



THE PERFORMANCE PYRAMID

BODY GENIUS[®]
INSTITUTE

www.bodygenius.com.au

FOREWORD

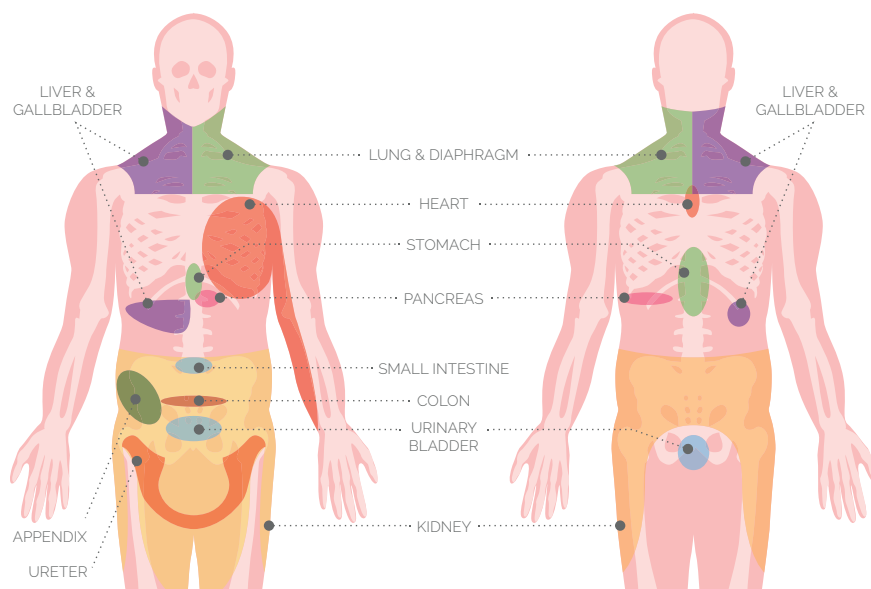
BY STEPHEN HOOPER

It's gam Monday morning and I begin my subjective evaluation with "Ryan", a 27 year-old nationally ranked swimmer. Ryan has been suffering from right shoulder and neck pain for nearly four months and has consulted with several physiotherapists, a chiropractor and a sports doctor without significant relief. Ryan talks me through the detailed assessments that have been performed to date, outlines previous treatments, exercise prescriptions and the medical interventions undertaken. I listen patiently and sense the frustration Ryan is experiencing at not being able to train at full intensity.

Ryan begins to prepare himself for my physical examination but is surprised when my focus shifts to the health forms he completed prior to our initial consult. Ryan has checked the boxes for sleep challenges, digestive symptoms, and skin disorders. It turns out he has difficulty getting to sleep, suffers from bloating and abdominal pain, has occasional constipation and has suffered from eczema for years.

As I glance at Ryan's food diary I can see that he is eating significant amounts of inflammatory foods such as processed meats, breads, cereals, pasta, sauces, sports drinks, flavoured protein powders and other ergogenic aids containing additives.

I can sense that Ryan is not grasping the importance of his symptoms and doesn't realize that internal inflammation, poor digestion, poor sleep patterns, constipation and a poor diet may be contributing to his right shoulder pain, or at the very least preventing it from healing. I pull out a chart of the body's organs and glands and their respective referral patterns. I'm most interested in sharing with Ryan the referral patterns for the liver, gallbladder and stomach.



Ryan immediately points at the purple region of the chart stating that this represents a significant portion of his pain. He didn't realize that internal organs could produce pain that felt similar to musculoskeletal pain.

I went on to explain that visceral (organ/gland) pain is not generally felt at the source, but rather is perceived as arising from other tissues (skin, muscle, joint, fascia). This is the first time Ryan has heard of this concept and asks me if I believe his pain is being caused by his liver and gallbladder. I explained to Ryan that functional gastrointestinal disorders such as IBS underlie the most prevalent forms of visceral pain. And since he is already expressing outwardly the signs and symptoms (bloating, abdominal pain, constipation, eczema), visceral pain patterns need to be considered in context with all of our other findings.



I went on to explain to Ryan that the foundation of the Performance Pyramid is HEALTH and that in complex cases such as his, optimal health should be achieved before moving on to the PAIN AND DYSFUNCTION level.

Human evolution has demonstrated that the human body is designed to live, to thrive and has the ability to heal itself. There is a 'Genius' in every 'Body' and when the right conditions are created, the human body can work (healing) miracles.

- All diseases begin in the gut – Hippocrates
- Visceral pain can be felt in other tissues such as skin, muscle, joint, fascia
- Inflammation within organs/glands can prevent healing in structures that are located (anatomically) away from the offending organ/gland
- Gastrointestinal disorders such as 'intestinal permeability' can lead to systemic inflammation and through complex changes in the immune system, can lead to joint pain and inflammation.

Ryan had clearly come to me (as a Physiotherapist) for "PAIN AND DYSFUNCTION." I certainly didn't have any misconceptions about my role or the service I needed to provide. However, more than two decades of experience as an athlete and health professional has provided me with the wisdom and experience to know that

the foundation for any healing process must be optimal health. Ill health, systemic inflammation, autoimmune conditions, gastrointestinal inflammation/disorders, poor sleep patterns, high stress levels, and poor diets can all present barriers to healing. Even the most perfect assessment and treatment may not be successful in clients who present with poor health or a 'diseased state.'

Ryan was referred to an Integrative Health Practitioner (IHP) at The Body Genius Institute for full evaluation. Over the next 60 days Ryan was successful in changing his diet, reducing all markers of inflammation, and improving his sleep patterns. Ryan's overall health improved considerably and he no longer suffered from constipation or bloating. There was also a significant change in Ryan's appearance as his eczema began to clear. Ryan was excited by these improvements and was committed to integrating these changes permanently into his active lifestyle.

During our first three sessions together, I was able to perform a full neurological and musculoskeletal assessment. Ryan was once again surprised by the level of detail that I went into for the physical assessment, which included screening his lower body in addition to his upper body. I explained clearly to Ryan that the latest neuroscience research suggests that noxious input to the brain can contribute to persistent pain patterns. This noxious input could be coming from anywhere in the body including structures that are located (anatomically) away from where the pain is being felt; similar to the visceral pain patterns we had discussed in our first session together. So despite the fact that he was experiencing right neck and shoulder pain, I still needed to consider pain and dysfunction that was found in all other parts of the body, including the feet, ankles, knees, hips, pelvis, spine, jaw, shoulders, elbows, wrists and hands; and that I needed to consider joints, muscles, ligaments, tendons, fascia and nerves.

I created a detailed list of everything we could find in Ryan's body that wasn't perfect (dysfunction, tight fascia, joint restrictions, muscle spasm or guarding, trigger points) and then we worked together to systematically correct these findings.

By the end of the third week Ryan's neck and shoulder pain had completely resolved.

With levels one (1) and two (2) of the pyramid complete, Ryan was put through rigorous testing to determine if he satisfied the requirements of the higher levels: Mobility/Flexibility, Stability, Strength, Fitness, and Power. After only 5 weeks since beginning this process, Ryan was cleared to return to full competitive sport with the confidence that his body could withstand the intensity of training and competing. More importantly Ryan had a "road map" for keeping his own body healthy and free from pain and dysfunction.

I think it would be difficult to determine (in isolation) the exact treatment that lead to resolution of Ryan's pain. Was it the dramatic shift in his diet and improvement in his sleeping patterns that lead to reduced inflammation and enhanced healing? Was it the fact that Ryan adhered to the strict 'no training' instructions during the treatment period and the complete rest made all the difference? Was it the hands-on therapy and correction of Ryan's neural system and head-to-toe dysfunctions that stopped the noxious input to his brain and 'shut off' the pain signals? I certainly feel confident in saying that the healing process was multi-factorial and that the necessary barriers to healing were removed.

Stephen Hooper is Co-Founder and Co-Director of The Body Genius Institute. His qualifications span a wide range of disciplines including physiotherapy, dry needling, exercise physiology, holistic lifestyle coaching, nutrition, and strength and sports conditioning. Stephen is the author of 'The Big Five is Alive' and consistently writes for his blog www.stephenjhooper.com

INTRODUCTION

Amongst the athletic community, it has often been said that if you're in a strange city and require the services of a quality physiotherapist or sports doctor, it's best to ask who the athletes in the area go to see. This may include the local club teams, University or College athletes, or Pro players. This type of thinking and detective work often pays dividends as athletes are very selective about the health professionals they work with and expect exceptional results.

This simple concept was one primary reason that The Body Genius Institute was established. Doesn't everyone deserve to be treated like an athlete? Shouldn't the same level of commitment and same standard of care be given to the general population? As we expanded upon this concept we began to recognize that there is '**an athlete in every body**' and that when the same principles of care are applied to members of the general public, as to athletes, this athlete can be uncovered.

One of the phrases we are best known for at The Body Genius Institute is "**Athletic Excellence.**" This statement echoes in the minds of all BG team members and reflects an attitude towards the standard of care given to all BG clients.

Our mission is to empower and inspire individuals to get the most out of their mind, body and soul. We feel that by starting at the grass-roots level and by inspiring enough individuals to take responsibility for their own health and happiness, we can begin to create a social movement that leads to a real difference in the way people view health and wellness at a community, state, and national level.

***Our goal is to help inspire and empower one million people
by the year 2020!***

The Body Genius team fully recognizes that to achieve this objective we need to think differently. We need to challenge the status quo. We need to challenge conventional thinking. We need to be cutting edge, industry leaders, innovative and to set new standards.

It's from this type of thinking that we were able to establish our **core values** and to create **guiding principles**.

We always do WHAT we say we're going to do, WHEN we say we're going to do it.

We are professional on a daily basis. This is represented through our knowledge, positive attitude, communication with clients & the BG team, & physical appearance.

We make (regular) time in our lives for fun and play!

We are accepting and compassionate towards ourselves and others.

We support each other as Body Genius team members & back each other with unwavering consistency and support.

*We empower, inspire, and educate ourselves every day.
In turn, we pass this on to clients.*

Our passion for life allows us to express courage on a daily basis.

We live in the now, we are 'present' with our clients.

We practice conscious living and conscious consumption.

We challenge the status quo, set new standards and think differently.

It's with this clarity of focus that The Body Genius Institute was created and by adhering to our core values and guiding principles we can offer 'Athletic Excellence' to all our customers.

Athletic excellence is for everybody!

Sometimes simple concepts are the best concepts, especially when dealing with complex topics such as the human body. The Performance Pyramid was originally developed as a model that we applied to our high performance athletes both as a return to sport protocol and for enhancing their athletic performance.

THE PERFORMANCE PYRAMID



Stepping up the rungs of the ladder carefully during a treatment plan or return to activity protocol has been essential in our success. The temptation may be to skip a level or to simply focus on the specific area of pain or dysfunction without considering the athlete's entire body. For example, to satisfy the 'mobility and flexibility' level on the ladder, athletes must move well from head to toe, even if they are overcoming shoulder pain. The vast majority of sporting activities require the coordinated efforts of the athlete's entire body: Throwing a baseball, swinging a tennis racquet, swimming, running and golf. For some athlete's, overcoming shoulder pain may mean rehabilitating their entire body.

Athletes, even recreational participants, are consistently looking to improve their performance. The temptation for health professionals may be to start somewhere in the middle of the pyramid such as assessing the client's fitness level, strength patterns or speed and agility. Even complex analysis of their training loads and weekly schedules could be considered. However, these details are irrelevant if the client has poor sleep patterns, weak digestion, an inadequate diet, and is highly stressed. It may seem more glamorous to test their vertical leap but squaring away the 'foundation principles of health' will always yield bigger dividends in the long run.

The team at Body Genius quickly realized that the pyramid and the concepts it represents should be applied to every client seeking advice. It has been stated on many occasions in team meetings, 'Treat every client with the same diligence as a competing athlete.' This means moving beyond the area of focus (such as shoulder pain) and looking at the person as a whole. Are they healthy? Do they move well from head to toe? Are they stable in a wide range of positions and postures?

Although many of our clients do not participate in sport they still need to satisfy the basic requirements of each level of the pyramid. It only makes sense that client's who eat right and are healthy will heal faster and client's who move well are less likely to get injured. Someone with shoulder pain still needs to use their entire body on a daily basis for getting in/out of cars, going up/down stairs, lifting and carrying, and walking. As such, a whole body approach to therapy is required, no different to a competing athlete.

