

**Rick:** ***What are some keys that exercise professionals should remember when designing an exercise program for a client that has scoliosis?***

**Ryan:** I think the biggest key is: the first thing you need to do is **assess the client**, and see where they're at. And the number one ***I'll ask them is: what gives them pain, what causes them pain, is there any certain movements or activities that cause pain?*** And from there we'll work backwards and try to

figure out things. If we know what causes pain, and what movements cause pain, then we should simply eliminate those from the program right away.

And then from there, we move to the spine. We've **had a lot of successes is to stabilize the lumbar spine**. And if we can get them to stabilize and work natural progressions, then we can take away a lot of that pain, and then start working on some of the other factors.

Another big factor is to look at a joint by joint type of structure of the body. **Work on thoracic and hip mobility**. And if we can get those two joints in those two areas of the body to take over and be as mobile as they need to.

We can stabilize that lumbar spine, then we can correct a lot of the problems. And a lot of these people can live a life where they don't have any pain, and they can be as active as they want to be. They just need to learn how to do those things, and to probably a greater degree than just an average every day client will need to do.

**Rick:** You talked a lot about mobility. People with scoliosis have a decrease in mobility. **What would be the areas that, in a scoliosis client, that you focus on increasing their mobility.** And **what would be an example or two of some exercises that you would get that individual to do?**

**Ryan:** We would **first look at their hips**. Probably 99% of the people you're going to see as a fitness & rehabilitation professional are people who sit all day long and they're tight in their hips. So, we're going to look at; one, increasing their hip mobility but also **strengthening the posterior chain muscles**. In the hips, we're going to **do a lot of active stretching of the hip flexors and also we're going to stretch the hip rotators as well as strengthen them**.

We're going to **do a lot of bridges, a lot of hip extension exercises**, where we're going to work on the glute activation and glute firing. **A lot of mini band work**. We'll take a small, like mini band and place it around their knees, and have them just simply press out against it and hold for time.

We'll do time sets or we do two or three second holds. We'll do ten reps and then rest for 30 seconds and do that again. And then we'll start incorporating that into other movements with some walking and also some bridging, and then progress from there to other single leg movements.

And then we'll also work on stretching their hip flexors. A lot of it will just be your typical hips flex stretch where you're in that lunge position on the ground and you leave that back knee back and push the hips forward. And from there we'll progress to a reach overhead.

And from that we'll progress into almost **a dynamic stretch**, where they will put one foot up on the table and rock their hips into stretch and get a big stretch in



their hip flexor. And as we can start working that mobility and getting right muscles to fire at the right times, and loosening up the tight muscles then a lot of that back pain will go away for them.

**Rick:** *What are some things that exercise professionals should - like avoid or not do with the client that have scoliosis?*

**Ryan:** The biggest thing is **avoiding your typical abdominal exercises**. We don't do any crunches and we **don't do any dynamic rotation of the lumbar spine with our client with scoliosis**. It just puts too much unnecessary stress on the spinal vertebra, and it doesn't do anything for them. I think they get a false sense of them working, my core when I do the sit up, so I do a lot of twisting motions. And it's certainly possible for them to work back into those things, and we will place them into a program if we think if the person can stabilize their spine first and we may throw in a few just to keep them happy.

But we first need to give them what they need so that then they can have what they want. So we'll work on the stabilization first and **work on simple things like planks**. I also tend to avoid, depending on the placement of the curvature, I'll **tend to avoid side planks first**.

Especially, in the first stage of that program, I found that it can create a little bit of discomfort and I tend to compensate to one side or another when they do these side planks. So, until they can prove to me that they can hold a front plank or a basic support.

Then we won't move into those more advanced exercises like a side plank or anything with movement or dynamic until they can prove to do that.

**Rick:** *With clients that you guys have that come in with some sort of medical condition, how do you guys communicate with the medical community?* Meaning, do you communicate with the client's doctor or physical therapist when it comes to getting guidance to their exercise program?

**Ryan:** The first thing we do is we obviously express to the client that they need to go to the doctor or the physical therapist and express that they would like for us to be able to receive this information. We can't just call up and ask them about it. So the first thing is to communicate with the client that that's your intention. And if for some reason they don't want you to do that or they fight you a little bit with that, explain for them, it's your best interest, and that's what we need to do to give you the best program. I have never had one person say that that wasn't okay if they were coming to look for help. And from there I found that you can't rely on the doctors or the physical therapist to call you.

