

#ITFWCC

2019

25-27 OCTOBER
BANGKOK, THAILAND



Travel Well-Recover Well Best Practices for Coaches

Carl Petersen BScPT

© Fit to Play Int. Inc. 2004-19

WORKSHOP PRESENTATION

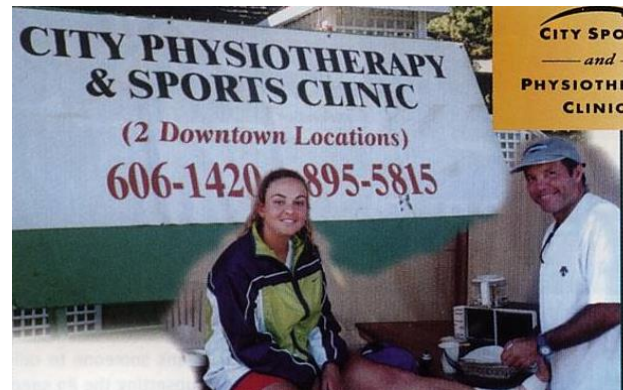
Travel Well-Recover Well

Best Practices for Coaches + Everyone



My Role

- Physiotherapist (>30 yrs)
- Fitness Coach / Author / Educator
- Create, Cultivate & Curate ideas
- Bridge Science & Practical
- Provide **TOOL BOX or BACKPACK** of ideas & experience for Coaches & Therapists



My Goals

- Optimize performance
- Prepare players for **coaches**
- Protect against & prevent injury-help retain players in game
- Promote recovery from **TRAINING & TRAVEL**

ESPECIALLY IMPORTANT -

If only 1 or 2 players

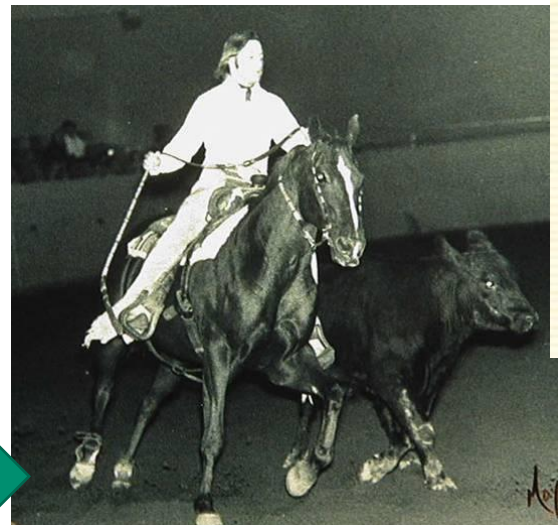
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Cowboy Carl - Hitched a ride on a ***STAR***

EARLY RECOVERY LESSONS

- Add **mint/wintergreen** to ensure she drank strange tasting water
- Proper nutrition (oats, alfalfa & nutrients)
- Regular **targeted hip & core training**
- Quick attention to lameness & injury
- Protective equipment (ankle braces)
- Veterinarian check ups
- Regular **showers & grooming**
- Proper sleep (hay or sawdust)

IMPROVED RECOVERY & PERFORMANCE



DIAMOND JEAN SUE
(17 year old broodmare)

owned and ridden by
Carl Petersen

"CHAMPION"
WORKING COWHORSE
'75 AJQHA FINALS
Tulsa, Okla.
also 8th in reining

owned by Art & Eileen Petersen

← BOTH SIRED BY SIR QUINCY BOB ← BOTH →
← BOTH →
OUT OF FULL SISTERS TO
DIAMOND JEAN SUE

owned by Leanne Petersen

"HYLINE SEQUIN"
74 SORREL MARE
10 shows in '75
9 firsts
1 res. grand
3 halter futurity wins

"HYLINE BROTHER"
73 SORREL GELDING
24 shows in '74
18 firsts
6 grands
4 reserves
[qualified for World Championship]

WINNERS & PROSPECTS FOR SALE

"Home of the Hylines"

A-BAR-E QUARTER HORSES
ART & EILEEN PETERSEN
7855 E-164th St., Cloverdale, B.C. Canada V3S 3W1
Phone [604] 594-9364

SIR QUINCY BOB
406,628
1906 - Sorrel - 15.2 - 1225 lbs.
Quincy Dan - Princess Nan by King Fritz

Write for contract 1976 FEE \$600

36 EQUUS/OCTOBER 1975

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Tennis Success / Travel & Recover Well

- Not just in how hard they train off & on court, but how well they recover from training, playing, environment & travel (Petersen, 2006)
- Travelling >> 3 time zones effects sleep & recovery
- Jet lag & strong environmental conditions (altitude or heat) are additional stressors for an athlete's body, increasing vulnerability to the overtraining state (Uusitalo, 2001)



Terminology

Overtraining

- Is an imbalance between training & recovery
(Kuipers & Keizer, 1988)
- Or stress & recovery -too much stress combined with too little regeneration (recovery) (Lehman et al, 1999)

Recovery -Generic term

- Used specifically with reference to
 - **Restoration** of physiological
 - **Regeneration** of psycho-logical parameters that have been altered during activity



Common Overtraining Signs & Symptoms

Physical

- Increased feeling of fatigue
- Decrease in performance
- Increased muscle tension and tenderness
- Increased susceptibility to illness or injury
- Decreased appetite & weight
- Increased resting heart rate
- Increased blood pressure

Psychological

- Decreased motivation to train & compete
- Disturbed sleep or ability to relax
- Increased irritability
- Decline in feelings of self-worth
- Uncontrollable emotions
- Increased anxiety or insecurity
- Oversensitive about criticism
- Listlessness or melancholy

IRRITABLE ATHLETE SYNDROME

Sports Medicine & Coaching Concerns

- Prevalence of young athletes presenting with Signs & Symptoms of overtraining:
 - Both physical & psychological
- Investment of time, \$\$ & other resources is extraordinary (Hogan & Norton, 2000)
- Mistakes are extremely costly
- Coaches & players may not have the education or experience to recognize the problem until too late
- Training & competition loads of the young female tennis athlete put them at the highest level of risk of all athletes for overuse injuries & burnout



(Jayanthi, 2019-STMS World Congress Stockholm))

Respect Developmental Level

Factors affecting training and performance

- Your chronological age (maturity and growth and development considerations)
- Your training age (how many years you have been seriously training)
- Your body type
- Your pre-existing general and specific fitness level
- Your strengths and weakness as identified by your coach, sport physiotherapist or fitness coach
- Your general health status
- The rehabilitation status of any of your past or current injuries
- Your strengths and weaknesses as identified