*Fast, effective treatment relies on getting the strategic sequence **right**.*

The contents of this book are based on more than two decades of clinical experience and the strength of the latest scientific research. The purpose of this book is to introduce **The Performance Pyramid** as a concept for the analysis and treatment of clients. The pyramid reflects 'HOW' we do things at The Body Genius Institute and its framework shapes our decision making process.

THE FOUNDATIONS OF ATHLETIC EXCELLENCE

Thousands of Body Genius (BG) clients have benefitted from the Performance Pyramid and the simple concepts it represents. Each practitioner on the BG team has a copy of the pyramid on their desk and clients are walked through the basic strategy and where they sit within the pyramid. We feel as practitioners that it's important to continually remind ourselves of the importance of satisfying each level of the pyramid before moving on to higher levels. The BG team has solved many challenging cases simply by starting at the base level (HEALTH) and working our way upward. Similar to climbing a ladder!

- Chronic pain in the right side of the neck disappears when strict dietary guidelines are followed, likely due to healing of the gallbladder and liver.^{1, 2, 3}
- Joint pain (Osteoarthritis, Rheumatoid Arthritis, Gout, Arthritis) disappears as health improves.^{4, 5, 6}
- Headaches and migraines disappear as dietary changes are made.⁷
- Clients with chronic lower back pain (LBP) and significant pathology on MRI (disc disease) spontaneously recover when nutritional changes are made and chronic (systemic) inflammation is resolved. This may include resolution of psoriasis, eczema, fungal infections or global joint inflammation.^{9, 12}
- Client's mood and self-esteem improve when food sensitivities are identified and dietary changes made.^{8, 9}
- Core and hip instabilities resolve when gastrointestinal inflammation is healed
- Chronic lateral Epicondylalgia (LE) and other tendon challenges heal when systemic inflammation and central sensitisation resolves.^{1, 2, 3}
- Chronic Temporomandibular Joint (TMJ) disorders heal and treatments "stick" when the underlying systemic inflammation and hormonal imbalances are addressed.¹⁰
- 'Tight hamstrings' (FLEXIBILITY AND MOBILITY) resolve in minutes when the contributing factors are released (DYSFUNCTION). This may include restoring hip mobility, repositioning joints in the thoracic spine, releasing tight jaw muscles, or releasing tight pec muscles.¹¹
- Chronic calf tightness resolves when adrenal fatigue is addressed and the hypothalamus – pituitary – adrenal (HPA) axis is rebalanced.

Not only does this system of analysis and treatment fast-track successful outcomes, it also provides solutions that create lasting results!

CATEGORY	DEFINITION
Sport	Competitive Sport Performance
Power	Power, Speed, and Agility
Strength	Absolute and relative strength
Fitness	Aerobic and Anaerobic Fitness Base
Stability	Stability around all major joints: Static & Dynamic
Mobility & Flexibility	Mobility around all major joints & flexibility in muscles
Pain & Dysfunction	Absence of pain, full range of motion at all joints, full length of all muscles
Health	Absence of disease, nil symptoms, happiness & vitality

Let's take a closer look at each level individually and the various methods of evaluation. Where possible we have provided other credible sources of information, which may provide more depth to the discussion.

HEALTH

The Body Genius team believes that the definition of health can extend well beyond simply "the absence of illness or disease." The human body was meant to thrive, to flourish, and to have an abundance of energy and vitality. Mental, physical, emotional and spiritual health is our right, not a luxury that is afforded to us.

It's uncommon today to find anyone who is completely symptom-free. Think of the most common complaints made by people today:

- Weight Gain or an inability to lose weight
- Lack of energy (lethargy) or general fatigue
- Depression, anxiety and other mood disorders
- Digestive Issues (bloating, indigestion, abdominal pain)
- Insomnia or other sleep disorders
- Skin disorders (eczema, psoriasis, rosacea, acne)
- Joint pain and other musculoskeletal disorders

Is it any wonder why the Pharmaceutical Industry is worth over one trillion dollars annually!



METHODS FOR EVALUATING YOUR HEALTH

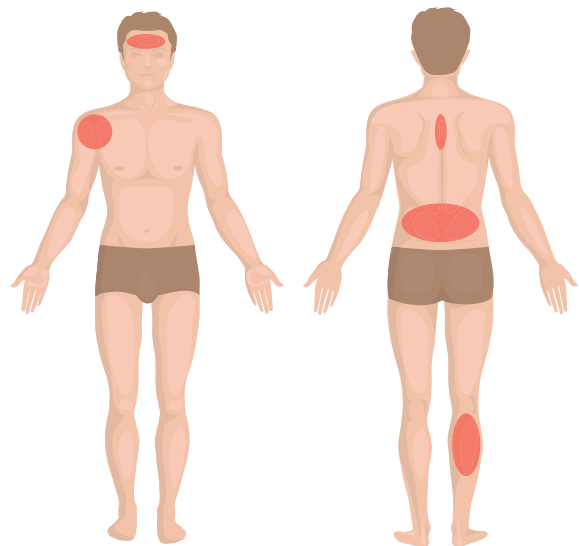
SUBJECTIVE EVALUATION

One method for evaluating your health is to simply write down any symptoms that you're experiencing or any physical challenges you face. This process can be done alone or as part of a guided process by a skilled practitioner. Remember that a healthy body should be completely **symptom free**.

GENERAL HEALTH			
Cancer	Depression	Hoshimoto's	Grave's
Diabetes	Celiac	Gluten Sensitive	Psoriasis
Eczema	Dandruff	Chronic acne	Ostoarthritis
Rheumatoid Arthritis	Gout	Smoker?	Hypertension
High Cholesterol	Stroke	Heart Attack	Asthma
Sleep Apnea	Gallbladder disease	Obesity	Urinary Tract Infect.
Yeast Infections	Athlete's Foot	Toe nail fungus	High Stress Levels
Poor diet	Sedentary Lifestyle	Chronic lethargy	Bloating
Diarrhea	Constipation	Heartburn / reflux	Cavities/dental work
Grinding Teeth	Surgeries	Poor sleep patterns	C-sections
Muscle Pain	Joint Pain	Nerve Pain	Sciatica
Weight Gain	Inability to lose weight	Unexplained weight loss	

EXAMPLE

- Headaches
- Upper back and neck stiffness
- Lower back aches
- Bloating and abdo pain
- Right knee pain
- Dandruff
- Eczema on back and arms
- Left foot great toe sore
- Difficulty sleeping
- Lacking in energy
- Smoker
- Poor diet



HAQ TESTING AND GRAPH

One excellent method for evaluating your overall health is to complete a Health Appraisal Questionnaire (HAQ). This symptom-based questionnaire can be graphed and the various energy systems of the body evaluated. A skilled practitioner can help to evaluate your results and determine the best starting point.

I Gastrointestinal GI			II Liver/ GB		III Endocrine		IV Glucose Regulation		V Cardio- vascular		VI Mood		VII Uro- logi- cal		IX Musculoskeletal		X CNS & Brain		XI Male		XII Female						
A. Gastric Function	B. GI Inflammation	C. Small Intestine & Pancreas	D. Colon	A. Thyroid	B. Adrenal	A. Dysglycemia-L	B. Dysglycemia-E	A. Heart	B. Circulation	A. Depression	B. Anxiety	C. Anger	Eyes, Ears, Nose, Throat & Lungs	Kidney & Bladder	A. Bone Integrity	B. Connective Tissue	C. Muscle & Nerves	A. Central Nervous System	B. Cognition	Prostate Health	A. Premenstrual Balance	B. Menstruation	C. Reproductive Tissue Inflammation	D. Hormone Balance	E. Ovarian Function	F. Estrogen/Progesterone Balance	
56	72	80	72	120	120	96	128	80	56	96	72	112	64	112	96	72	104	112	128	72	64	176	80	76	144	88	120
44	56	64	58	94	98	72	102	66	45	72	59	89	51	87	80	56	80	88	100	62	50	142	64	60	116	74	96
32	40	48	44	68	76	48	76	52	34	48	46	66	38	62	64	40	56	64	72	52	36	108	48	44	88	60	72
20	24	32	30	42	54	24	50	38	23	24	33	43	25	37	48	24	32	40	44	42	22	74	32	28	60	46	48
8	8	16	16	16	32	16	24	24	12	16	20	20	12	12	32	8	8	16	16	32	8	40	16	12	32	32	24
7	7	14	14	14	28	14	22	22	11	14	18	18	11	11	26	7	7	14	14	28	7	32	10	26	26	20	
6	6	12	12	12	24	12	20	20	10	12	16	16	10	10	20	6	6	12	12	24	6	24	8	20	20	16	
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1	1	2	2	2	4	2	4	4	2	2	3	3	2	2	2	1	1	2	2	4	1	2	1	2	2	2	
20	20	50	40	7	52	60	46	40	26	22	27	26	20	22	20	2	8	20	22	74	40	28	22	62	66		

In certain circumstances advanced testing may be required to evaluate more thoroughly the systems represented in the HAQ graph. There is a wide range of tests available that can be used to determine the underlying cause(s) of your symptoms:

- Saliva Testing (i.e. The 24 hour Cortisol test & hormone profiles)
- Blood Testing (i.e. Hs C-reactive protein, IgG/IgA food sensitivity testing)
- Urine Testing (i.e. To look for bacterial or other types of infections)
- Hair Mineral Analysis (i.e. To look for heavy metal toxicity)
- Stool Samples (i.e. To look for parasitic infections, fungal overgrowth) and/or dysbiosis
- Breath Testing (i.e. To look for small intestine bacterial overgrowth, SIBO)
- Measurements such as waist to hip ratio, waist to height ratio, and waist circumference that provide evidence of fatty liver disease.
- Lying/sitting and standing blood pressures, which may provide evidence of adrenal gland dysfunction.
- Additional Questionnaires to look more specifically at the thyroid and adrenal glands or for Candida
- Physical examination of the skin, eyes, ears, tongue, breath, fingernails and pulse, that may provide additional clues about the function of the body's systems: Cardiovascular, respiratory, digestive and nervous systems.

FOUNDATION PRINCIPLES

The BG practitioners have found it very difficult to progress with clients up through the levels of the performance pyramid when their "Foundation Principles" are not squared away. Adhering to the basic principles of human health are essential at all times but even more important when trying to recover from pain, injury or illness. Let's take a closer look at these Foundation Principles of health.

SPIRITUAL HEALTH

To be truly spiritual means connecting with your inner self and identifying the meaning that exists within your life. This task is inherently unique to the individual.

Once you connect with your inner self you can begin to identify the values that you hold in the highest regard. This may include honesty, integrity, caring, sharing, compassion, acceptance, trust, courage, commitment to family and friends, or striving to help others. These values become your centre, your value base from which you choose to live your life.

For many, meditation and prayer are ways to develop and strengthen their value base and to provide them with the energy and focus to practice courage on a daily basis. For others, great literature, music, singing and dancing and being creative strengthens their spiritual health. These experiences and practices are as unique as they are varied.

Finding time each day to work on your spiritual health is important.

EMOTIONAL HEALTH

Emotions are often seen as **the result** of your behaviour and experiences. Little emphasis is placed on your ability to determine or choose the emotions that shape your daily experiences and pattern your life.

Freedom can be expressed in many ways, but certainly freedom must include your ability to choose your emotions and your feelings. For a person to be truly free they must be aware of this ability and to take responsibility for their emotions.

It's important to recognize that there are no idle thoughts. All thinking produces form at some level. If you congest your mind with emotions such as fear, you may find that this fear has a physical manifestation such as disease. The connection between emotions and health is both interesting and important. Fear, anxiety, hopelessness, jealousy, depression, loneliness, and anger are not just feelings. All of these emotions are physiological states that can harm your health, just as clearly as obesity or lack of physical fitness.

Taking responsibility for every emotion you feel is a true measure of freedom and is empowering.

Included within emotional health is self-love. Based heavily on spiritual health, self-love requires that you stay in touch with your value base, identify the meaning in your life, and express the highest level of yourself possible on a daily basis. This requires a commitment on your part – both in time and energy.

MENTAL HEALTH

The connection between mental and physical health has been well documented in recent decades. Studies suggest that the brain's ability to resist dementia is greater if it has been stimulated throughout life. Other research findings state that people with complex jobs have a reduced risk of Alzheimer's, no matter what their education – suggesting that being challenged intellectually throughout life is important.

Caring for the body is essential too. People who are aerobically fit tend to suffer less cognitive decline with normal ageing.

However, working towards optimal mental health is an activity that seems to disappear when you leave school and enter the work force. Reading, writing, planning, visualising, being creative and using your imagination, thinking analytically, intellectual conversations, and continuing education are all important in your quest for optimal mental health.

Making time for, and choosing to perform these activities is essential for achieving optimal mental health.