I think you need to go out of your way as the fitness professional and it also boost our profession in the eyes of these medical professionals when we take a step

out of our way and, and we will take the lead, and actually look for what's best in our clients.

And I'll find out when I talk to these doctors or physicians or a surgeon or a physical therapist, I'll try to find out what they think, get very specific into what's causing, what the exact injury is or what the dysfunction is. And then I'll listen to their opinions and then go off with what they have given me.

And you'll find a lot of times that sometimes, the medical profession is a little bit behind in the training world, and so you have to kind of balance out and figure out how comfortable you are with each client.

And how comfortable you are with each either injury or dysfunction with the client and then choose from your knowledge base what you think is the most appropriate plan of action.

**Rick:** Excellent, that's very similar to what I end up doing. It's very important if you have a client that has any kind of medical condition, to communicate with their doctor or the healthcare professional that's supervising them and getting feedback on their exercise program. Make sure you get clearance to see that they can start an exercise program, based upon their condition, and it's super vital to communicate with the healthcare professionals involved and to be a leader in the communication between your client and the healthcare professional. I found that to be very important and very beneficial.

**Ryan:** Yes, yes, I would definitely say that, if that's something you're not doing then I think you're definitely missing a step. One, I think holding yourself back, not only for your client's sake but also you're holding yourself back professionally. You develop a lot of good relationships with these doctors or medical professionals and that can go a long way over time.

**Rick:** And that's a big thing. A lot of times the medical profession doesn't know where to send people when it comes to exercise. They're apprehensive, if they send the client to a personal trainer or kinesiologist, if they don't know who they are, they're afraid that the person, the personal trainer, kinesiologist, will do harm as opposed to help them. It's important to communicate with these doctors and physical therapists and surgeons, because if you build that relationship, they will constantly be sending you people because exercise is the ultimate drug and the solution to so many injuries, diseases and chronic conditions.

**Ryan:** That is so true.

**Rick:** And, any last thoughts or any last points that you would like to pass on to the listeners when it comes to scoliosis and exercise?

**Ryan Ketchum:** Yes, I think the biggest thing is working within your clients', you know, their fitness level and what they're comfortable with and then progressing

into the things that they really need. Sometimes, you have to match the things that they need because they want different things or because they're fairly fit individuals and, you know, they shouldn't be doing certain exercises and you know that another professionals know that but the client doesn't know that.

It's your job as the fitness professional to, to try to match those things and give them a little bit of what they want and give them a whole lot of what they need.

You know certain things are going watch out for like any forward flexion of the spine, crunches, things like that for an interior core work, we're going to stay away from even though they want that. And we'll try to include that in a little bit more as we can, but I need to be comfortable with that first.

And then also it seems like, you know loading any bilateral lifts to the spine while we're doing any lower body work. We don't do any bilateral work with it, so no squats. The only exception would be depending on the fitness level, again, it would be some dead lifts or the posterior change.

And those are mostly dead lift variations; we won't dead lift with these types of clientele very often.

It's, just really using some common sense and using a lot of unilateral movements and movement patterns and educating yourself, as much as you possibly can about each individual client, and what they need and what their injury or dysfunction is going to be and, how you can help them get better that's the end result that always matters.

**Rick:** Excellent, great information. So, Ryan, how can listeners get more information about yourself, your company, the services that you provide and to see any products that you have?

**Ryan Ketchum:** They can go to either [beforefit.com](http://beforefit.com) or [bloomingtonbootcamp.com](http://bloomingtonbootcamp.com), and that's where they can find out all about me.

**Rick:** Excellent. Thank you very much Ryan, for sharing your information when it comes to scoliosis and exercise with the exercises for injuries listeners. So, this is Rick Kaselj signing off until the next interview. Have a great day and we'll talk to you soon.

**Ryan:** Thank you, Rick.

## **Client Interview with Simone Icough**

### ***Simone Icough***

*Simone Icough found out she had scoliosis from her class mates because they all were calling me hunch back and other names. Her mom checked her over, took me to the doctor and he confirmed she had Idiopathic Adolescent Scoliosis (she was 11, this was in 1988). She shares her story, resource for scoliosis suffers and has a community for people with scoliosis at her website. For more information visit [ScoliosisNutty.com](http://ScoliosisNutty.com)*

**Rick Kaselj:** Hello Exercise for Injuries Report subscribers this is Rick Kaselj with another interview for the Exercise & Injury Report. This interview is going to be on scoliosis and I'm interviewing a patient that has scoliosis and she is going share her experience when it comes to scoliosis and what she has done to manage scoliosis.