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Dealing with Growth Spurts

- A main cause of adolescent injury is not allowing proper adaptations to occur during growth spurts

Bones grow faster than soft tissue

- Greatest developmental changes occur:
 - *Age 11 in girls
 - *Age 12.5 in boys
- 4 years of rapid change with onset of puberty
- Stressful physically, psychologically & emotionally
- Increased tension in muscles
- Decreased proprioception & control in joints
- **May need to decrease volume & intensity both on & off court**



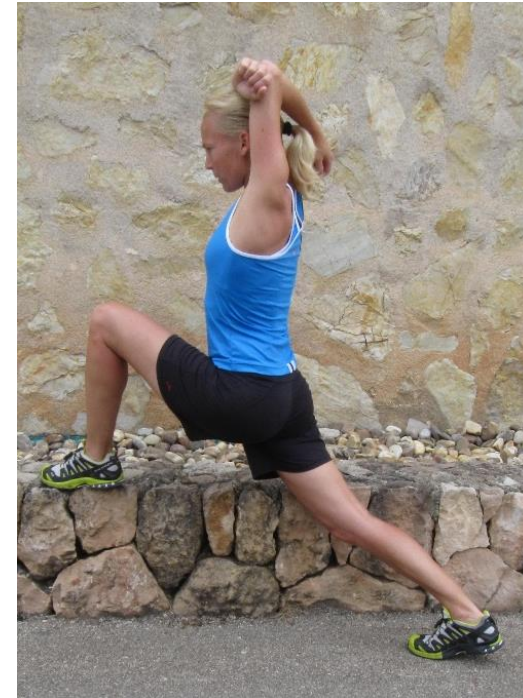
Training & Practice Stressors

(adapted after Petersen, 2003)

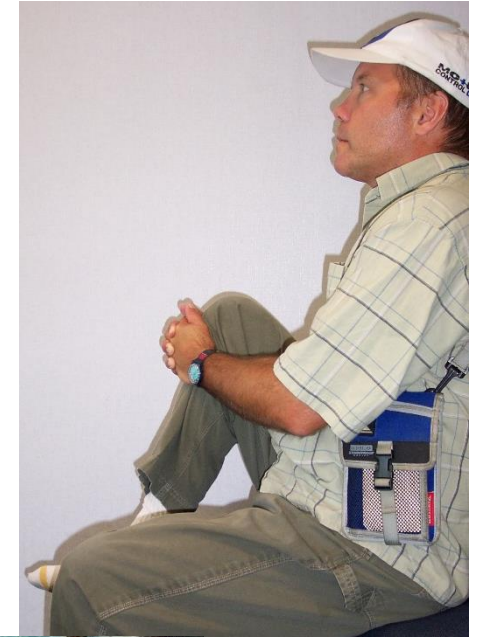
- Too much training or practice done too hard, too fast, too soon **(main cause or stressor)**
- Need some pain to get some gains-muscles respond & change

BUT-

- Lack of recovery time
- Too many tournaments
- Training or playing while injured or ill
- Returning from injury or illness too quickly risks:
 - Potential increased damage to already vulnerable injured tissue
 - Prolonged recovery time



How you Travel, Train & Recover Today



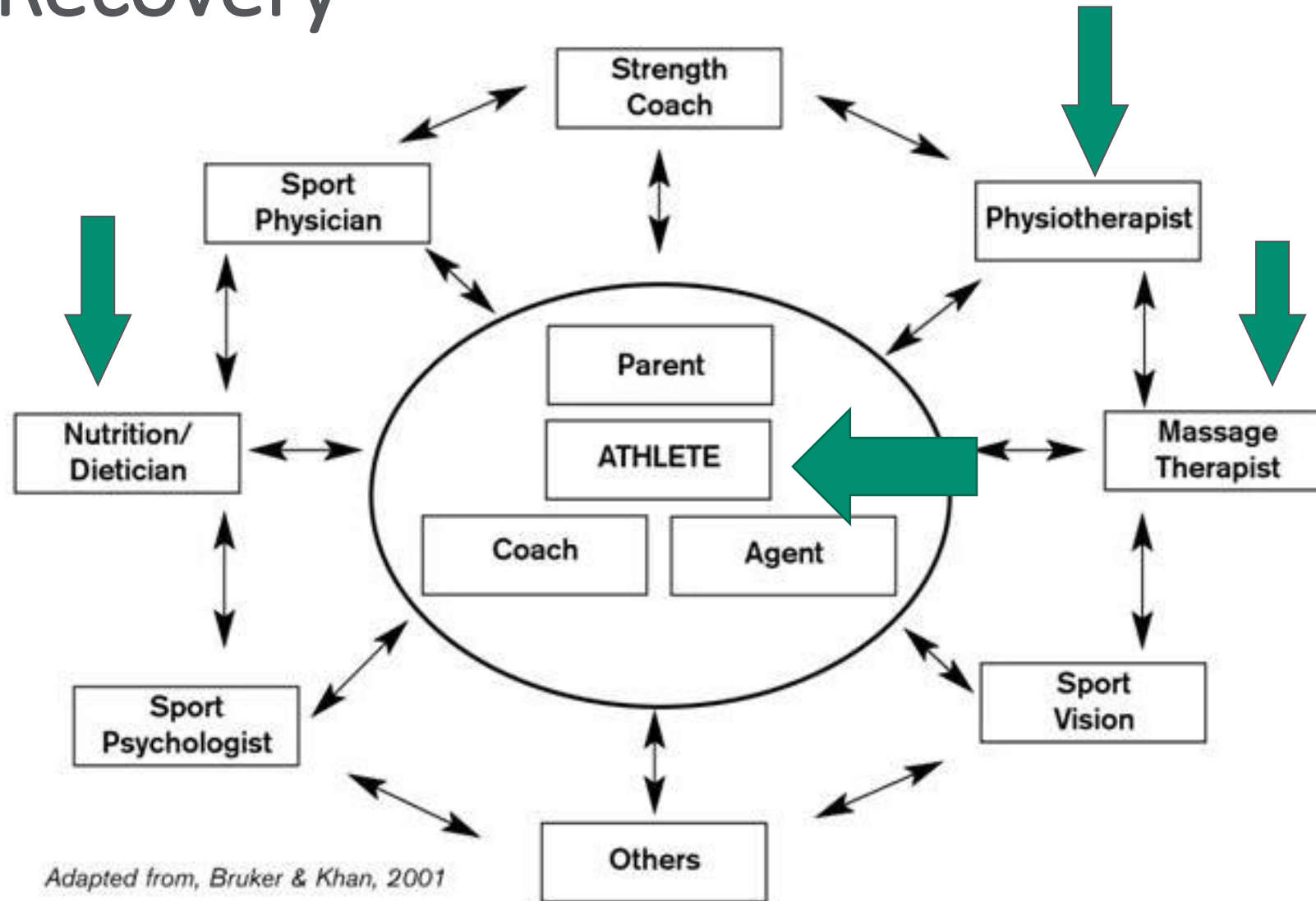
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Impact on how you Play & Perform tomorrow