PHYSICAL HEALTH

To maintain the health of your body and mind, you need to exercise (move) on a daily basis. This includes activities that strengthen your bones, muscles and connective tissues, activities that challenge your cardiovascular and respiratory systems, and activities that maintain the extensibility of your muscles and the movement of your joints.

Sleep is a critical component of a healthy lifestyle and contributes to your spiritual, mental, emotional and physical wellbeing. The human body needs to be in a rested state for eight to nine hours per night. Five to seven of these hours should be while experiencing deep sleep. Creating a sleep environment that is conducive to quality sleep is also essential.

The food and water you consume on a daily basis is essential to your spiritual, emotional, mental and physical health. Optimal nutrition, in relation to optimal health, is a vital component of your daily routine.

Many people feel that being thin automatically reflects physical health and wellness and is a sign of quality nutrition. Unfortunately this is not necessarily the case. Thin people can die from heart disease and cancer or suffer from conditions such as diabetes, osteoporosis, arthritis and Alzheimer's. And this doesn't take into consideration days lost to illness, feeling run-down, perceived levels of stress, concentration, critical thinking and ability to make quality decisions. Areas that are all affected by the quality of the food and water you consume each day.

Optimal nutrition must be based around consuming foods and water that have undergone the least amount of processing and contain the fewest additives, chemicals, antibiotics and hormones possible. Only by choosing to consume the highest quality food and water, and by limiting your exposure to toxins and chemicals, can you begin to move towards optimal health.

THE BODY GENIUS INSTITUTE - OUR EXPERIENCE

Clinically, when the Foundation Principles are not being followed, we have noticed the following trends:

- Clients with poor sleep patterns or working shift work generally take longer to heal from 'standard' injuries.^{13, 14, 15, 16, 17}
- Clients with poor nutritional habits tend to suffer from a wider range of symptoms, heal more slowly, and present for treatment on a much more regular basis.
- Clients suffering from depression tend to have poor sitting and standing postures and suffer a greater number of pain episodes that last longer than clients who are generally happy.¹⁹
- Athletes with poor sleep patterns, average diets, and high stress levels, suffer more orthopedic injuries: Tendonopathy, labral tears, tendon tears and joint pain.
- Clients who live fast-paced lifestyles, work excessively, exercise intensely, and avoid 'quiet time' generally present with a much wider array of symptoms: Lethargy, hormonal issues, poor digestion, multiple areas of pain and inflammation.^{17, 20}
- The majority of clients who present with joint disease (Rheumatoid arthritis, osteoarthritis, gout, chronic joint pain and stiffness atypical of age) have a history of gastrointestinal disorders at some point in their lives.⁴ This may include diagnosed intestinal permeability, bloating, constipation, diarrhea, parasitic infection, fungal infection, food sensitivities, Irritable bowel syndrome (IBS), diverticulitis, colitis, etc.^{6, 7, 8}

A detailed assessment of a client's lifestyle and health history, along with the completion of the Health Appraisal Questionnaire (HAQ), can provide a skilled practitioner with strong clues about how closely these foundation principles are being adhered to.

There is a **Genius** in every **Body** and when clients adhere to these Foundation Principles the healing process is enhanced and symptoms 'magically' disappear.

RECOMMENDED RESOURCES - HEALTH

- Nutrition and Physical Degeneration by Weston A. Price www.westonaprice.org
- How to eat, move, and be healthy by Paul Chek
- The last 4 doctors you'll ever need by Paul Chek
- Underground Wellness Radio (Podcast) by Sean Cruxton
- www.chriskresser.com
- Healing with Whole Foods by Paul Pitchford
- Additive Alert by Julie Eady
- www.robbwolf.com
- Stumbling on Happiness by Daniel Gilbert
- Places of the Heart: The Psychogeography of Everyday Life by Colin Ellard
- <http://www.osho.com>

PAIN AND DYSFUNCTION

PAIN

Despite a general trend in society towards the acceptance of pain as being a 'normal' part of life, pain of any kind in the body is a signal that something is wrong. The most common complaints made by clients include:

- Headaches and migraines
- Neck and shoulder pain
- Lower back pain
- Joint pain and inflammation of unknown origin (hands, feet, knees, hips)
- Chronic muscle tightness, typically in the middle to upper back
- Chronic inflammatory problems such as lateral epicondylgia (LE), better known as tennis elbow, Achilles tendonitis, plantar fasciitis, patellar tendinitis.

In addition to these pain patterns, clients often describe compounding variables such as bloating, constipation, diarrhea, abdominal pain, dysmenorrhea, female hormonal issues, gastrointestinal disorders and/or other lifestyle-related challenges.

It needs to be repeated that pain is a strong indicator that something is wrong within the body and the root cause of the pain should be determined. Taking paracetamol for headaches, rubbing creams on eczema or psoriasis, taking Neurofen for joint pain, taking proton-pump inhibitors (PPIs) for heart burn, or taking laxatives for

constipation are just a few examples of how the general public confuses a symptom with a cause. Inevitably this type of behaviour will either result in worsening of their symptoms or create an even stronger reaction within the body. You cannot drug yourself back to health.

METHODS FOR EVALUATING PAIN

- Subjective Evaluation
- Completion of a pain chart
- Questionnaires & other subjective evaluation tools
- Subjective pain scales that allow clients to score their pain from 1 to 10

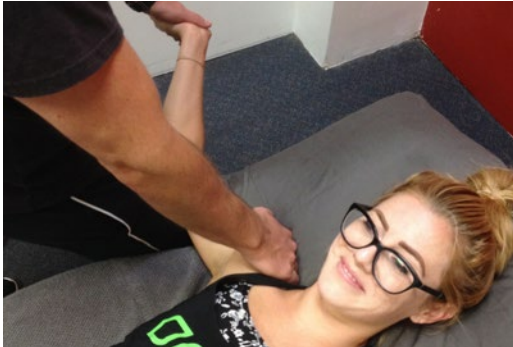
DYSFUNCTION

For purposes of this book, dysfunction refers to an abnormality or impairment in the proper functioning of the neural or musculoskeletal systems. Examples of normal ranges include:

- Cervical (neck) rotation (normal range is 80-90 degrees)
- Hip joint internal rotation (45 degrees) and external rotation (50+ deg.)
- Hamstring length (normal range is 160 degrees or greater)
- Knee to wall test for ankle mobility (normal range is 10-15cm)
- Shoulder internal rotation (60 degrees) and external rotation (80-90 degrees)
- Palpation of joints may reveal stiff or reactive tissues
- Palpation of muscles may reveal triggers points or increased tone of fascia
- Neurodynamic Testing (NDT) may reveal neural tension

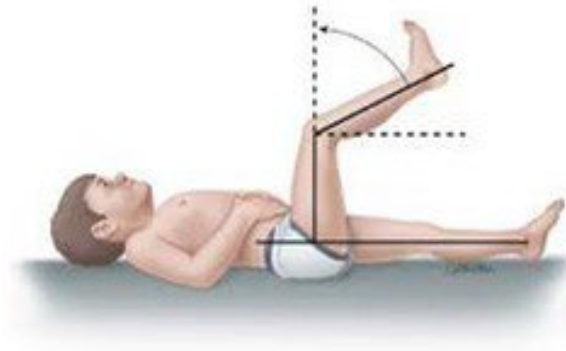
At The Body Genius Institute we systematically break this evaluation process down into three steps:

1. Subjective Evaluation, medical history, pain & symptom charts, Pain Tree, HAQ graphs
2. Neurodynamic testing (NDT)



Neurodynamic testing utilizes the latest in neurophysiology research to objectively and accurately assess neural dysfunction. The aim is to accurately test whether a client has neural dysfunction or not. If a neural dysfunction is present the aim is to provide intervention until resolution occurs. This allows the practitioner to determine what percentage of the client's condition is from mechanical nerve gliding problems.

3. Musculoskeletal Assessment – Joint range of motion, muscle length testing, palpation of all joints and soft tissues, and relevant functional tests.



THE EVALUATION OF DYSFUNCTION

Extensive clinical experience would lead us to believe that a detailed evaluation of the client's entire body is required, regardless of where the client's pain or dysfunction is described. This process involves following a detailed check list that includes a head-to-toe analysis of the range of motion at every joint, muscle length testing, palpation of all major muscles and soft tissues, and palpation of all spinal segments. This process has served us well and ensures that nothing of significance is missed. From a treatment perspective it relies on the old adage that 'everything in the body is connected', a concept that is now being proven by the latest neurophysiology research.

Clinically, we have changed client's 'tight' hamstrings by releasing tight jaw muscles or by mobilizing thoracic spinal segments or even by releasing trigger points in seemingly unrelated muscle groups such as biceps, pecs and hip flexors.

*Anatomically these structures may seem unrelated,
however from a neural perspective everything
in the body is connected.*

THE FULL SCREEN PROCESS

- Postural Assessment
- Functional Movement Assessment – Including balance & coordination
- Joint range of motion
- Muscle length testing
- Spinal Assessment (Reactive versus stiff joints)
- Viscera and diaphragm Assessment (Palpation when appropriate)
- Palpation of muscles, ligaments, tendons, joints, and fascia

Consider the level of detail provided in the summary table from one of our BG clients. Although this was a complex case, this level of detailed assessment is undertaken for all clients attending the Body Genius Institute.



EXAMPLE - SUMMARY TABLE

MOVEMENT ASTERISK SIGNS		PALPATION ASTERISK SIGNS		TDT
1	Lx flexion minus 28cm	1	C1 right stiffness	
2	Lx extension 30 deg. pain limited	2	C4/5 left, C5/6 right	
3	Pelvic shift positive right side	3	Anterior Cx discs C2/3, C3/4 left	
4	Thomas test: tight HF, ITB, RF	4	T1,2,3, 8, 9, 12	
5	Right hip flexion 100 deg	5	L1, 5 and L2,3,4 anterior discs (R)	
6	Right hip Int. Rotation 20 deg	6	Ribs 7, 8, 9 right	
7	Right Hamstring length 120 deg	7	Right superior tib/fib joint stiff	
8	Left hamstring length 140 deg	8	Right talocrural joint stiffness	
9	Tx rotation (L) (R) 30 deg	9	Right tarsals stiff	
10	Cx rotation left 60 deg, (R) 85 deg	10	Triggers or Increased tone muscles	
11	(L) (R) Cx side flexion 15 deg	11	Masseter	
12	Right shoulder Int. rotation 20 deg	12	UT	
13	Right knee to wall test 8cm, (L) 13	13	LS	
14		14	biceps	
15	Poor sitting posture	15	Brachioradialis	
16	Shallow breathing pattern	16	Pronator teres	
17	Increased standing Tx kyphosis	17	Hand intrinsics (R)	
18		18	(R) forearm flexors	
19	Positive psycho-emotional	19	Pectorals	
20		20	Tx paraspinals	
			Gluteus minimus, medius, piriformis	
	Cx = Cervical		Hamstrings, TFL	
	Tx = Thoracic		(R) gastroc and soleus	
	Lx = Lumbar		Tib. Anterior and fibularis	
			Foot intrinsics and plantar fascia	

Consider posture, sleep, diet, stress, exercise/activity & other perpetuating factors that may aggravate the client's condition or increase "system wind-up." Discuss with client.

The astute practitioner can utilize this information (Summary Chart) to determine the joint(s) that demonstrate the greatest movement restriction. Therapy can then be applied accordingly to restore full movement and resolve the client's pain patterns.

RECOMMENDED RESOURCES – PAIN AND DYSFUNCTION

RESEARCH ARTICLES

Allison, G. T., B. M. Nagy, and T. Hall. 2002. A randomised clinical trial of manual therapy for cervico-brachial pain syndrome- a pilot study. *Manual Therapy* 7:95-102.

Coppieters, M. W., K. H. Stappaerts, L. L. Wouters, and K. Janssens. 2003. The immediate effects of a cervical lateral glide treatment technique in patients with neurogenic cervicobrachial pain *Journal of Orthopaedic and Sports Physical Therapy* 33:369-378.

Nee, R. J., B. Vincenzino, G. A. Jull, J. A. Cleland, and M. W. Coppieters. 2011. A novel protocol to develop a prediction model that identifies patients with nerve related neck and arm pain who benefit from the early introduction of neural tissue management *Contemporary Clinical Trials* 32:760-770.

Nee, R. J., B. Vincenzino, G. A. Jull, J. A. Cleland, and M. W. Coppieters. 2012. Neural tissue management provides immediate clinically relevant benefits without harmful effects for patients with nerve-related neck and arm pain: a randomised trial. *Journal of Physiotherapy* 58:23-31.