So today I'm interviewing Simon Icough. She has a website called ScoliosisNutty.com. And she's going to give us a little bit of insight from a patient's perspective when it comes to scoliosis.

She is going to share her experience on different things that she's tried when it comes to scoliosis and what she does now to manage scoliosis.

So Simon I will get you to introduce yourself to the Exercise for Injuries Report subscribers. Hello Simon.

**Simon Icough:** Hi. I'm thirty-two, I live in Spain. I was diagnosed with scoliosis in 1989 in the UK. I had a 76 degree thoracic curve to the right which required surgery within three months of diagnosis.

I had the surgery in 1989 in March. I had two rods inserted from T4 to L1 and a compression rod from T6 to T10.

**Rick:** And when were you diagnosed and when did you have the surgery?

**Simon:** I was diagnosed about six months before surgery when I was 11 years old. I had surgery just when I was coming up to 12.

**Rick:** Give us your experience when it came to surgery for scoliosis.

**Simon:** Well that was 20 years ago now. It was quite a scary time. When I had scoliosis the information that is available now wasn't available to me at that time. It was just a case of this is what the doctor said she is going to do go on and have it. Obviously it was quite a scary time.

I was in surgery for seven hours and in the hospital for one month. The surgeries today are slightly different and technology is better.

People get better care and they use better techniques now for people with spinal problems.

So my experience, I would say I come out of it as a stronger person. The information was gray that I was given at the time. The lack of information was very scary.

There wasn't a support group for me when I had my surgery so hence the reason why I now run one.

**Rick:** So you had the surgery and then what happened after it? Did you have other treatments or were you cured from scoliosis?

**Simon:** No, because ***there isn't really a cure for scoliosis, there's only help if you like. Once you've got scoliosis it's there forever*** if you know what I mean. I mean you can have what I had surgery to correct the curve and to stop the curve from getting any worse.

I had a plastic cast for seven months after post surgery which is a great help. People now a days don't seem to have casting anymore. They say the surgery is a lot better.

**Rick:** So after surgery you had casting and what are other things you did to kind of manage your scoliosis?

**Simon:** Well I wasn't given any advice to be honest when I had my surgery. I was told to come back and see my doctor every year so he could check me over and I did until I was 16 years old.

But there was no treatment plan, no exercise plan, nothing like that was given to me. Every year I went I started to complain of pain and the only option available to me was more drugs. Which I promptly refused to take and I haven't taken any drugs since.

**Rick:** What did you do on your own? It sounds like you started doing your own research and started talking to other people.

**Simon:** I realized that I couldn't just sit around and just deteriorate. So, I decided to test myself, if you like. I started getting involved with a lot of cooking and herbs, alternative treatments such a yoga, Pilates, swimming, walking, stretches

and hamstring stretches. ***I found out from my research over the years that protecting your hamstring if you've got scoliosis is a great benefit, which was never told to me by doctors.*** I continue to do exercise in the form of yoga but for scoliosis, not the standard yoga that's for everybody. You have to do yoga for scoliosis because obviously the spines are different than someone with a normal spine.

So, that's kind of really the way forward I went. I decided I was just going to champion it on my own. The doctors were giving me no help. So, I really got together with support groups so I could chat with others, find out what they were doing and then start off in alternative treatments myself.

Recently I got into Bowen therapy which I've found for me, and for my other scoliosis members, is a really good help for pain management, along with an exercise routine like yoga or Pilates.

**Rick:** You hit 16, you kind of started going on your own discovery to figure out what you can do for your scoliosis. You tried cooking, herbs, different types of alternative treatments, you started an exercise program. You started swimming. You started communicating with other people with scoliosis. So now, what do you do right now to kind of manage the scoliosis? You're doing the Bowen therapy and are you doing it on yourself or are you seeing someone? And, what other things are you doing to manage your Scoliosis?

**Simon:** No, I go to a Bowen therapist for that in a block of six weeks at a time and then I take a break. Then during the breaks, I do my exercise routine because while you're having Bowen therapy, you can't do an exercise routine. You have to let the Bowen do it's own work. So in between having Bowen, I do yoga and Pilates, but I go to a class for my Pilates. I do my yoga at home from a book called Yoga for Scoliosis by Elise Miller.