- Train like an athlete
- Eat like a nutritionist
- Sleep like a baby

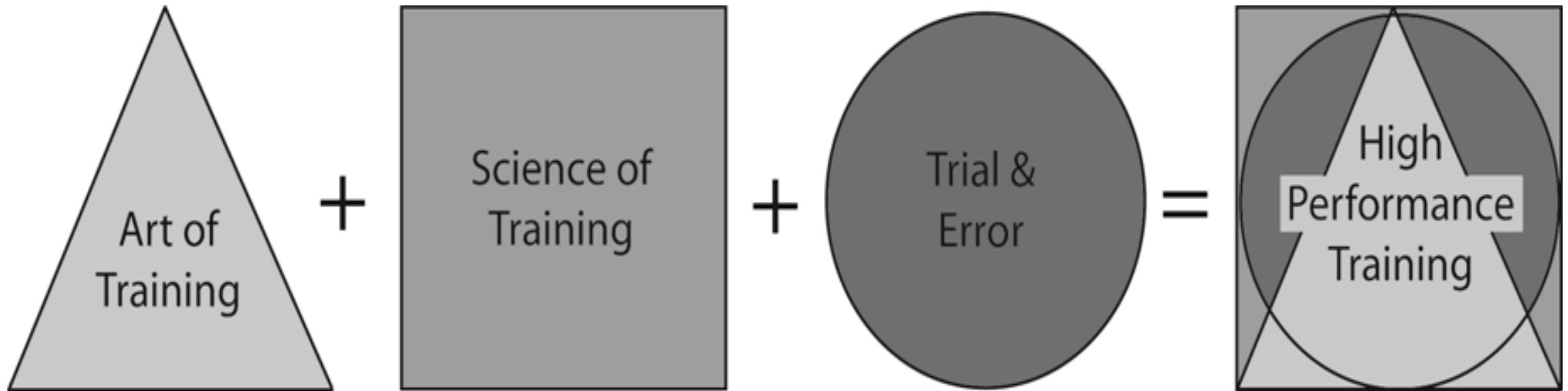


Develop a Team to Aid Recovery



Adapted from, Bruker & Khan, 2001

Training & RECOVERY is an Art + Science + Trial & Error

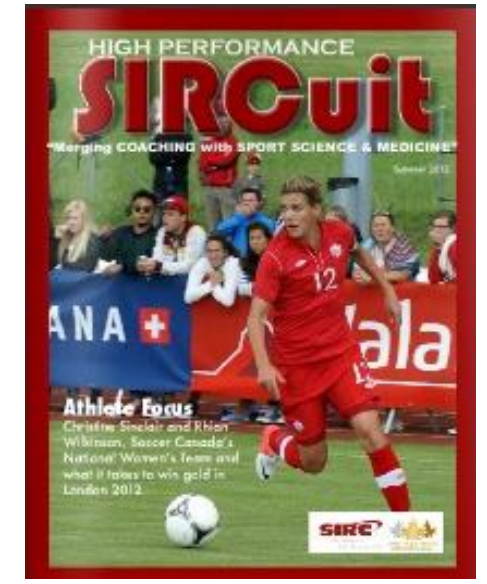


(diagram courtesy racquetTECH publishers)

10 Rules of Recovery



- Resynchronize (jet lag concerns)
- Re-Hydrate, Re-Fuel, Repair & Rebuild (**Drink & Eat**)
- Re-Align the Body
- Recovery workout
- Regain & Maintain Muscle Length
- Re-Connect the Core
- Re-Set the Balance
- Release the soft tissue
- Reinvalidate the Tissues
- Rest, Relax & Refocus



(Petersen & Nittinger, 2003, 2006, 2009)(Petersen, 2012)

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Resynchronize (jet lag concerns)

- **JET LAG** is inherent to International Sport
- Scientifically referred to as disruption in the body's circadian rhythms or biological clocks
 - Run in 24–26 hour cycles of light & darkness
 - Gets out of sync by changing time zones & confused if daylight & darkness at the 'wrong' times
- More time zones crossed-greater the disruption to your body's clock
- **May take 1 week to adjust to travel across 5 time zones (e.g. BKK- CDG or NYC-LHR)**
- ? QANTAS 20 hour flight from NYC-SYD

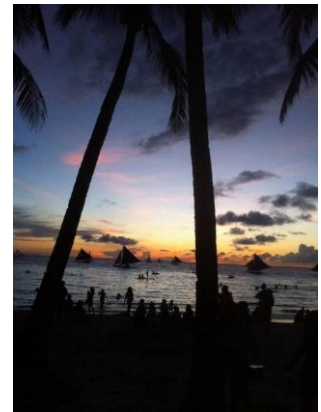
Training Tips

Beating jet lag

Reset your body clock

by Carl Petersen BPE, BSc (PT)

Almost every traveling player has a story about jet lag, how it affects them,

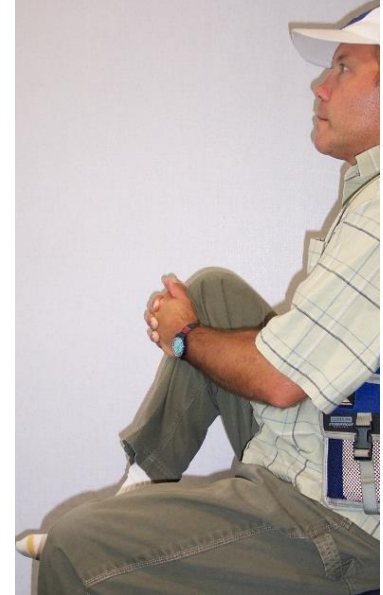


Group CEO Alan Joyce, bottom right, and his crew exit a Qantas Boeing 787 Dreamliner plane after arriving at Sydney's international airport, finishing a non-stop test flight from New York to Sydney. HARU GRAY/GARTAS/REX VIA GETTY IMAGES