Nerve trunk pain: physical diagnosis and treatment T.M. Hall, R.L. Elvey. *Australian Journal of Physiotherapy*. Volume 32, Issue 4, 1986, Pages 225-230

OTHER

Becoming a Supple Leopard by Kelly Starrett

David Butler: Neuro Orthopaedic Institute (<http://www.noigroup.com/en/Home>)

Mobilisation with movement: The art and the science. Edited by Bill Vincenzino, Wayne Hing, Darren Rivett and Toby Hall Chatswood, N.S.W., Australia: Churchill Livingstone - Elsevier Australia, 2011.

Gray Cook, 2010. *Movement: Functional Movement Systems: Screening, Assessment, Corrective Strategies*. Lotus Publishing, United Kingdom.

MOBILITY AND FLEXIBILITY

The team at Body Genius is often asked why mobility and flexibility precede stability on the pyramid. Our answer is always the same, without the proper movement mechanics around a joint it's difficult to create stability.

For example, a client may have pain on the inside of their right knee. The client runs consistently and is provided with a diagnosis of 'Runner's Knee'. The treating therapist may recommend hip stability exercises (gluteus medius retraining) and/or vastus medialis oblique (VMO) exercises for patellar stability. The theory being that through stabilizing the hip and patella the knee pain will resolve. However if clinical evaluation uncovers lack of lumbar spinal mobility, lack of hip flexion and extension, and lack of dorsiflexion (ankle bending) then it's unlikely that any amount of stability exercises will be of benefit. The first step in the process would be to satisfy the PAIN and DYSFUNCTION LEVEL of the pyramid before moving upwards to stability-based training. In order to satisfy this level, full flexibility of muscles and mobility of joints must be restored.

Following this methodology, a client who wishes to create scapular (shoulder blade) stability through scapular retraining exercises and rotator cuff exercises must first ensure that they have full mobility throughout their body including their ankles, knees, hips, spinal column, shoulders, elbows and wrists. Although this concept may seem excessive, lack of mobility anywhere in the body can reduce or prevent stability at other joints. For example, a left hip joint that lacks extension may prevent right shoulder stability during functional activities. Stability exercises without first regaining mobility of the left hip is out of sequence and is unlikely to yield the desired outcomes.

The second most consistent question our team is asked is why mobility and flexibility come after pain and dysfunction on the pyramid. The answer to this question is slightly more complex:

- If neural tension is present, a positive result for neurodynamic testing (NDT), then in the vast majority of cases stretching is discouraged. Stretching neural tissue that is "wound-up" may increase pain and delay healing.^{21, 22, 23, 24, 25}
- Stretching tight muscles such as the hamstrings may yield little results when other tissues in the body are causing shortening of the hamstrings (or inhibiting normal length). We have seen clients who have been stretching their hamstrings for years with little change on length tests. Clinical evaluation of the client may reveal any number of structures that are restricting their hamstrings: TMJ dysfunction, thoracic spine dysfunction, lack of hip range of motion, lumbar spinal pathology. Once these dysfunctions are cleared up through manual therapy the client's hamstring length simply returns to normal without stretching.
- Mobilizing a stiff joint through exercise may not result in improvement. If a positional fault is present at the joint, or surrounding joints, then persistent joint mobilization exercises are unlikely to yield the desired outcome. And in some cases may result in pain or reduced range.

A skilled therapist can save clients hours of stretching, foam rolling and mobilizing through proper assessment and precise treatment strategies. Just how quickly muscle length and joint range can be restored through treatment is often surprising to our clients.

CONCEPT OF WEAK VERSUS INHIBITED

Clients often speak of weak muscles that need to be strengthened. One classic example is a dysfunctional step-down test, which would suggest hip instability. The client is asked to lower their body weight down off a step using one leg. The practitioner assesses the quality of the movement to determine if the client's stance leg can

create stability for the moving leg. Failure to complete this test or 'wobbling' during the test would suggest the stance leg has hip and core instability or poor foot mechanics.



Often gluteus medius is implicated and strength exercises implemented. The question we need to ask is whether the stance leg is truly unstable (weak) or whether the muscles required to support the leg are being inhibited from working correctly by other structures.

Consider this example of a client we consulted with. "Chris" was a powerlifter and consistently squatted and dead lifted in excess of 200kg. He developed right knee pain and was told by his treating therapist that his hip stabilizers were weak and he was provided with classic gluteus medius exercises



A month later there was little improvement in his symptoms and despite a diligent effort the exercises had not resulted in any significant improvement in hip stabilization.

Our detailed head-to-toe assessment demonstrated that Chris had a left shoulder that lacked movement. To be precise, internal and external rotation at the shoulder were severely restricted (mobility) and his latissimus dorsi (lats), pectoral (pec) and rotator cuff on that side were very tight (flexibility). Over the course of several sessions we were able to restore full range to his shoulder and proper length to the tight muscle groups. Once corrected, we retested Chris' functional hip stability tests and he passed easily without knee pain. Over the next two weeks Chris gradually increased his training loads to 100% and was symptom-free.

In our minds it did not make any sense that a skilled powerlifter that can consistently lift 200kg would have weak hip stabilizers. The concept of 'inhibited' hip stabilizers made far more sense and this lead us to search his body for the offending structures.

This is just another key reason why 'Pain and Dysfunction' precedes 'mobility and flexibility' and why 'mobility and flexibility' precedes stability on the pyramid.

CASE EXAMPLE

Marcus, a top-level bodybuilder presented with right shoulder pain that had been going on for three months and was becoming progressively worse. The pain was most prominent with bench pressing and overhead movements.

Once we had cleared neurodynamic testing (NDT), we performed a full head-to-toe assessment. The most prominent findings were:

- Lack of hip mobility into flexion
- Significantly shortened hamstring length (100 degrees both sides)
- Thoracic rotation and extension 50% of normal range
- Cervical rotation, 50% of normal range
- Shoulder internal and external range, 25% of normal range

Through extensive dry needling techniques we were able to resolve Marcus' pain in three sessions. Pulling out the pyramid we explained to Marcus that although pain had resolved, we had still not cleared the pain and dysfunction level. There were significant dysfunctions that still remained within his body despite pain resolution.



In our opinion there was no point providing mobility/flexibility exercises or stability exercises (as requested by Marcus) until these dysfunctions were cleared up. Marcus decided to implement his own flexibility and stability exercises and returned to heavy bench-pressing two weeks later. Less than three months after our initial consult Marcus returned to see us with right shoulder pain. An MRI scan showed complete rupture of his supraspinatus (rotator cuff) tendon. Surgery was performed a short time later to repair the tendon. Marcus underwent rehabilitation with a different therapist and full shoulder flexion and abduction was restored along with stabilization exercises (rotator cuff).

Marcus returned to The Body Genius Institute for consultation a year later complaining of right shoulder pain. After one dry needling session the pain was gone and we then thoroughly assessed Marcus from head-to-toe. The findings were almost identical to two years earlier with lack of mobility in the shoulders, hips, hamstrings, neck and thoracic spine. We strongly advised that Marcus correct these movement dysfunctions before returning to heavy weight training. Unfortunately Marcus did not listen, returned to heavy lifting and returned to Body Genius nine months later with a complete rupture of his right biceps tendon that required surgery.

If we follow this case example through and compare it to the performance pyramid we can clearly see that Marcus continually returned to "Strength" "Power" and "Sport" training despite failing to satisfy the pain/dysfunction, mobility/flexibility and stability levels. Even his rehabilitation (post surgery x 2) focused on mobility/flexibility, stability and strength without satisfying the pain and dysfunction level. In the end, jumping ahead too quickly, and moving up the ladder indiscriminately resulted in two significant shoulder surgeries.

STATIC VERSUS DYNAMIC MOBILITY & FLEXIBILITY

A final concept that is worth mentioning is the difference between what we call static mobility versus dynamic mobility.

Static joint testing (range) often occurs unloaded (non weight bearing) while lying on a treatment bed. This may include assessing ankle, knee, hip, shoulder, elbow, wrist and spinal range of motion. In other words, how well these joints move through full range.

Static muscle length testing often occurs in precise patterns of movement that aim to focus solely on the test muscle chosen. This may include hamstring length testing or the Thomas Test, which evaluates the length of the hip flexors, quadriceps and TFL/ITB tissues.

A great deal of information can be obtained from these types of joint mobility tests and muscle length tests. However, the question is whether a 'normal' test is then predictive of a client's ability to return to more dynamic activity. In other words, can static, unloaded tests determine if a client is ready to return to dynamic, loaded activity? Our experience would suggest the answer is no.

There are several points to consider. Will the muscles and joints behave differently once the client is standing and experiencing the effects of gravity? When the client begins to move dynamically, where fascial connections come into play, will these same joints and muscles respond optimally or will they restrict movement?

Take a look at the standard 'Thomas Test' position and compare it to the Yoga pose.



Hip extension along with muscle length may appear normal during Thomas Testing (left). However when this same client is asked to participate in a Yoga class, they may find that these same muscles and joints restrict movement and prevent full participation in the desired position. We would endeavor to say that the Yoga position is a more accurate measure of a client's ability to return to full sport participation.

Beyond Yoga Classes there are several other ways for accurately measuring and assessing mobility and flexibility in a more dynamic fashion. These include the Functional Movement Screen® (FMS) and Y-Balance Test® (YBT). The scores from these tests can then be entered into the Move2Perform software and an individual risk profile generated.

The Body Genius team has found this type of testing and reporting to be a critical component in all of our client's return to sport / activity protocols.

RECOMMENDED RESOURCES – MOBILITY AND FLEXIBILITY

- Mobilisation with movement: The art and the science. Edited by Bill Vicenzino, Wayne Hing, Darren Rivett and Toby Hall Chatswood, N.S.W., Australia: Churchill Livingstone – Elsevier Australia, 2011.
- www.mobilitywod.com
- Becoming a Supple Leopard by Kelly Starrett
- www.anatomytrains.com
- www.functionalmovement.com
- www.ybalancetest.com
- philplisky.com
- graycook.com
- Paul Chek – How to eat move and be healthy

STABILITY

Joint stability is best described as the resistance that can be created by various musculoskeletal tissues around a given set of joint(s). In order for this stability to be created we rely on several subsystems including passive systems (fascia, ligaments, cartilage, joint capsule), active systems (muscles and tendons), and the neural system.

One may question why creating stability around a joint or series of joints is reliant upon being healthy. Although a full explanation is beyond the scope of this book it's worth a brief discussion.

Consider the affect that gastrointestinal inflammation can cause on the core 'stabilizers' of the body. All internal organs, including the stomach, small intestine and large intestine communicate through the nervous system. Inflammation of one or more of these organs can cause weakness in any of the muscles that stabilize the core¹²³ There are two important factors to consider when this happens: First, dysfunctions of these muscles will likely cause instability of the spinal column, sacroiliac joints and hips (core and pelvic instability) and subsequently instability at peripheral joints such as the shoulders, knees, elbows, ankles and wrists. Second, it's often difficult, or impossible, to activate these same muscles through exercise when gastrointestinal inflammation is present. This can be very frustrating to the client and therapist alike when a diligent effort by both parties does not yield the desired outcome.

Now consider how many people who are seeking treatment for pain and instability are also suffering from

gastrointestinal inflammation brought on by poor sleep patterns, stressful lifestyles, sedentary lifestyles, alcohol, and poor food choices. Would you expect this number to be in excess of 50% of all clients seeking treatment? Can you now see why HEALTH makes up the base of the performance pyramid and how poor health may contribute to dysfunction at any joint in the body?

If we move up to the next level of the pyramid we need to consider pain. Research has demonstrated clearly that pain can cause rapid atrophy of muscle tissue²⁶ in addition to inhibiting the proper functioning of muscles.²⁷ This becomes a challenging scenario for clients and therapists looking to strengthen muscles affected by pain or attempting to stabilize joints through exercise. It may highlight why elimination of pain patterns precedes mobility/flexibility and stability on the performance pyramid.