**Rick:** One day you would do your yoga for scoliosis at home and then the next day you would go to an organized Pilates class?

**Simon:** Yes, because you have to be careful. If you're going to change your exercise routine, especially for someone with curvature of the spine. They need to make sure that the exercises they are doing are correct. You can't just go off and do yoga movements on your own without knowing what you're doing.

**Rick:** You get the bone therapy, you do specific yoga, you do Pilates. What are other things that you do to kind of manage things?

**Simon:** I drink vanilla, ginseng, and black pine tea because ginseng is very good for muscle spasms and for inflammation. And I found a few years ago, in 2004, when I decided I didn't want to continue to take valium and all of these high drugs that will eventually damage my liver or my kidney, I wanted to try and get this drug in it's natural form. So, I decided to grow my own herbs and have them as

infusions in my tea. Lots of basil and rosemary and all these things that are good for muscle spasms, pain, anything like that. So, I came off all of my drugs and decided to use herbs as a replacement. And, I have great benefits from it in conjunction with obviously healthy life style, exercise, diet. I didn't want to continue taking medication for the rest of my life. I thought there had to be another way.

**Rick:** Are you taking medication now?

**Simon:** No, I'm not anymore. I was. I was prescribed medications, at least 16 pills a day by my doctor when I was 17. I thought that was ridiculous. I was only 17 years old. I didn't believe that I needed to take that much pain medication. There had to be another way. But, I still have them if I need them and I'm absolutely in agony, but I've decided that the best way forward is an exercise routine of some form that suits me. There had to be another way. Don't get me wrong, I still have them if I need them and I'm absolutely in agony, but I've decided that the best way forward is an exercise routine of some form that suits me.

**Rick:** *What advice can you give fitness professionals when it comes to designing an exercise program with scoliosis?* What should they remember when working with someone with scoliosis, and what are some exercises or movements that they should avoid when it comes to an exercise program?

**Simon:** When doing an exercise program for someone with scoliosis, I think they should take into consideration that the patient is probably in an extreme amount of pain and can't force themselves to do the exercises that are initially set. That's what I've always found when I've gone to a class. They're extremely difficult for me to do. *You're in a group of lots of people, and you're embarrassed that you can't do it, you don't want to speak up for yourself, and you just sort of get left behind.*

So I think that is a vital thing when you're organizing a program for somebody with scoliosis. *The exercises where you have to get them to bend over chairs and stretch too far, they're not really any good for anybody with a bad spine.* I mean, we're all different, and we're all our own individuals when it comes to an exercise routine, but I think they really need to think about what the patient's capable of. And in my experience of going to classes, that's not the case, and it can put people off.

Movement is the key, I've found, with pain. You have to keep moving. But people get put off by going to these classes, because they're trying to do the exercises that they just can't physically do.

**Rick:** OK. One thing that you said that exercise professionals should focus in on is, it sounds like hamstring flexibility, with a scoliosis client. And anything else that they should make sure that they include in the exercise program?

**Simon:** I'm just trying to think about the things that I've been doing that I've found of great benefit. ***I've spent a lot of time working on my hamstring,*** which I've been told is extremely important by the professionals that I've seen and that provide exercises for somebody with a curvature of the spine. I think the hamstring has to be, and then the ***neck shoulders*** as well, because, generally, when you've got a rod in your spine, your shoulders really suffer from extreme amounts of pain, and your ***lower back*** as well. So those seem to be key areas that need to be worked around, those two areas. And obviously, it depends where the curve is as well. Is it left or right? How many degrees is it?

**Rick:** I am looking at your site, Scoliosis Nutty, you have a petition when it comes to scoliosis testing in school. Maybe you could chat about ***what's the importance of having scoliosis testing in schools.***

**Simon:** I was diagnosed with scoliosis from a school test. And now many places, particularly in the UK, and I know across the US, they've removed it from schools. And obviously, parents don't know what they're looking for. They haven't heard of scoliosis so don't know that the spine can twist in the way that it does. That certainly is what happened to myself. I was complaining about backache. Because I was such a lively child, my mom and dad thought nothing of it. I'd fallen off my bike, I've got backaches the next day, I didn't complain about it. And it wasn't until I had my screening in school, that it was put on the report, that my mom and dad actually took a closer look.