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Practical Tips to Combat Jet Lag

- **Set watch to the new destination time** & eat & sleep accordingly
- Drink **2 glasses of water** for each ETOH or caffeine beverages
- More Fluids = More Trips to Toilet = More Exercise
- Before & during flight **consume complex CHO** maximizes glycogen & H₂O stored
- **Avoid fatty food** to allow easier- more rapid digestion
- **Eat ½** of what they feed you or take your own snack
- **Sleep** with headphones/earplugs, eye shades & neck pillow
- Coat inside of nostrils with edible oil or **antibacterial cream**-blocks germs
- Use **eye drops** to eliminate germs in the corners of eyes, especially if you wear contact lenses



Ensure You Exercise on Board

- **Wear loose clothes** when you fly - low air pressure on the commercial jets makes our bodies swell up
- **Avoid crossing legs** as may impair return circulation
- Do **dynamic exercises & stretch** as much as possible to minimize potential of deep vein thrombosis (DVT)
- Avoid putting bulky items under seat so you can fully stretch your legs out
- **Wear thongs or sandals**-keep feet cooler but force you to crunch your toes to keep them on when walking
- If reading or **working on a laptop**, take frequent breaks to decrease the stress on joints & stretch muscles of the upper back, neck & arms



Resynchronise Travel Protocol (practical application)

Fit to Play™-Jet Lag Protocol

- Dynamic warm-up 10–15'
- Light run 15–20 minutes or 20–25' cycle.
- 5 x 20 meter sprints or 5 x 30 second cycle sprints or pool run sprints **about 4 hours before bed**
- If a sauna or whirlpool is available, use it
- Re-Hydrate
- Re-Fuel
- Eat fast CHO's for post dinner snack to **trigger sleep cycle** with insulin spike

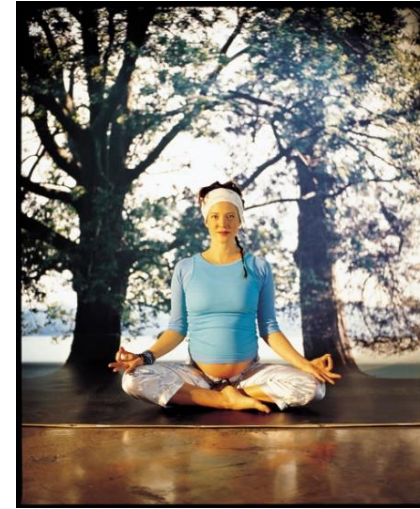


Rest & Sleep Are Necessity **NOT** a Luxury

- Importance of relaxation & breathing exercises are well documented in the literature
- A good rest can be almost as beneficial as sleep

Sleep Smarts

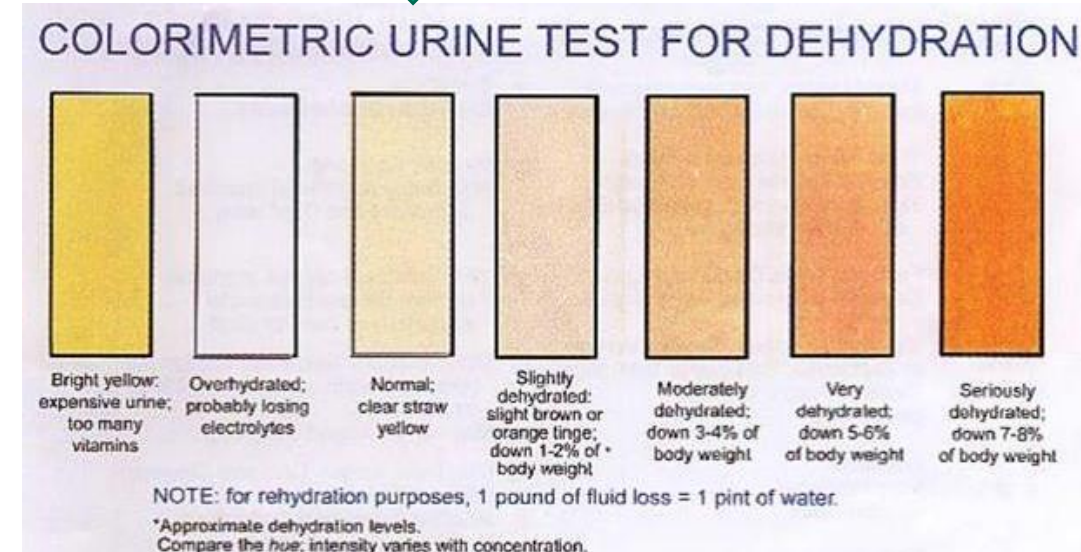
- Minimize caffeine late in day
- Avoid excessive alcohol in PM
- Avoid electronic screen time in PM
- Make bedroom a sleep refuge & **keep it cool**
- Bedding of natural fibres & comfortable pillow



Re-Hydrate, Refuel, Repair & Rebuild (Drink & Eat)

- Most important nutritional considerations for recovery relate to fluid & fuel replacement strategies
(Burke, 2000)
- Also need protein to repair & rebuild muscle breakdown that results from heavy workload
- Loss of 2% of body weight through sweat can impair an athlete's ability to perform
- The goal is to have urine that is

PALE STRAW COLOR



Re-Hydrate (Drink)

- KEY is pre-hydration & immediate re-hydration
- Takes 24 hours to top up your tank
- That means 24 hours of potentially impaired training
- **Young developing players** need to be more vigilant about hydration strategies
- Dehydration seems to be more detrimental to children than to adults
(Bar-Or,2001)



Re-Hydrate (practical application)

- Drink cool water or cool clear juice cut with water
 - **Cooling to 5 deg. C empties stomach faster**
- Coconut water
- Sports drinks *cut with water
- If too concentrated can cause
 - Cramps
 - Diarrhea
- Harder, hotter & higher you train (drink more)
- Drink to thirst +

Hypoanatremia (too much hydration) is rare but potentially fatal



Re-Fuel, Repair & Rebuild (Eat)

- Energy demands in tennis are high:
 - Females: 4000-4800 & Male: 5500-6700 kcal/day

(Ranchordas et al, 2013)(Thomas et al, 2019)