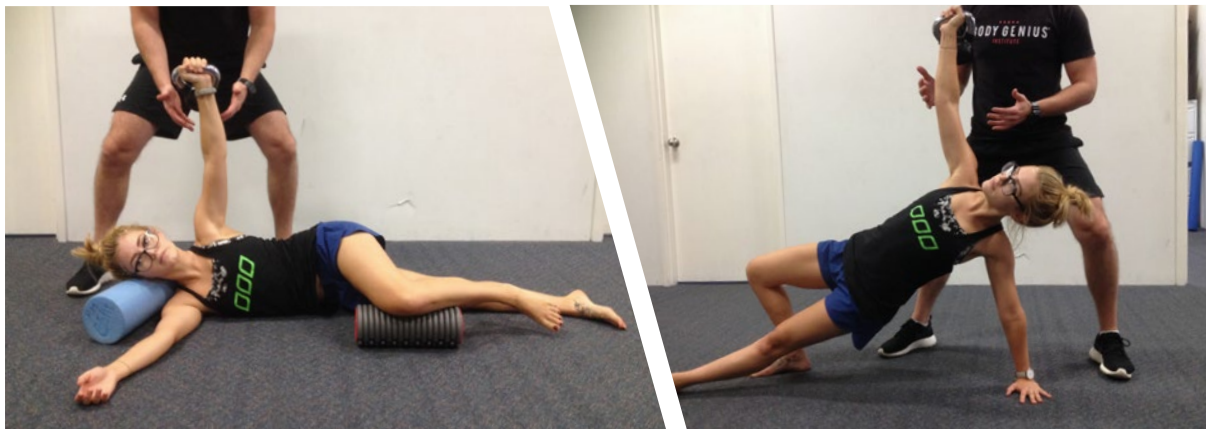
Likewise, it's important to highlight again the importance of flexibility and mobility and consider how lack of movement may prevent proper joint stability. Consider the number of people who are performing scapular retraining exercises and/or rotator cuff exercises. These types of exercises are implemented in an attempt to create stability in the shoulder complex (shoulder blade and shoulder joint). You have likely heard the statement, "everything in the body is connected." As a treating therapist this statement couldn't hold more truth. Proper shoulder stability is reliant up on full mobility of all the other joints within the body including the feet, ankles, knees, hips, sacroiliac joints, lumbar spine, thoracic spine, cervical spine, shoulders, temporomandibular joints (TMJ), elbows, wrists, and hands.

- An inability to extend through the thoracic spine will prevent proper shoulder joint mechanics and inhibit stability around this joint
- Lack of mobility in the cervical spine (neck) will inhibit shoulder joint stability, both through anatomical relationships and neural connections
- Although poor hip function may not restrict shoulder joint stability in a static position such as the prone position (face down), this same hip joint dysfunction will have a significant (negative) impact on shoulder function in activities such as running, swimming, throwing and rowing.

It's also worth briefly discussing the importance of progressing from static stability exercises to more dynamic (functional) stability exercises. If we continue with our example of creating shoulder stability, prone (face down) scapular exercises and isolated rotator cuff exercises can certainly be an excellent starting point with many clients. (See example pictures below).



However, progressing to more dynamic (functional) stability based exercises is eventually needed. There are an infinite number of examples and each client's needs should be considered individually.



From a testing perspective it can be difficult to get a consistent, accurate objective measure of a client's ability to stabilize through a given joint or series of joints. In most cases this is done through the therapist selecting an exercise or position that they consider to have a specific degree of difficulty and then evaluating whether the client can perform that exercise or hold that position.

Fortunately, there are much more accurate forms of stability-based tests available to both clients and therapists.



The Functional Movement Screen® (FMS) and Y-Balance Test® (YBT) are both functional in nature and provide a level of objectivity (scoring) that is often difficult to get. The FMS was created by Gray Cook and has a series of seven tests that aim to determine a clients ability to move through functional movement patterns while assessing mobility, flexibility, stability, balance, coordination and strength. The YBT was created by Phil Plisky and has both an upper and lower body component. Like the FMS, the YBT has the ability to assess a clients mobility, flexibility, stability, balance, coordination and strength. The scores from the FMS and YBT can be inputted into the Move2Perform software and a clients **injury risk profile** can be generated. The practitioners at The Body Genius Institute have found these tools invaluable in our clients return to activity programs.

RECOMMENDED RESOURCES - STABILITY

- The Naked Warrior by Pavel Tsatsouline
- Becoming a Supple Leopard by Kelly Starrett
- <http://www.functionalmovement.com>
- <http://www.ybalancetest.com>
- <http://philplisky.com>
- <http://www.mobilitywod.com>
- <https://www.move2perform.com>
- Advances in Functional Training by Michael Boyle
- Chek Institute Correspondence Courses: Assessing Core Function, Equal But Not The Same, Scientific Back Training, Scientific Core Conditioning, Scientific Shoulder Training.

STRENGTH, FITNESS, POWER AND HIGH PERFORMANCE SPORT

The concept of the Performance Pyramid has been developing for several decades.

The team at The Body Genius Institute comes from a wide range of backgrounds that includes participation in sports such as gymnastics, diving, ice hockey, rugby, soccer, powerlifting, bodybuilding, martial arts, and swimming. Through these experiences we have developed a wide range of skills and attributes that we can apply to our clients. Each team member has a unique set of academic and clinical skills that allows them to excel at one or more of the levels within the Performance Pyramid: Our Integrative Health practitioners excel at the HEALTH level, our Physiotherapists excel at the PAIN/DYSFUNCTION, MOBILITY/FLEXIBILITY, and STABILITY levels. Our Movement Coach excels at the STABILITY, STRENGTH, FITNESS, POWER and MOVEMENT levels.

It's through the integrated efforts and collaboration of skills of all the Body Genius team members that we excel in helping our clients reach their goals by becoming healthy and moving well.



PISTOL SQUAT



HANDSTAND



CAPOEIRA

The human body was designed to move through a wide range of movement patterns. These basic movement patterns are best demonstrated by watching infants or young children as they move and play. Achieving these developmental milestones is important because they are reflected in the way we move as adults.



It's these basic movement patterns that develop into more complex patterns that allow us to participate in activities such as walking, running and jumping and sports such as golf, tennis and swimming.

There have many experts that have aimed to define these basic movement patterns and made them the foundation behind both rehabilitation and performance. Paul Chek, Kelly Starrett and Gray Cook are all noteworthy advocates of these concepts.

PAUL CHEK (PRIMITIVE PATTERNS)

Push	Pull	Twist
Squat	Lunge	Bend
Walk	Run	

GRAY COOK (FMS)

Overhead Squat	Lunge	Active Straight Leg Raise
Rotary Pattern	Reach Mobility	Hurdle Step
Stability Push-Up		

You can see the similarities when you compare the work of Gray Cook and Paul Chek. Both experts have studied infant development extensively and have applied this knowledge to the study of human movement as it applies to life, rehabilitation and sport.

What becomes interesting is a nearly thirty-year trend towards gym-based / machine-based training that includes exercises such as leg pressing, leg extensions, hamstring curls, pec-deck, calf raises, hack squats, and various other push/pull machines. Added to the long list of criticisms of this form of training is the fact that these exercises only vaguely resemble any form of natural human movement. One likely reason for the success of 'Cross-fit' around the world is that its training principles are based entirely on functional movement patterns: Olympic lifting, plyometrics, gymnastics and strongman exercises. This represents a significant advancement over standard machine-based programs.

Human movement can be best exemplified in the training discipline of Parkour, the Ninja Warrior competitions and possibly the principles and training concepts of Ido Portal. Parkour is a training discipline that gained traction in the 1980s and developed out of military training principles. It became popular around the world when featured in such popular movies as Casino Royale and The Bourne Ultimatum. Ninja Warrior is an American spin-off of the widely popular Japanese Sasuke. Sasuke is a Japanese sports entertainment competition where hundreds of competitors attempt to complete a four-stage obstacle course and need to demonstrate incredible feats of human performance. Ido Portal is a Portuguese born movement expert and has an extensive following of his work. Ido combines 15 years of experience in the physical discipline of Capoeira along with decades of experience studying other movement disciplines from around the world. Certainly these three sources alone will allow us to gain a greater understanding of human movement and the amazing capabilities of the human body.

A CAUSE FOR CONCERN

A simple look at the general population and one may question what constitutes true ageing and what functional deficits simply reflect a sedentary lifestyle and a diseased state. Certainly this lack of mobility and functional ability is not reflected in the elderly population of all cultures.



But of course these same cultures are also better represented at the base of the Performance Pyramid. Their health is far superior when compared to subjects in similar age groups in Western Cultures and pain and dysfunction are far less prevalent. As such it's not surprising to find that they excel at all of the higher levels of the Performance Pyramid as well.

So how far can the human body really go?

When the human body is healthy, free from pain and dysfunction, and has full mobility/flexibility and stability, the possibilities are endless. Consider:

- The incredible strength, power and creativity of Ross Enamait
- The unbelievable feats of world record holder Wim Hof
- The unreal athleticism of Free Running Sebastien Foucan
- The incredible athleticism and grace of Olympian Lisa Skinner

Please take the time to read the intimate (and exclusive) interviews with each of these incredible people.

RECOMMENDED RESOURCES – STRENGTH, FITNESS, POWER, SPORT

- <http://rosstraining.com/blog/>
- www.icemanwimhof.com/innerfire
- www.idoport.com
- www.facebook.com/klokovwww/
- www.foucan.com

- www.strongfirst.com
- The Naked Warrior by Pavel Tsatsouline
- www.strengthsensei.com
- www.bengreenfieldfitness.com
- www.paulcheksblog.com
- Movement that Matters by Paul Chek
- Wisdom of the Body Moving by Linda Hartley

CONCLUSION

Whether your goal is to run a marathon, swim the Rottneest Channel Swim, complete a triathlon, or simply to move and feel better, your journey should begin at the base of the 'Performance Pyramid' and move upwards as your health and vitality allow.

The Body Genius Institute is one of the few organizations in the world that has the expertise and highly qualified professionals needed to assess clients at each level of the Performance Pyramid and to provide individualized advice regarding diet, supplementation, treatment, acupuncture, corrective exercises, movement training and a wide range of other services all aimed at helping you to reach your desired position on the 'Performance Pyramid'.



Q & A WITH ROSS ENAMAIT

www.rosstraining.com

WHERE DID YOU GROW UP? WHAT WAS YOUR CHILDHOOD AND ADOLESCENCE LIKE IN RELATION TO HEALTH, ACTIVITY, SPORT AND COMPETITION?

I grew up in Connecticut and have been involved in sports since I was a young child. I honestly don't recall a single point in life without sports. My two greatest passions have always been boxing and baseball. I started as an athlete and eventually transitioned to coaching after several injuries. I currently coach youth baseball players and train professional fighters.

HOW DID YOU END UP BECOMING ROSSTRAINING.COM?

I wouldn't say that I ever became rosstraining.com. The website is a simple extension of the offline training business that I started over 15 years ago. It allows me to share ideas and interact with others who aren't able to train with us locally.

WHERE DID YOU GAIN THIS KNOWLEDGE AND EXPERIENCE FROM? SPORT, PERSONAL TRAINER, STRENGTH COACH, SPORT COACH, UNI OR COLLEGE DEGREES, COURSES ETC.

Although I spent many years working on my Bachelor's and Master's degree, I believe that the most useful knowledge I've acquired has come through hands on experience. I was fortunate to have several top notch coaches and trainers as a young athlete. Years later, I continue to learn by doing and testing new ideas. My quest for knowledge and research is never ending. There's always room to improve in some way.

WHAT WAS YOUR MOTIVATION BEHIND PUTTING ALL THIS TOGETHER?

The motivation behind my website is quite simple. The fitness industry is filled with bogus claims, overpriced gadgets, and excessive complexity. My goal is to be the opposite. I strive to provide real, cost-effective solutions to lifelong health and fitness.

Getting in shape doesn't need to be complicated and it shouldn't force you to refinance your mortgage.

WHAT DOES IT MEAN TO YOU (MENTALLY, PHYSICALLY, EMOTIONALLY, SPIRITUALLY) TO BE ABLE TO MOVE LIKE THIS?

Socrates once said the following.

"It is a shame for a man to grow old without seeing the beauty and strength of which his body is capable."

I'm a strong believer in these words. Life is a gift that can come and go in an instant. To live life without maximizing the body that you've been given is not only a shame, but also a waste. There are no rewind buttons in the real world. Make the most of your time while you still can. If you don't, some day you'll wish you did.

WHERE ARE YOU AT IN LIFE? WHAT ARE YOUR CURRENT PASSIONS? IS THERE ANYTHING EXCITING HAPPENING THAT PEOPLE WOULD LIKE TO KNOW ABOUT?

I continue to train and coach athletes on a daily basis. Striving to better them each day is what drives me.

IS MOVEMENT AND OVERALL HEALTH STILL A BIG PART OF YOUR LIFE?

I train pro fighters for a living so I need to be in shape to perform my job. I am also passionate about my own training. I love the challenge, the rush, and the competitive fire that burns within. I also have a gym on my property so training is a way of life. My children have grown up since day one watching pro fighters train here. It isn't unusual for the entire family to be in the gym. My wife and I both live healthy, active lives so the kids don't know anything else. They have essentially been born into the lifestyle. It's what we do. It's who we are.