A lot of children get missed, and then it's too late. They can't then have any kind of bracing treatment. They can't have any nonsurgical treatments. They have to go straight into surgery. And obviously, surgery, there's a risk with every surgery. If we could find scoliosis before it gets too far and these patients be put on an exercise program that can try and stop the curve so they can tighten up their core strength muscles, I think there'd be lots of children out there that could be helped. That's why I think screening in school should come back.

**Rick:** Looking at your site, you've got a lot of great stuff. You've got a blog there. You've got a Yahoo support group. Maybe you can tell us a little bit about kind of what spurred on this really active website, when it comes to scoliosis.

**Simon:** ***In 2004, I was having extreme amounts of pain. I was in a wheelchair, couldn't get around very well.*** I started off using a walking stick, which then led to a wheelchair because I was getting really bad muscle spasms. I wanted to know what was wrong. Every time I stood up from a chair I couldn't straighten up, I was bent over. So, I was trying to find answers. So, I joined a group, but it was very much American -- Americanized. It was people mainly in



America that had this group supporting them. With me being in the UK, and my surgery being in the UK, I wanted to speak to people in the UK, not particularly the US. Because the rules are different, the doctors are different and the way they do everything is different.

So, that is why I started it. I decided that, "Well, I can't speak to these. I'm going to start my own and try to encourage people to come and talk to me that are from the UK and worldwide." That then spurred on the website, because I then had lots of information about scoliosis from my own research that I wanted to share it with everybody.

Then followed the blog a few years later. Because I found that was the best way to reach out to people. And now our support group gives information on doctors all around the world to help people with scoliosis. To help them with what the diagnosis actually means. You know, all these funny words that come on the piece of paper they don't understand.

Since then it's grown and grown and I really enjoy it.

**Rick:** Are there any last things that you'd like to leave fitness professionals with? Just kind of wrapping things up, any last words of wisdom?

**Simon:** You've just got to listen to the patient. Because when I've been to classes before, I feel that I'm ignored, like I don't know as much as they do. Whereas I think it's -- that it is the other way around for somebody with scoliosis. We all know our bodies better than anybody else. They just need to listen a bit more and actually try and understand. "Yes, we know why you've got that pain. We're going to try and help you. We're not going to push you. We're going to wait until you can actually physically do that exercise."

So I think listening is my word of wisdom for today.

**Rick:** Great advice.

**Simon:** Listen and learn from the patient.

**Rick:** I'll just end up wrapping up here. I really would like to thank Simon I cough for sharing her story, sharing her experience with scoliosis, giving us some great information on managing scoliosis, and key points to remember as fitness professionals on how to design an exercise program for a client with scoliosis. Plus key things to remember when working with a scoliosis client. I would really recommend visiting her site if you have a client with scoliosis. Scoliosisnatty -- scoliosis and then nutty, N-U-T-T-Y.com. It's jam packed with great information.

There's a link there to her blog. There's a link there to a disability directory. There's a link there to her yahoo group. There's a whole bunch of stories of

different people that have scoliosis, and then there's also her petition of getting scoliosis testing back into school.

So, I'd really recommend for yourself to get more information and a better understanding of scoliosis at that website. Encourage your clients with scoliosis to go to the website because it's a very active community. The yahoo group is very active on a monthly basis with like 140 posts a month, which is excellent. It has around 350 members.

Is there anything else Simon, that you'd like to kind of tell the "Exercises for Injury Report" subscribers about yourself and about your website?

**Simon:** Just to say that anybody is welcome. We'll support anybody. We'll help you with any doctors, information. Obviously, we can't diagnose, but we can at least explain what that means, and just give you support, really. From children right away through adults that are diagnosed with scoliosis. We cover everybody. Everybody is welcome wherever you're from. Black, white, yellow, pink, we don't care, we'll support you.

**Rick:** Thank you very much, Simon. "Exercises for Injury Report" subscribers, that's another interview on scoliosis and the experience of a client with scoliosis. We will talk to you very soon, and I'll have another interview with a health professional or a patient when it comes to exercise and injuries. Take care and bye-bye.