- Need **CHO** 6-10 g./kg/day & **PROTEIN** 1.6 g./kg/day of BW to replenish due to intermittent high intensity of tennis
- Dietary carbohydrate is primary source for the body to manufacture glucose (Coyle, 1995)
- Takes 24-48 hours to replenish, must be replaced daily, using slow & moderate carbohydrates (Costill & Hargreaves, 1992)
- Window of opportunity 1st 20 minutes post exercise to replenish muscle fuel stores at a faster rate

IF TIME BETWEEN TRAINING IS SHORT FOCUS on CHO ASAP

- 1 gram of glycogen is stored with 3 grams of water

NEED ADEQUATE WATER

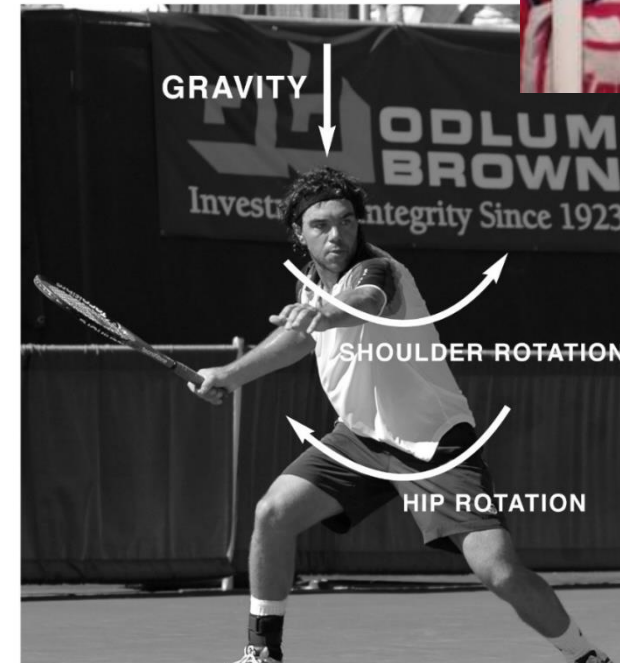
Top 10 Recovery Foods (practical application) 50-70 g. (Parsons, 2006)

- 1% chocolate milk /soy milk x 2 cups (protein)
- Low fat (1% M.F.) fruit yogurt (protein)
- Peanut butter & honey sandwich (protein)
- Cinnamon raisin bagel 1 small
- Sports Drinks (read label) (carbohydrates & electrolytes)
* **Coconut water**
- High Carbohydrate Energy Bars (read label)
- Dried fruit bars (read label)
- Banana 1 large
- Low fat granola cereal
- Meal replacement drink 1 can



Re-Align the Body (Upper & Lower Links)

- Heavy luggage, awkward & cramped seats
- All torque the body's muscle & fascial systems
- Imbalance in length & strength of muscles & tendons
- **Leads to The Malalignment Syndrome (MAS)**



Why do we care about MAS?

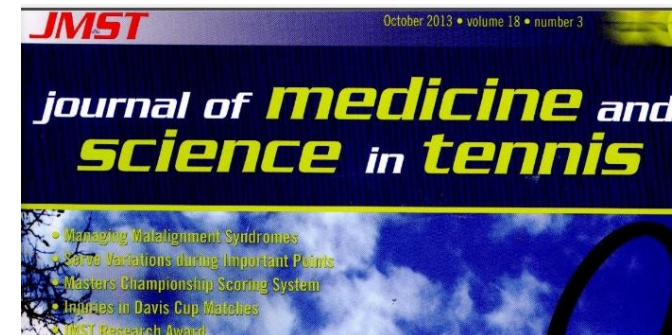
- Thixotrophy & muscle tension results in a decreased blood flow / impaired waste clearance & tissue breakdown
- Contraction of 60% of max. stops blood flow into and out of the muscle almost completely (McArdle et al, 1986)
- MAS puts athletes at increased risk of injury, and once injured they are likely to take longer to recover, or may even fail to do so at all (Schamberger, 2003 & 2013)

Managing Malalignment Syndrome

-A Clinical Perspective

(Petersen & Schamberger, 2013)

J Med Sci Tennis 2013;18(3): 50-58



25-27 OCTOBER
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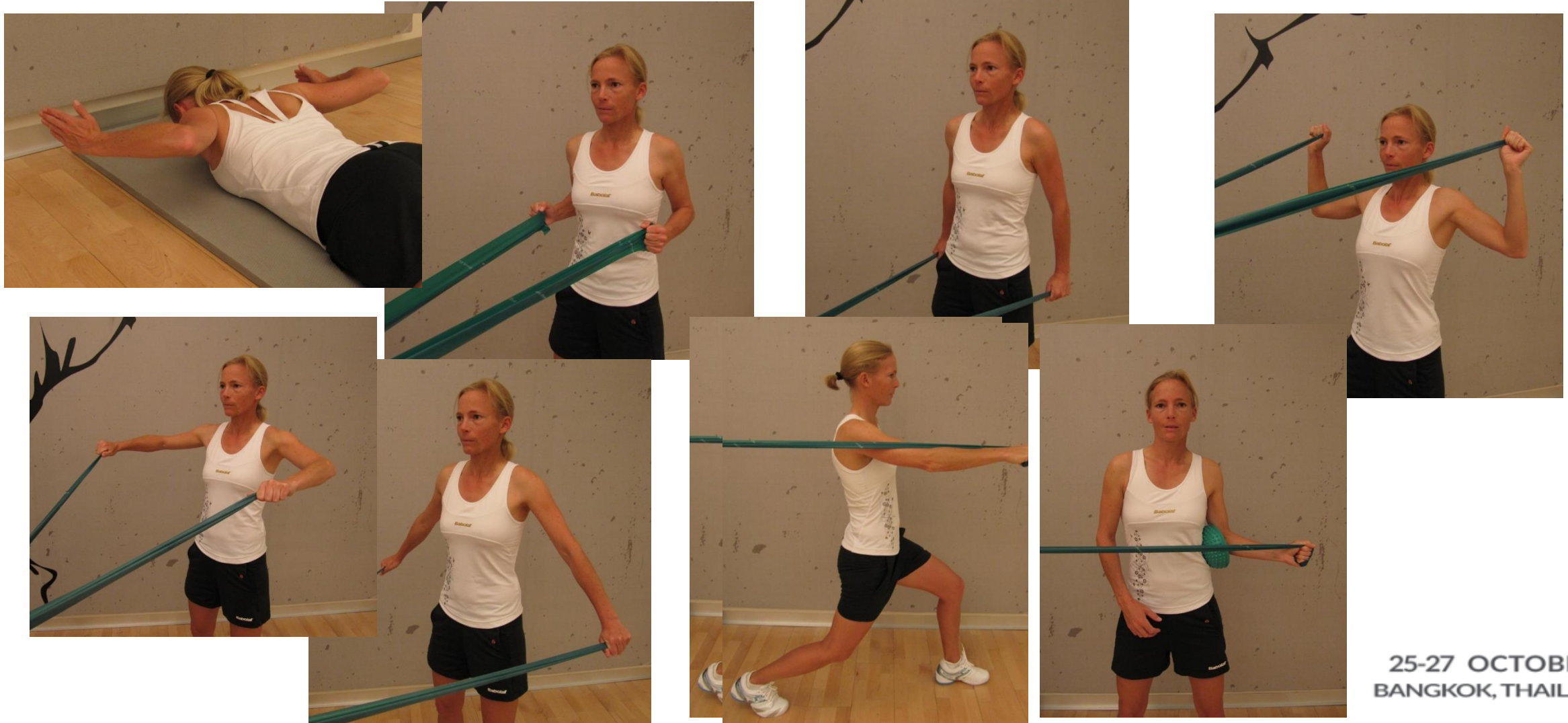
Re-Align the Upper Links – Prevent Shoulder Injuries