Q & A WITH SEBASTIEN FOUCAN

SEBASTIEN FOUCAN MAY BE BEST KNOWN FOR HIS ROLE IN THE OPENING SCENE OF THE MOVIE “CASINO ROYAL” WITH DANIEL CRAIG. HOWEVER, THIS GIFTED ATHLETE HAS FAR MORE DEPTH THAN MEETS THE EYE!

The words of ... Sebastien Foucan

"I didn't chose Parkour, It is a discipline I developed with my friends in the late 80's
We started just to play around then it became more serious. However, I consider myself to be an explorer and I like to go from one discipline to another.

I'm interested in many things but my main passion is drawing and I've always been interested or attracted to art. I spend a lot of time drawing and I consider it to be a form of meditation.

I am committed to a holistic lifestyle and I'm passionate about my own well-being. My [Holistic Lifestyle] practice has evolved a lot since I started, but always with a clear focus on well-being.

For me, well-being means finding harmony in my life, while respecting my body and my surroundings!

I do not eat any animal products at all. No eggs, no dairy or milk. Or as little as I can! Some will say I'm vegan. They would probably be right.

Eat to live, not living to eat!

[As part of my holistic lifestyle] I'm interested in Ayurveda, Qigong, and meditation. I sleep well, which is very important to recharge my batteries and I prioritize time with my family as I have two children, 13 and 7 years old. I try to do my best to improve the inside as much as the outside!

I practice what I call 'seasonality', which means I follow the seasons. Don't expect to see me moving much during winter! I'm interested in circadian rhythms [and annual rhythms] as I feel all these things are important to my health more than spending the entire year jumping around and damaging my body. With all due respect to the top athletes, when it comes to health they are not my reference. As I say, always racing for performance in sport leads to short distance in health.

I admire more the 100-year-old person and even though genetics are involved it is still a true reflection of performance. The lifestyle of the people who live on the Island of Okinawa interest me a lot because of their longevity.

Have you ever heard about the Blue Zones?

The mature practitioner to me should ask himself: 'How much and how long must a human being move to be healthy?' At some point we need to grasp the concept of the art of letting go, to reduce this extreme activity. We all must understand that the body has limits and there are injuries you may never come back from. Our vehicle (body) can be broken and too much repetition will damage your joints. I call my practice "The 8 branches of the tree of Harmony." These principles are the result of my direct evolution from Parkour to Freerunning! I am currently in the process of preparing a lecture on this topic.

I call my practice The 8 branches of the tree of Harmony.

Human beings are born to be exceptionally diverse! And as such that was the original aim of Freerunning. But there has been a further change of orientation with Freerunning as it follows its own flow now.

The common theme for everything I do is passion and curiosity! But to be more precise there are the 8 branches of the tree of harmony that I follow:

Body	Instruction	Environment	Portection
Liberation	Mind	Relation	Energy

I try to live to react to what comes to me! I have always said we need to relearn more than to learn! We are born to explore and to try new things! A child's natural behaviour is always to ask mum or dad, what's that? As such, the system we have created breaks this natural inclination for learning. And as parents, because we are so busy, we often answer 'stop asking so many questions all the time!'

My aim is to fully accomplish myself. To overcome the boundaries that society has put in place and to evolve as completely as possible. As an analogy: The caterpillar that we are, has the urge to become the butterfly. Every one of us feels it! We are more than what we actually are!

I'm a family man, I'm a daddy, a motivation speaker, an actor, an artist, and a Freerunning coach!

All the best,

Sebastien



Q & A WITH WIM HOF

www.icemanwimhof.com

The exceptional Wim Hof, better known as "The Iceman", is a Dutch adventurer and creator of the Wim Hof Method. Wim currently (2016) holds 21 Guinness world records, the most famous of which saw him sit in a large cylinder filled with freezing cold ice water for one hour and 52 minutes! Even more impressively, Wim's core body temperature remained exactly the same throughout this time. Scientists around the world were baffled by this exceptional performance.

Equally impressive, a 2014 research paper entitled "Voluntary activation of the sympathetic nervous system and attenuation of the innate immune response in humans" proved that subjects who performed the Wim Hof Method over a period of 10 weeks could gain control of their autonomic nervous system and immune system, a feat that was previously thought impossible by the scientific and medical communities.

ARTICLE

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4034215/>

Wim is living proof that the Wim Hof Method works. This exceptional man has been able to achieve the following feats:

- Sit in a cylinder of ice water for one hour 52 minutes while maintaining a core body temperature of 37 degrees Celsius for the entire time.
- Run a marathon, wearing only sandals and shorts, above the Arctic Circle.
- Run a half marathon barefoot above the Arctic Circle wearing only shorts
- Officially swam under ice for 66 meters with one breath
- Unofficially swam under ice for 120 meters with one breath
- Free climbing and hanging on one finger at an altitude of 2000 meters
- Climbing the highest mountains on earth in only shorts
- Undergoing heat tests while maintaining a constant body temperature
- Completing a full marathon in the Namib desert without consuming water

This may all seem superhuman, but Wim remains adamant that: "What I am capable of, everybody can learn."

AN INTERVIEW WITH WIM HOF

THE WIM HOF METHOD IS CERTAINLY BEGINNING TO RECEIVE A LOT OF ATTENTION RECENTLY. YOU MUST BE VERY PROUD AND VERY EXCITED!

Yes, very much so! The results and outcomes achieved by the Wim Hof Method have made their way into the 3rd year of the University books for Physicians in the USA. It's a full chapter and it's a fact that the autonomic nervous system (ANS) can be influenced by anybody in a very short period of time. So that is really exciting because then we get to the root, the cause of things and anybody can do it. So yes, that is very exciting. It is also very exciting that there is now ongoing research programs into depression, inflammatory markers, pain, even DMT [Dimethyltryptamine]. We are doing brain research as well. Researchers have seen that my methods not only influence the ANS but also reach the deepest parts of the brain and it's a total different scope now. And they are researching and investigating what is going on here. There will be significant positive outcomes from all this research and it's all under investigation.

So you do good work and we do good work and together we can do it better.

WHAT HAPPENED IN YOUR ADOLESCENCE THAT LEAD YOU DOWN THIS PATH?

I simply felt there was more between the earth and the sky. There isn't a mother in the world who wants her child to be sick, unhappy or powerless. No, every mother wants their children to be full of energy, healthy and happy. But, because of our behaviour, we do not know how to tap into the systems that can ensure we remain happy and healthy. For most people, their comfort zone behaviour neglects the deepest parts of their physiology. Because none of this is stimulated, and those areas that are neglected are related to the immune system and the endocrine system. But most people do not access and stimulate these parts of the brain. It's like having muscles but you don't train them.

When I was young I saw war, poverty, powerlessness, pain, suffering and depression. All of this. And I said no, I'm not going to take this as a fact. I'm going to surge. I'm going to try to find the answer. There is more, I can feel it, I don't know what it is, but I'm going for it.

So I went for it and I read many books, I practiced many esoteric disciplines, studied many religious traditions, cultures, etc I was looking into everything, but I finally found a real connection by going into the cold freezing water. And it made me realize immediately. This is it! These principles go beyond our thinking. They are innate within humans. And it is there in everybody, deeper within. And it is being awakened by one of the elements of nature, which is in this case the cold. The natural elements, they are all capable of bringing about the best of our physiology.

So that it is.

I AM INTERESTED IN THE ESOTERIC DISCIPLINES THAT YOU SPEAK OF. DID YOU GO THROUGH QIGONG, TAI CHI, AND MEDITATION AND WHERE DID YOU BEGIN?

All! Yoga. Karate. Kung Fu. Sufism, Buddhism, anything! Anything I could get my hands upon. You know. Anything I could practice I did. And I'm still very capable of doing it all now. I learned Japanese. I learned Sanscrit and Hindi.

I learned these languages and I was into it. I wrote books but I found out it's all too far away for us to grasp, to understand, and to implement into our lives. But with My method we have found a way to tap into the autonomic nervous system and the best part is that anybody can do it. So, that's the way.

THE WIM HOF METHOD IS PRETTY UNIQUE BECAUSE IT INCLUDES MEDITATION, BREATHING CONTROL AND ADAPTATION TO COLD. HOW DID YOU CREATE THIS FORMULA?

First of all, after reading hundreds of books. After visiting all of these religions, beliefs and philosophies and doing it all. I applied all of these principles and practices and worked it out in the freezing cold water of winter. I just felt an attraction. I went in directly, without thinking about it. And from there I took up this daily ritual. And from there my breathing began to change. It became deeper because I found out that by breathing better the cold is going away. Then suddenly I would get a lot of oxygen, because the impact of the cold water is a force, so you have to create a force from inside, and you do it by breathing. I recognized that if you do this breathing without the cold, then it is still able to generate power within. It oxygenizes, energizes, alkalizes the blood, and it changes the chemistry. And your brain is able to connect with the deepest layers of your physiology.

This is the way it went. So first the cold, then the breathing, now we do breathing exercises apart from the cold.

For example, people who are in the hospital lying in bed on their back, we have shown in University studies that these people, through breathing exercises can produce a fully tranquil state and be totally at peace. In fact, they feel like they're getting 'high'. It's crazy to think that someone just lying in bed can produce more adrenaline than somebody going into their first bungee jump! And that is comparative to other results. And the researchers saw this. When you go and produce in a tranquil way, adrenaline in that amount, then it surely helps the body to vent off danger, and what is disease, disease is danger.

So I want to implement these techniques in hospitals all over the world, instead of passively taking drugs and just lying there. Breathe motherfucker! And you will feel the difference. And they can all see it.

So I am so passionate about this because the results so far demonstrate that we can make a real difference. Lying around taking pills and receiving passive care will not provide a lasting solution. But we've proven that the deepest part of the brain, which is connected with the release of adrenaline can be stimulated within 20 minutes. Bang! And that brings about, instantly, a body that is most effective and can heal itself.

IN THE RESEARCH STUDIES THERE IS A REAL PHYSIOLOGICAL RESPONSE. IS THE THEORY AT THIS POINT THAT YOU ARE HAVING AN EFFECT ON THE HYPOTHALAMUS AND THE PITUITARY GLAND?

Both! The hypothalamus, pituitary, pineal gland, amygdala and the hippocampus. All! It's the deepest part of the brain and they all get oxygen. The pH levels go up and then the neurology is able, from the neocortex, the surface of the brain, to connect with the deepest parts of the brain and to keep this connection. No animal can do this because it needs conscious manipulation and we are humans. So, use your brain man! And bang, get into the deepest part of the brain, control the endocrine system, which is controlled or regulated by the hippocampus, hypothalamus, pituitary gland, and pineal gland. The whole thing!

AMAZING! DO YOU EVER GET SICK YOURSELF?

No. No! Alas, no sickness. No disease.

HAVE YOU SHOWN WITH YOURSELF OR FAMILY OR PEOPLE WHO HAVE PRACTICED YOUR METHODS THAT THEY CAN HEAL FASTER FROM PAIN, SICKNESS OR INJURIES FROM THIS TYPE OF TRAINING?

Oh yes! One reason is that we can increase the number, effectiveness and efficiency of red blood cells. And we have proven this in the Kilimanjaro climbs of 6000m. Last year (2015) we went with a man who was 76 years old, had no prior mountaineering experience, lived 8 years in Australia by the way, and he climbed it in 44 hours! To accomplish this means you have to tackle the oxygen problem, the lack of oxygen, the oxygen deprivation, and how to fill this gap.

Now we do the breathing techniques and training and you know what? There is no lack of oxygen! Everybody is able to do it. And this guy was 76 years old and he did it in a record time of 44 hours. Any physiologist, any expert in mountaineering, will say this is impossible and I did it with 29 people this year, 26 people last year and the year before that. Many of these people suffered from diseases by the way. Diseases such as Crohn's, rheumatoid arthritis, osteoarthritis and asthma. And people who had climbed before and had difficulties at 4000m now climbed to 6000m with record times.

It all comes by learning and by consciously connecting with the deepest parts of the brain, to accelerate red blood cell generation. And red blood cells transport oxygen inside the body, which alkalizes the body and enables us to perform much better than before. And that is exactly what people who are healing need. We have proven this. We have made a scientific paper out of it. And yes, now it's about how to bring it to people who are just lying in bed and improve the healing process – triple or even quadruple it! This method is like being in an oxygen chamber, like a hyperbaric chamber. And yet you can do it yourself. Just do it!