## **Healthcare Professional Interview with Dr Will Kalla**

### ***Dr Will Kalla***

*Dr Will Kalla is a chiropractor who has received extensive and rigorous training in his native country Sweden. He has practiced in Sweden and Malaysia before he set up his present clinic in Singapore. In his blog FixScoliosis.com he regularly posts some of his thoughts and insights on Adolescent Idiopathic Scoliosis and other recent research on the topic.*

**Rick Kaselj:** Hello "Exercise Is For Injury Report" subscribers, this is Rick Kaselj with another interview with a healthcare professional, who is going to talk to us about exercise and scoliosis. I have Dr. Will Kalla, he is from Singapore, and runs a great website called: FixScoliosis.com. I came across him on the Internet, and I have been reading his blog for a period of time, and it's got a lot of great information when it relates to scoliosis. I have Dr. Will Kalla give us a little bit of insight when it comes to scoliosis and exercise, so Dr. Kalla I will get you to introduce yourself, and let the listeners know a little bit more about yourself.

**Dr. Will Kalla:** Hello there, I'm Dr. Will Kalla, and I'm a chiropractor. I started specializing in treating scoliosis with the Clear Institute Method, it was actually developed back in the USA, and started in about the year 2000, and I've been doing this now for the past two years myself. So what this method is actually looking at, is how the spinal biomechanics is affecting the normal spine, and how scoliosis can start to develop. What we're looking at, is a natural way of starting correcting scoliosis in itself, and they're getting some pretty interesting results with this kind of method of treating. On average they get about 30% to 50% reduction without any bracing or invasive therapies.

**Rick:** What is the intervention with the Clear Institute Method?

**Will:** What the Clear Institute Method is a more holistic approach on the complete spine. ***Chiropractors, traditionally, they just do spinal manipulation or adjustment for the spine, and hopefully they believe that they could correct scoliosis, but it has been shown that that doesn't work.*** What Clear Institute is looking at is, what are the different ways we can actually address the spine, help to loosen up the spine, then maybe start correcting, and retrain the muscles to actually hold the spine in a straighter position. So the Clear Institute Method actually comprises of three different parts, which is called the mix, fix, and set parts.

For the mix part, we actually loosen up the spine as much as we can, and we actually use some special spinal resonance frequencies to loosen up the spine,

and some stretching and warm-up exercises to get the spine as loose as possible. Before we actually do our normal adjustments, that are based on the x-ray measurements, and once we have done that, then we actually get them to do sort of a training protocol, to actually hold the spine in a straighter alignment, and get the muscles to work to retrain the body, that's sort of the body's body scheme, to hold the spine in a straighter alignment.

**Rick:** How long have you been practicing this method?

**Will:** I have been doing this for close to two years now.

**Rick:** *What would be some things that fitness professionals would need to know, when it comes to scoliosis, and their clients with scoliosis?*

**Will:** Well I think you need to start looking at the two different age groups that we're dealing with. ***Especially if your dealing with yoga practice and all that, that back bending has been shown to be a bad thing for patients with scoliosis to do.*** So that could actually aggravate the scoliosis curve, and this would especially be in the thoracic spine area. ***If you have a scoliosis thoracic curve, and if you have growing teenager, try to avoid any kind of back bending, or back arching so that could don't aggravate the scoliosis.***

If you're looking at ***older people, they might actually have more signs of degeneration going on in the scoliosis curves, so there you might want to avoid an excess amount of loading on the spine.***

**Rick:** Loading with regards to where? Just the thoracic, or the lumbar spine? Or?

**Will:** Well, what we see with adult scoliosis is what we would call degenerative scoliosis, that we see more signs of degeneration on the spine. It's more the lumbar spine that is affected, ***if someone has a big thoracic curve, it's usually not that problematic as a lumbar curvature.*** So this is talking about an age group of probably about 50 and above, and if you start seeing major signs of degeneration in the spine, they might actually have some more neurological symptoms happening because of this progression. And you should especially be aware of all these people, if they have any kind of signs of osteoporosis or osteopenia, as you covered in Osteoporosis & Exercise Manual.

**Rick:** Other than thoracic back bending for the younger client, and loading for the older client, through the spine, there aren't really many contraindications of an individual starting an exercise program, that has scoliosis.

**Will:** No, I had actually seen some figures in my previous days as a normal chiropractor, that they actually have performed pretty well in doing even normal squatting and all that. I mean, I heard of people doing a dead-lift of up to 300 pounds, having severe scoliosis curvatures. If you keep your spine and back

muscles healthy, I don't think that will in itself aggravate the scoliosis, but these are healthy middle-aged men, I mean they're in their 30's, 40's. So what you should be aware of more with the growing adult teenagers and having scoliosis, you can still work and strengthen their muscles. The other more concern group would be the older 50 and above, if they have any signs of degeneration in their spine.