- Repetitive forces of tennis may exceed physiological limits
- Fatigue due to practice & match overload
- + Long season with little downtime for maintenance & healing contribute to injury
- Infraspinatus atrophy & weakness on dominant side in males 60.1% (Ellenbecker et al., 2018 JOSPT)
- Scapular Dyskinesis increases risk of future shoulder pain by 43% (Hickey et al, 2018 Sport Med)
- Need to assess postural concerns & rotator cuff strength



Must Do Shoulder Sliding Drills

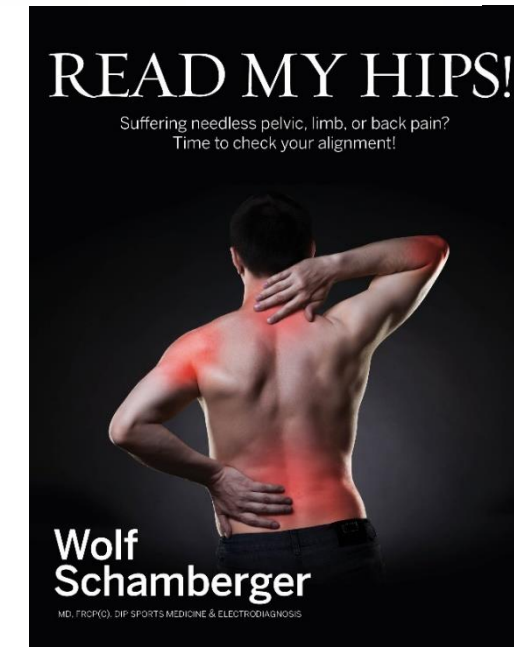
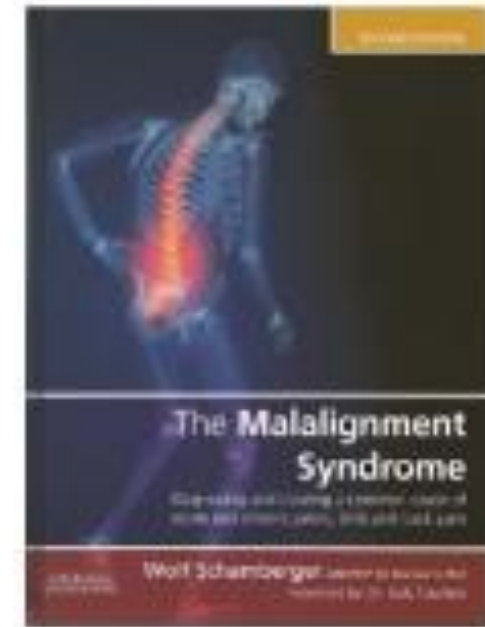
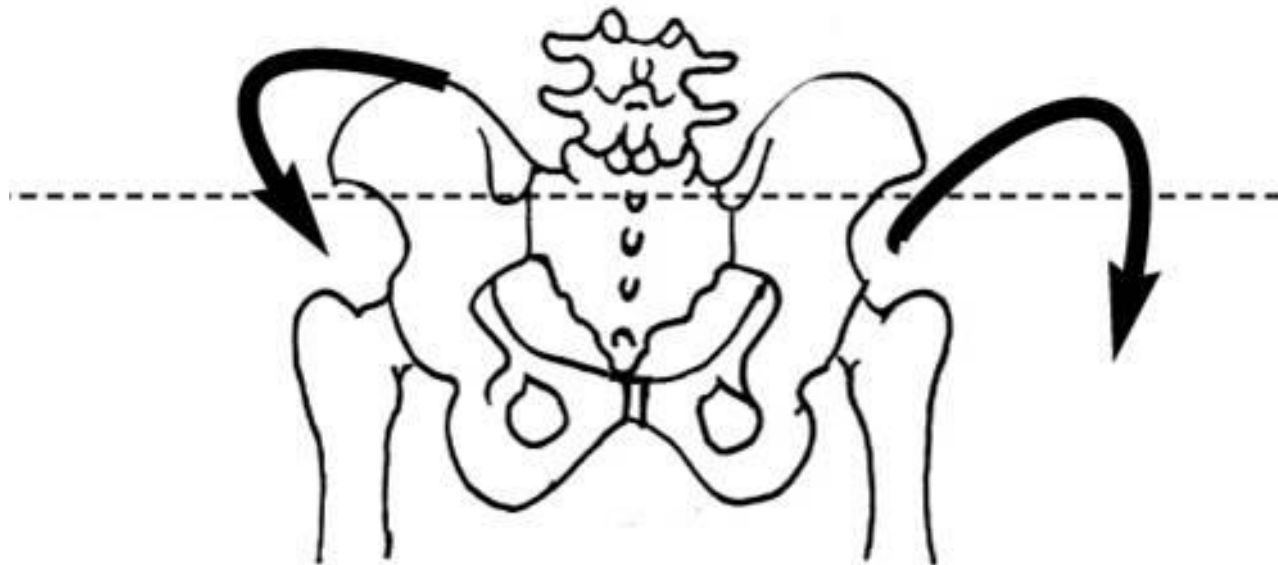
Balance the Accelerators & Brakes