AND YOU CAN DO IT IN 10 WEEKS ACCORDING TO YOUR PROGRAM. IS THAT CORRECT?

I think you can do it in one day too!

We're trying to make history here man.

Mind you, now, to really master it, it needs proper instruction of course. And therefore a 10-week course is the ideal situation. And very little time when you think about it, to get into the deepest parts of the brain and enhance the physiology. And have it for the rest of your life.

What we do here from this side, is endorsing it with scientific scrutiny, with no speculation, just measurements and blood results. And we do that in contrast to what is stated by science to be impossible. We see that people are able to do so much more than we think.

ARE THESE FINDINGS BEING EMBRACED BY THE MEDICAL COMMUNITY OR IS THERE RESISTANCE TO THESE METHODS AND THIS TYPE OF THINKING?

I am not sure how it will be received. When you consider the pharmaceutical companies, the medical associations and the rigid patterns of thinking with the authorities ... I'm not sure. But we are getting into the system. We are in the university books and it's up to them to implement these natural methods into regular health care. Because it works! And the scientific community is big and they have accepted these results as fact. But despite proving these methods through research it still needs to be implemented into daily life and daily structures.

So I don't know how far this will go. But everybody will know in the scientific world, when they come across these facts we have produced and published in scientific papers, that this is real. It's a matter of fact! Proven by blood results, numbers, and figures. Not speculation. But it needs to be implemented in regular health care and more importantly into the daily lives of the general population.

YOU STATE ON YOUR WEBSITE THAT DUE TO MODERN LIFESTYLES PEOPLE ARE DISCONNECTED FROM THEIR NATURAL STATE OF BEING. WHAT DO YOU MEAN BY THAT?

Our normal state of being is connected to the deepest layers of our physiology. But with modern civilizations and modern lifestyles this connection is not present. And that creates an insecurity in people. So when disease comes in the form of sickness, depression, or anything like that, they feel the need to go to the doctor and to take pills. This is the way it creates an absence of confidence within people. This is the psychology that most people have today.

What we believe, and what we have been able to show through this method, is that people can tap into their cells, create more energy, and can influence their moods. Whereas a state like depression demonstrates an inability to do this. Research has also shown that this method allows us to enter into the deepest layers of the immune system and have a positive response. When someone considers all these benefits, it will fill them with confidence. That's the psychology we want for everyone on earth. It makes you stronger, you get more energy, and it creates the confidence that you are connected directly with all the layers of your body. You feel more alive. You are aware and at will you are able to tap into the deepest parts of your self. Thus, you create a mental state, which becomes so strong, disease is not coming and lack of energy is not coming anymore. Because you have a stick behind the door, you know. When anything like mood change or energy loss, being tired or becoming sick comes, you know you got the stick. And that's psychological.

But in the beginning we have to reset the mind and the body. We have to take away the blockages, the inhibitions, the insecurities and the disconnected parts of the body and connect it neurologically with the brain. So the 10-week course [Wim Hof Method] awakens all the neurology and afterwards you can slowly but surely leave the discipline because then you've got your mental state and you know how to tap in any time. There is a little warning after the 10-week course. You'll probably be addicted to cold showers!

It's nice. It's nice to do it.

THERE IS PLENTY OF SCIENTIFIC EVIDENCE COMING OUT TO SUPPORT THE BENEFITS OF TAI CHI, QIGONG AND MEDITATION, ESPECIALLY IN RELATION TO HEALING FROM A DISEASED STATE. DO YOU THINK THE UNIQUE BLEND YOU HAVE CREATED FOR THE WIM HOF METHOD WILL EVENTUALLY PROVE TO PROVIDE SUPERIOR BENEFITS WHEN COMPARED TO THESE RESULTS?

Yes. I think so. But, I go by science. So science is our way of thinking. That's our belief. And this belief is actually a newer sort of religion. In Beijing there is Confuciusism and Taoism and Buddhism, and in Baghdad there is ISIS, and in Europe there is Christianity. Any belief has its own universities. And universities are all about data, about numbers, figures, statistics. There is no speculation in these institutions. So we reach and make new beliefs within the inner power of every person in this world by this psychology, this new religion called 'Science.' Beyond speculation! We make that stronger.

Taoism and Qigong are great. But they are not able to tackle the psychology within. We have to go by science because science is the fruit of the Western mind, the logical mind. And this type of mind is really stubborn.

Qigong and Tai Chi are good but when you stop practicing your old state of 'mind' comes back again. It's like swabbing with a towel because water comes in but not paying attention to where all the water is coming from. We have to change the psychology. And this is what we do with the Wim Hof Method. Once the psychology is changed you don't need to do anything any more. Do you see Rabbit's and Giraffe's exercising every day, doing Qigong or Taoism or anything like that? No! We have to act natural again. And it can all be found in nature. So we have to bring about the deepest parts of our physiology, become aware, connect and act normal. Like mammals do.

DO YOU THINK THE GENERAL POPULATION IN THE NETHERLANDS IS HEALTHY? ARE THEY FOLLOWING THE PRINCIPLES OF A HEALTHY LIFESTYLE?

Maybe if compared to other countries. I don't know. Yah, some sort of awareness is here. But yet not that awareness of which I am talking about. I not only want the general population to follow these principles, I also want to implement them into health care and hospitals. I want insurance companies and the medical associations to understand these principles and adopt this psychology. Because this is a natural method.

At the moment they simply do not understand that these statements are being proven by science. Research is showing that any person participating individually is able to tap into the deepest layers of their physiology. As long as this awareness isn't there, we are only scratching the surface.

Today we are faced with all these autoimmune conditions, cancer, depression and sickness. And yet, like Australia, the Netherlands has advanced technology. But what I uncovered has more bites of intelligence than the entire Apollo 13 project! And that's the fruit of our mind! So we have all this advanced technology and yet as a mother we are not able to guarantee health, happiness and strength to our children! Hey, that's no welfare. Here in the Netherlands there are 2 million people with rheumatic arthritis, 1.5 million suffering from depression and taking prozac pills. And every year we have 100, 000 people being diagnosed with cancer. And they say that's normal. All the hospitals and pharmaceutical companies think this is normal! It's an entire industry built on our disease and our sickness. And I say, hey man, you know what is normal? To be healthy, happy, and strong! And we can guarantee this now. So we have to keep up with the research until it these methods become accepted by the general population and implemented into regular health care. So up until then we are only scratching the surface.

WHAT ROLE DO YOU THINK LIFESTYLE PLAYS, LIKE SLEEP AND NUTRITION, WHEN IT COMES TO ILL HEALTH OR DISEASE?

Yes, it's logical that food, being processed, is no longer in the form the body wants and that by nature the body cannot deal with these chemicals. These companies put chemicals inside the food to enhance the taste, reduce costs, preserve the food, and boost profits. And we eat it. We eat chemistry. These foods are not congruent with the chemical mechanisms we have in body. So, that is no good! Any person can conclude that. But how do you deal with this problem? It is an established part of the system and our culture and it will continue as long as people continue to buy this type of food.

I say 'let food be food.' Eat real food! Because we need food and it creates energy. Food creates energy in the cell called ATP. Molecules equivalent to energy. That's why we take food. Now, if you breathe better you influence the same mechanism that creates molecules, thus energy, in our body. Thus, you need less food. Because you breathe better. It's called aerobic dissimilation. Our lifestyle is shallow breathing and eating fucked up food. Hey man, you want to destroy your body, you want to go against nature, than do it, but you won't like the outcome. We got to change our consciousness about it. I will use science to show why. And that will make it simple. Food needs to be food and we need to breathe deeper. That's it.

SO WHAT WOULD YOU HAVE FOR BREAKFAST IN THE MORNING?

Actually nothing! I haven't eaten breakfast for nearly 35 years now. I feel great in the morning. I breathe, I take oxygen and I get a lot of energy. I'm work here on the land and I'm outgoing. I love it! You know what I love best? To have a great appetite after six o'clock. I eat so much my wife is always complaining! In a positive sense I eat like a farmer, a farmer who is going to work. And that's because I store up and then the appetite is there and the chemistry in the body it likes it. The saliva is going and everything is going. I take my food and very rapidly it is energy inside of me. I am very slim but I eat lots of food, after six o'clock.

But I think to, if we want to tackle the food shortage problem in the world, we should pay far more attention to breathing. We should learn to breathe better. And we should make a study out of it. A study about how much energy food is producing and how much energy we can supplement by breathing better. You see? Simple. Simple method! A big problem solved. Because the study will show that by breathing better we can produce far more energy from the food we eat. This is a fact of the cell. There is anaerobic dissimilation and aerobic dissimilation. Anaerobic dissimilation is without oxygen and aerobic dissimilation is with oxygen. Anaerobic dissimilation is a chemical process that makes energy and is able to produce two molecules of energy. Aerobic dissimilation is able to produce 38 molecules of energy. There you have a significant difference. With and without oxygen, by consciously breathing we have the ability to produce 19 times more energy from the same quantity of food. I want to make a study out of this. And in the process tackle the food shortage problem and possibly the obesity problem.

Now, obesity is like you don't get enough nutrients inside your body and at the times. It is a circular process. You don't get real vitamins and minerals inside and thus the craving for food continues and at a certain point people remain hungry all the time. And it's storing up. That's obesity. Now, if you just breathe better and eat real food, you generate significantly more energy and the craving is gone. As simple as that! And I showed that, how to do that in a study at **Maastricht University**.

Maastricht University (Brown Fat Study)

https://www.researchgate.net/profile/Nicole_Bouvy/publication/24267570_Cold-activated_brown_adipose_tissue_in_healthy_men/links/0046352e030beec878000000.pdf

Subjects in this study were exposed to cold, 11 degrees Celsius, for three hours. I was one of the subjects in the study and I did my breathing exercises before the study. The results showed that I produced, with the same amount of brown fat as the other subjects, five times more energy. Even more significant was the fact that the other subjects were 17-18 years old and I was 56 years old. Just because of breathing. So it shows. And if we want to tackle this problem of obesity, there it is. You need energy for your body but if you take the wrong foods the cell is not able to produce chemically and build up the energy molecules. Thus a degree of craving stays. And this is the sickness of today.

They should take me on in any university study because my mind comes from nature, not from the books. I have a very logical mind. And this logical mind says go back to nature because nature knows how to make the body most effective to be able to function within the elements. And we have a perfect body to do that. And I can teach anybody.

DO YOU HAVE A MORNING RITUAL THAT YOU GO THROUGH EACH DAY?

Yes, normally I like to do breathing exercises and go into the cold pool. And then work hard. With conscious breathing you can work hard all day long. And it doesn't cost anything. It's free man! The best things in life are free man. Like sunshine!

IF YOU COULD GO BACK AND TELL YOUR 30-YEAR-OLD SELF ANYTHING, WHAT WOULD YOU TELL HIM?

Just keep on going buddy, you're right on track! At that point in my life it was a positive situation and I was going on instinct. Now it's a fact and research is proving it. So we just need to keep on from here too because there is still a whole lot to discover. But it's a very spiritual process and I love it. I love to investigate, to dig, and to detect in life. Because we are here on this planet, this beautiful planet of ours, the most beautiful spot in the entire universe. That's here, this beautiful blue planet in all its diversity! I want to wake up every day and say, this is a wonder, and feel it. Not just understand that this is magical and mystical but to feel it.

So until then I will keep on digging and get the dirt out and get to the big treasure box called the soul, the purpose of life, and to pass it on.

DO YOU HAVE ANY BOOKS YOU RECOMMEND OR GIVE AS GIFTS TO YOUR FAMILY AND FRIENDS?

No, not really. I say YOU yourself! You are an open book. Go into it! The first Chapter of the book is called Steve! Ha, ha, ha, ha

Now write the first chapter man!

SO WHY ARE YOU DOING ALL OF THIS WIM? WHAT IS YOUR PASSION, WHAT ARE YOU TRYING TO ACHIEVE IN LIFE?

I will continue as long as I'm seeing such suffering in the world, hopelessness, and a lack of the heart. We have to remember that we are apart of something bigger, we are tribal, and we are brothers. We are sisters, brothers and family to each other. We should love each other and care for each other. Be strong, happy and healthy. That's what motivates me. And as long as that is absent, something is wrong.

It's like the ghost busters. If there's something strange in your neighbourhood, who you gonna call? WIM HOF! And Body Genius from Australia because you guys are investigators as well. You do it as well. We do the same work! We need to prove it through science.