**Rick:** You stay up on the research when it comes to Scoliosis. ***What are maybe a couple of things that have come out of late, when it comes to Scoliosis research*** that you can let the listeners know about?

**Will:** Well, what has come about especially for adult scoliosis now, what they say as a link if there's degeneration of the spine, is that vibration therapy might actually help them if it's a osteoporosis case or in osteopenia cases to increase the bone density in the hip joints and the spine itself to actually prevent further aggravation of the scoliosis curves. ***What I've been seeing is that if you have an osteoporotic person, their scoliosis will actually progress and degenerate a lot quicker than a non-osteoporotic individual.***

**Rick:** Interesting. Do you know what the frequency of treatment was when it came to vibration training? Like three times a day, everyday, or once a week that the subjects had to participate in?

**Will:** There was a few studies done. This was actually first discovered by Dr. Rubin I recall, if I've got his name right. Actually what he started doing, he started ***putting sheep on vibrating platforms***. He was actually putting these on every single day for a short amount of time; we're talking about 10-15 minutes. What I have seen of course, it may not be feasible to have all the adults come into your setting every single day. If I recall correctly they came in about three times a week for the older individuals. Again if you go back to Rubin's study when he started looking at the sheep, so he was studying these sheep for one year and then he was looking at the normal bone density of this increase.

So looking at the study of adult scoliosis cases, I think there was about three times a week they will be there for about 15 minutes on the vibrating platform, and using a frequency range between 30-45Hz when they're doing the vibration therapy.

**Rick:** Are there any last points that you would like to let listeners know when it comes to scoliosis and exercise or any last thoughts when it comes to Scoliosis?

**Will:** Well what I do see as a big problem especially in a single point because a lot of students keep starting here, my biggest concern is actually when they start developing Scoliosis we always see a lots of abnormal curvatures in the neck. So we believe now as we've declared recently also, that a poor posture and actually having a reversal of your normal cervical lordosis that we see in almost every

single case, has some kind of contributing factor on the spinal curvatures, and that probably could be some of the reasons triggering off the scoliosis to start happening in some individuals. So I mean what you'll always be looking at of course, is to have a good posture when you're doing exercises, but also when you're studying. Laptops we see increasing more and more, the use of them, actually creating more and more forward head posture hood. That's something we should always be aware of.

**Rick:** So I guess there is some side effects, negative side effects, of going to school and doing too much school. [laughs]

**Will:** Yeah, I mean you have the benefits of course of getting a good education and all of that. What we do start seeing now is because they're having such bad posture when they're studying there. So if there's a way of actually improving your posture when you're studying or be more aware or concerned about your posture, that would be a great benefit to the overall health for everybody, but especially with these kids that are having scoliosis and what we see that it may not actually begin if you can actually restore the normal spinal curvatures.

**Rick:** Dr. Kalla, how can listeners get more information about yourself and about the techniques you do? How can they get in contact with you, and how can they get a little bit more information?

**Will:** Of course you can go to my blog at [FixScoliosis.com](http://FixScoliosis.com) where I put some research findings on a regular basis. On that blog itself I have two links; one to [Clear-Institute.com](http://Clear-Institute.com). It's actually a non-profit organization that is actually developing treatments that I'm using, and they're based in the USA. There is a good number of doctors in the USA treating with great results on Scoliosis cases. There's also another link on my blog there that goes to [Precision-Spine.com](http://Precision-Spine.com), that's my clinic where I'm practicing here in Singapore. I truly have the benefit actually of getting a patient from a wide range of countries, from Saudi Arabia, Iran and Australia. So I cover a pretty big part of this region.

**Rick:** So Exercise's for Injuries Report, listeners I strongly recommend that you go visit Dr. Will Kalla's blog [FixScoliosis.com](http://FixScoliosis.com). It's a great source for the latest research when it comes to scoliosis. Do go to the blog and visit Dr. Kalla's clinic, and get a little bit more information on the Clear Institute. It sounds like an amazing technique, and it sounds like it's got great results. So, that was another interview when it comes to Scoliosis and exercise. So we will bring you another interview very soon, and we will talk to you soon. Take care and goodbye.