Re-Align the Lower Links

- **The Malalignment Syndrome** remains one of the frontiers in medicine, unrecognized as a cause of over 50% of back and limb pain

(Schamberger, 2002, 2013, 2019)



Re-Align Lower Links (practical

- Talk to your application
Physiotherapist
- Push – Pull pelvic
alignment 6 x 6
- Symmetrical Stretching
- Work on Connected Core
Stability & Strength
- **PROTECT from BACK INJURY**
 - Top 5 injury sites
 - Incidence up to 90%



Recovery Workout (practical application)

- Flush the muscle with a high speed spin 80-85 RPM (no tension-low tension) for 15-20 min.
- About 40-60% Max. Heart Rate
- Cycling reduces **ECCENTRIC** loading from tennis
- Muscles more resistant to fatigue at higher pedalling rate
- Other modalities
 - Fast walk
 - Pool workout
 - PWB elliptical



Regain & Maintain Muscle Length

- Multi-muscle and multi joint stretching maximizes effectiveness & minimize time spent
- **75%** of strokes in modern tennis are **Serve & Fore Hand**
- Need to stretch tight anterior tissues both **UE & LE**



Regain & Maintain Muscle Length (Practical Application)

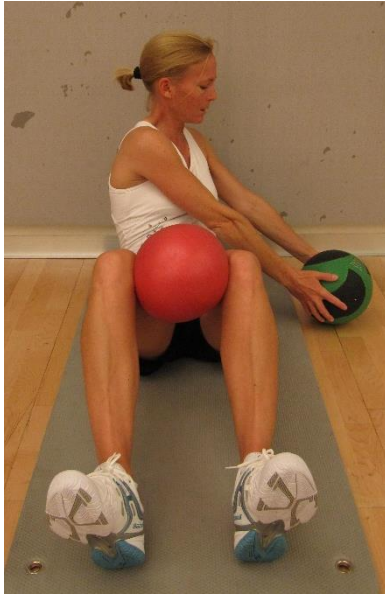
- Static stretches prior to exercise did not prevent lower extremity overuse injuries!
- But additional static stretches after training and before bed resulted in 50% fewer injuries occurring (Hartig & Henderson, 1999)

Make it Easy to Stretch

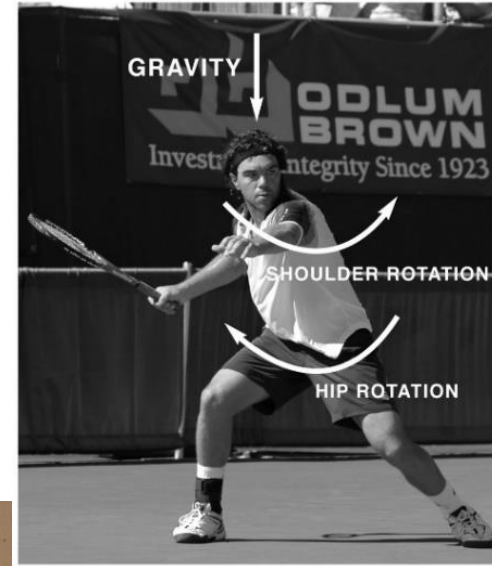
- Pool
- Beach
- Whirlpool
- Sauna
- TV / Computer /phone
- **Repeat 2-3 x 30 seconds (tension NOT pain)**



All Tennis Movements

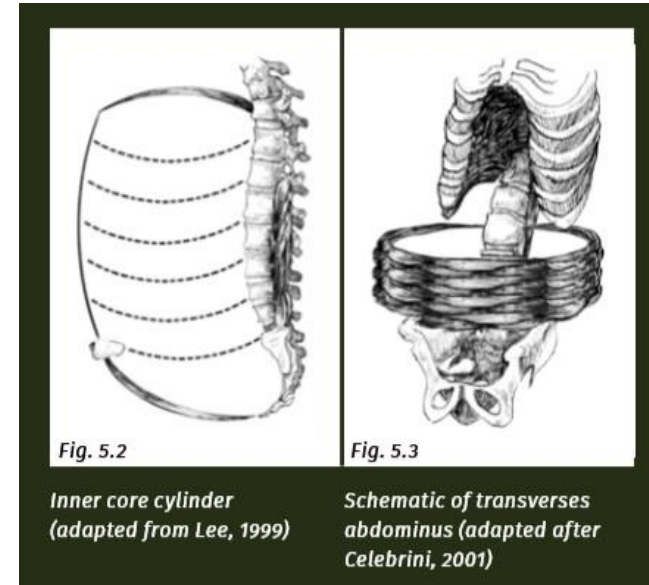


- Influenced by gravitational load on the kinetic chain
- Creates rotational & torsional forces on numerous joints & muscles
- Need to effectively **Re-Connect Core Stability** for control in all 3 planes of motion



Re-Connect the Upper/Lower Core

- Base work & Bridging
- Upper Core & Arms
- Lower Core & Legs
- Connected Core &
- Deceleration Control



Teach muscles to play well together



Connected Core - Creates Proximal Stability & Improves Distal Mobility



IN OUR VERY BUSY LIVES IT IS OFTEN OUR EXERCISE REGIME THAT'S FIRST TO GO.

We all know that being in good shape will improve performance and make your daily activities, training and sports more enjoyable. Here is a quick 50-minute workout that can be done inside or out and requires little equipment.

- All you need is running gear, a light stretch band and 50 minutes' free time.
- Vary the route you run and use beach or forest trails to soften the impact and boost your psyche.
- Take a friend along to encourage compliance.
- In inclement weather, take it inside and use a treadmill, stationary bike, stair climber or elliptical trainer.

Start with a slow jog or other aerobic activity for five minutes that includes some dynamic warm-up exercises such as arm circles, crossover runs, high knees, backwards running, side shuffle steps and skipping.

Run continuously until you reach the 18-20 minute mark keeping your heart rate at between 65-75% of maximum. [maximum heart rate = 220 - your age] or working at a 6-7 out of 10 on the Borg Scale (rate of perceived exertion).⁴ This ensures that you get a good aerobic benefit since evidence suggests we need at least 30 (up to 60) minutes of moderate intensity exercise on most, if not all days of the week.