It's time to wake up the heart. And the heart should open up for everybody. No fear. We all deserve strength, happiness and health. Just that. We need to show them that the war will stop because then there is no tension, there is no grieving, there is no deadlines to go for. There is no positioning or craving for power because of the insecurities. No, you are happy, strong and healthy and that's all you want! That is the way we stop the war. And we have to go hard. And I told these guys [in this study] it is the first time to show that the autonomic nervous system can be influenced.

Voluntary activation of the sympathetic nervous system and attenuation of the innate immune response in humans.

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC4034215/pdf/pnas.201322174.pdf>

I told them about mindset. Hey guys, you are modern day gladiators. We have to win the greatest war ever. This is the war of the most casualties, the war of the most misery, the war against the virus and bacteria. And you know what? In four days they demonstrated that we can win this war. They had it going. First they demonstrated it within themselves and then showing it with the injection of the bacteria. One hundred percent, all of them! And now it's in the books. By demonstrating this ability we are able to overcome the fear of the mind and open up to our inner power. Our insecurities no longer seem valid. And the best part is that anybody can do this.

I guess the bigger question is how are we going to implement this method and these findings into the existing infrastructure of thinking? I guess we just keep heart! You do your work, I do my work and together we are stronger. This is the way we do it.

DO YOU HAVE ANY PROJECTS YOU ARE WORKING ON RIGHT NOW WIM?

Yes, many! We've have lots of research projects and analysis of the Wim Hof Method. All scientific. One study is on people who are paralyzed. Although they are paralyzed they love the breathing. Because this time they are not just passively lying there, they are breathing and they feel they are influencing their own neurology. This is an ongoing study.

There are also studies on the influence on inflammatory markers, depression, stem cells, a study on pain and anesthesia and another study on telomeres, the ends of each DNA.

The study on pain and anesthesia is particularly interesting because we have shown that pain can be influenced through breathing. We can change and influence at will the chemistry which causes the pain signal. The pathway for the pain signal is taken away. The pain pathway represents the wrong chemistry in the body and we need to make it right. So we are able to change this chemistry [through the Wim Hof Method], then the pain signal disentangles. We have shown this and it's going to be published. A very spectacular study by the way. People exposed to a significant amount of pain and by doing the breathing are able to have five times more pain tolerance. And there are many people with unbearable neurological pains and we can help them. Those are big projects!

Another completely different project is the 'Garden of Eden' project. This study involves making a prototype of the natural reserves of Tanzania, Kenya and taking subjects from all over the world to these places. And then have them walk with the Masai ranger in those parts. No longer in cars and protected but rather fully exposed. That brings about a natural harmonious being within these people, instead of taking photos from behind a glass window, which is not natural. We bring about harmony with nature, even into the extreme, thus taking away the psychological fears people have against lions, elephants, and wildlife. They change and they will feel the beauty of nature. And that's the 'Garden of Eden' project. It's like paradise. We live in a fucking paradise but we are not aware of it. We've got to bring it back and in that way we will expose more people to the beauty and power that can be found in nature and by exposing themselves to the elements.

ANY PLANS TO SET ANY WORLD RECORDS THIS YEAR?

Most likely if I set any world records I will do it with groups of people. But of course things will always pop up from time to time. So maybe I will perform a personal world record at some point but I'm getting tired of these shitty stunts. It's surprising that people continue to believe I cannot do these things. That it's impossible. I can do anything I put my mind to!

I requested a challenge a few months ago with a guy [Ross Edgely] who pulled a car a full marathon for charity and raised a lot of money in the process. I approached Ross and challenged him to climb Mt. Everest with me wearing only a pair of shorts. Of course we would raise as much money as possible for charity. I certainly don't like to go into the snow and ice and experience extreme oxygen deprivation unless there is a benefit for charity. Unfortunately I'm still waiting to hear from Ross on accepting the challenge.

So if anything like that pops-up and it can help charity or the cancer foundation or this or that then I am keen. You know something real, big time, with big exposure. Then I'm going to do a stunt like that. But otherwise, I'm into science and my exercising and leading groups into the mountains. Also Guinness world records with groups such as achieving the fastest time to ascend Kilimanjaro or go into the ice with the most people. Things like that is what I am interested in.

Hey, maybe I could do that in Australia. By the way I am in Australia in June and in August (2016).

WHERE IN AUSTRALIA WILL YOU BE?

Melbourne, Byron Bay and Sydney. I'm going to be all around.

ARE YOU GOING TO BE GIVING GUEST LECTURES, RUNNING WORKSHOPS OR JUST VISITING?

I will be running workshop! Channel 7 is going to be there too. I just had a documentary with Channel 7 on Australian TV. And yah, things like that are happening. I am going to go with the Aborigines as well. Make music with the Aborigines. Maybe you can set up a few more things? You just come up with ideas Steve!

WHERE IS THE BEST PLACE FOR PEOPLE TO LEARN MORE ABOUT WIM HOF AND ALL THE GOOD WORK YOU'RE DOING?

My website. Inner Fire! Soon it's going to be a big platform. But for now we already have many thousands of people communicating with each other by the website. So it's all there.

<http://www.icemanwimhof.com/innerfire>

ANY CLOSING REMARKS WIM?

No, I don't think so. Just, I look forward to seeing you in Australia in August! Love ya man! Take care.



Q & A WITH LISA SKINNER

3 time Olympian & Cirque
du Soleil performer

WAS THERE ANYTHING UNIQUE ABOUT YOUR UPBRINGING?

I don't know that there was anything unique about my particular upbringing. I have two sisters and one brother, and for some reason or another all of us seemed to be quite sport oriented – just because we all really loved sport. My mother was rather a good athlete herself, representing Queensland in both netball and softball – and even in her later years managed to win a silver medal in the World Masters Games for softball. My father is a professor who participated in a variety of sports when young, and though he didn't pursue anything professionally, was quite talented in whatever he seemed to have a go at.

We are a very close family, and still get together regularly to exercise.

As far as nutrition is concerned when we were all growing up, there was no prescribed diet or anything, and nothing was off limits. Dad is an excellent cook and always made sure we ate very well, but always with very balanced array of food. We were always allowed dessert – provided we ate all our vegetables.

WHY DID YOU CHOOSE GYMNASTICS?

I started gymnastics at the local gym club when I was six. I had done ballet for a year before that but didn't particularly enjoy it. Gymnastics on the other hand was an instant love. So many things to climb, bounce, and play on – I took to it like a duck to water. I think my parents had actually intended to give me a go at a whole variety of sports, just to see what I liked, and so in the following years I participated in swimming, tennis, and softball, just to name a few. However, gymnastics kept taking over.

I think the sport is fantastic for all young kids actually – there are so many benefits. Gymnastics is challenging, helps improve coordination, confidence, and focus – just to name a few.

Things obviously started getting much more intense in later years when I started in the elite training regime. We had to drive 4 hours per day in addition to 6 – 6½ hours of training in the gym, and school work on top of that. But I stuck with the strict routine, as somewhere deep down I had a feeling I could go far.

YOU COMPETED AT THE 1996, 2000 AND 2004 OLYMPIC GAMES. CAN YOU TALK ABOUT THE QUALIFYING PROCESS AND WHAT IT MEANT TO BE AN OLYMPIAN.

I didn't start out planning to compete at three Olympic games - or even one for that matter. I think an athlete has to genuinely enjoy the training and all that goes with it for a start, other wise there's really no point to the whole endeavour. I've always taken things one-step at a time and never looked too far ahead - maybe a year or two at most. I find many people can be wildly disappointed if they hope for specific things way too far in advance.

I've always set legitimately achievable goals - ones that were directly in sight, and with a plan of action that fit best to be able to succeed.

I'm proud of my achievements, but it really all comes down to hard work and perseverance.

As far as competing in the Olympic games, actually being there, in the most prestigious sporting event in the world, it can only be described as absolutely the most nerve-racking experience ever! Although afterwards, it's definitely one of the best feelings one could possibly imagine.

DO YOU HAVE ANY MEMORABLE ACCOMPLISHMENTS DURING YOUR GYMNASTICS CAREER?

I qualified for the All Around finals and the Floor finals in the Sydney Olympics (2000). I achieved 7th place in both.

I also happened to score a couple of Gold medals in the 1998 Commonwealth Games in Kuala Lumpur which was pretty cool.

YOUR COMPETITIVE CAREER WAS EXTENSIVE LASTING MORE THAN 15 YEARS. WHAT INSPIRED YOU AND MOTIVATED YOU THROUGH THIS PERIOD?

As I said earlier, I don't think an elite athlete can last for too long if they don't legitimately like the daily grind.

I have to admit - I actually don't enjoy competing at all. I relish the euphoric feeling afterwards when things have gone well, but the whole process is a little too stressful for me.

I do happen to know a lot of people that truly love the thrill of performing under pressure in an event. But that was never my motivation. I think I just love a good challenge and being able to execute things that I know I can excel at on a consistent and daily basis.

One has to set goals for themselves though and competitions are just a part of the deal when it comes to sport.

WAS IT DIFFICULT TO RETIRE FROM GYMNASTICS?

It was actually. I was relieved in some ways, but after so long doing the exact same thing every day, stopping was very strange. (You also might have to rethink that chocolate you just had, as there is nothing now to burn that off!)

But mostly it's the free time. I had no idea what everyone did with that many hours of the day. You eventually get used to it, but that amount of free time is definitely a shock!

HOW DID YOU GET INVOLVED WITH CIRCUES DE SOLEIL?

They actually asked me a few times if I was interested in joining. They have scouts that always attend international competitions, but the first time they asked I didn't really know much about the company. I hadn't seen any shows and assumed that it would be kind of 'elephants' and 'caravans' and all that jazz, so I politely said no. The second time I was approached I had managed to see a couple of their productions and was completely blown away. I gave it serious consideration at this time but ended up staying in gymnastics for a little while longer. Finally, when I finished competing in 2004, I was ready to see what kind of life Cirque De Soleil would offer.

WHAT WAS YOUR MOTIVATION OR WHAT INSPIRED YOU TO GET INVOLVED IN CIRQUES DE SOLEIL?

I was offered a position to train for one of their shows, and actually just thought – oh why not. Let's perhaps see if I can make a living for a little while utilizing the specific skill sets I had been perfecting my whole life thus far. And I definitely thought it could be a pretty cool experience! So I packed up my bags and headed to Montreal not really knowing what to expect.

Joining the Cirques turned out to be one of the best times I'd ever had.

WHAT DOES IT MEAN TO BE A PART OF CIRQUE DU SOLEIL, AN ORGANIZATION THAT HAS COMPLETELY RE-SHAPED AN INDUSTRY AND REDEFINED THE WORLD OF ENTERTAINMENT?

I love performing every night. My energy and excitement is fuelled every day just by the feedback of the crowd. It's the most rewarding job in the world. There's instant satisfaction daily just seeing a smile or a sense of awe on somebody's face.

I think Cirque is brilliant and definitely at the forefront of productions worldwide in it's quality and managing to provide a sense of wonder, fantasy and escape to so many people across the globe - and also managing to showcase what the human body is capable of. I have to say that I feel proud when I tell someone I work for them.

TELL US SOMETHING ABOUT YOURSELF AND CIRQUE DU SOLEIL THAT WE ARE UNLIKELY TO KNOW. ARE THERE THINGS BEHIND THE SCENES THAT THE VAST MAJORITY OF PEOPLE WOULDN'T KNOW ABOUT?

Not really. We have a few people come and watch the show backstage daily and they're always just so surprised at how casual it all is.

For us, we essentially do almost the same thing every night, just like most other people in their jobs I suppose. And so we get very comfortable backstage and we are truly ready when we have to run onto the stage. Whether it's your main act, or just a cue, there's no particular rush, stress or anxiousness about heading out there. You do your thing, and then come back. (There is a lot of high-fiving though!)

The funniest thing for us though, is probably the misinterpretations, translations, or attempts at each other's acts! – Particularly when it comes to so many people from different cultures, skills and languages from across the globe.

Just a lot of fun and smiles!

HAVE YOU THOUGHT ABOUT YOUR OWN PERSONAL “WHY” IN LIFE? YOUR PURPOSE, YOUR CAUSE, YOUR PASSION?

Not sure actually. I don't think life particularly has a specific purpose. You just try to do the best with what you've been given. I suppose I just try to challenge myself in as many ways as I can. Whether that is during training, studying, working or performing. There's a lovely feeling of accomplishment when one feels they have achieved their highest standard – and perhaps impressed a few others as well. It's the little goals you set for yourself that keep you going I think.

WHAT ARE YOUR PLANS FOR THE FUTURE?

I'm headed to Los Angeles very soon, and onto a new life. I'm going to see if I can try my hand at stunt work actually.

Fingers crossed!

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