Balance exercises
Since balance is a fundamental component of functional mobility and dynamic activity, it should be part of the daily training routine. Working on balance training is even more important as you increase strength and speed because you want to continually reset the balance clock and have the opportunity to practise and play with your newly adapted and strengthened muscles.*

Continue jogging or other aerobic activity of choice until the 40- to 45-minute mark, then start walking to cool down. During

your cool-down, do general strength exercises. Move from one exercise to the next without resting to continue the workout benefits.



Hang on to something and keep your support knee slightly bent and do two sets of 10 leg swings: front and back and side to side to challenge your balance. Always keep your core switched on like a dinner switch on a light.



Stand on a leg on one leg with knee up to 90° and arms held in front to challenge your balance. Hold for 5-10 seconds and repeat 2-3 times each leg.



Stand with one end of your light stretch band under one foot. Do a partial squat while pulling the cord into a diagonal pattern. Do two sets of 10-20 repetitions.



Place one foot on a step and hold your light stretch band in your hands. As you step up, externally rotate the shoulders against the resistance of the band. Do two sets of 10-20 repetitions.



100 Start by lying on your back and pulling your knees into your spine in two sets of ten per side. Bow to knee.

BRIDGE AND TWIST Lie on a mat with your feet flat and knees bent to 90° up the head and arms. Lift your core by lifting your buttocks into your hips and low back (use a rib cage) until it is level with your thighs. Slowly rotate your right or left. Hold for 15 seconds in and out of neutral. Ensure the buttocks in the hips remains still. Do two per side.

it the Core ing exercises are to connect the Core by ree dimensional exercise that use ball to challenge stability stance in functional 3.

2. BALL SQUATS AND 20 squats while holding a ball between your feet mid back with a d. Perform two to three sets of 10 to 15 repetitions slowly. Gradually go down deeper as your strength improves.

4. BALL SQUATS BANDS Place stretch bands around your thighs to add resistance as you do the squats by your driving hands up and forward. Light resistance is all that is needed. Perform two to three sets of 10 to 15 repetitions slowly.

5. HIP HIKES BALL PULL Start by holding a physio ball at above head height against the wall in a split squat position (pic 5A). Squeeze the ball lightly and pull down to chest height. At the same time flex the hip so your knee comes up and across at waist height (pic 5B). Perform two to three sets of 10-15 repetitions.

6 Stretch the hip flexors by kneeling on one knee and lifting the other foot forward. Thrust your hip forward until you feel a pull in front of thigh. Hold at the point of tension (not pain) for 15-20 seconds two to three times.

RULES OF CORE STRENGTH
 • Always start with dynamic warm-up and 'Fire the Core' routine to re-educate the lower abdominals to work in a pre-anticipatory way.
 • A few non-fatiguing core exercises should be done prior to any training activity.
 • This is especially important after a lay-off, after an injury or when you have been mal-aligned or have low back or hip pain and stiffness.
 • Approach traditional sit-ups with caution as the elbow-knee movement places a lot of strain on the low back.
 • Rest intervals of one to two minutes between sets is best. Use this time to do some light stretching, balance drills or work on a different muscle group.

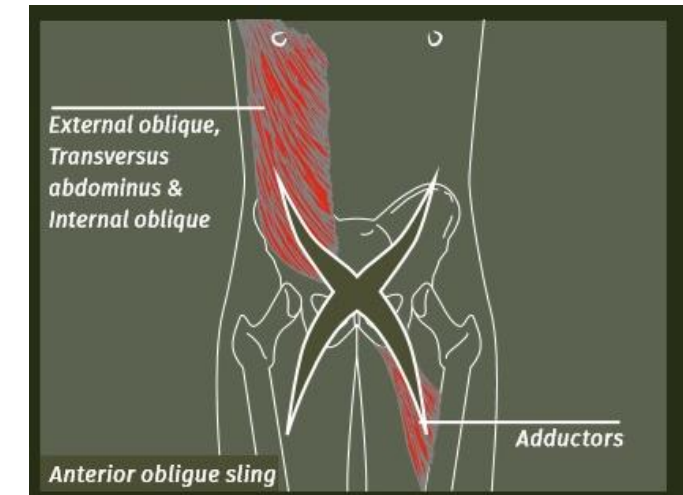
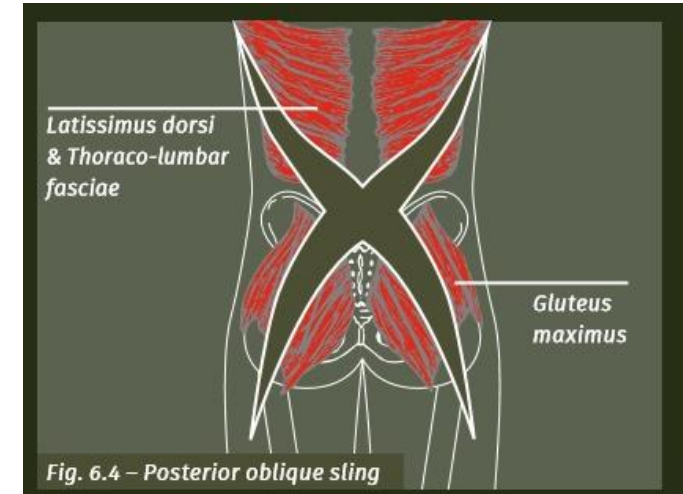
YOUR COACH
 Physiotherapist and fitness coach Carl Petersen is director of high-performance training at City Sports & Physiotherapy Clinics in Vancouver, Canada (www.citysportsphysio.com). He and former WTA pro Nina Pietrangeli have written a training book entitled 'Fit to Play - Tennis: Practical Tips to Optimize Training and Performance', published by Fit to Play, price €19.99. It's available in the UK from ITP, 0161 643 8479, www.itsm4everyone.com

AUGUST 2009 ACE 65

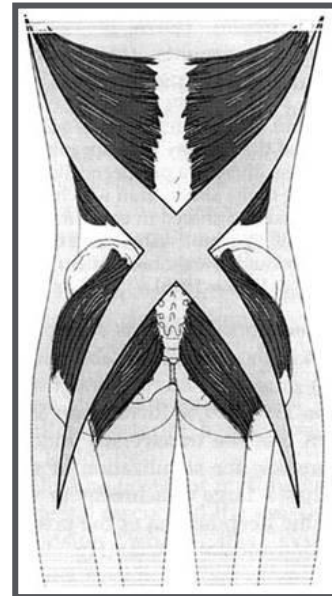
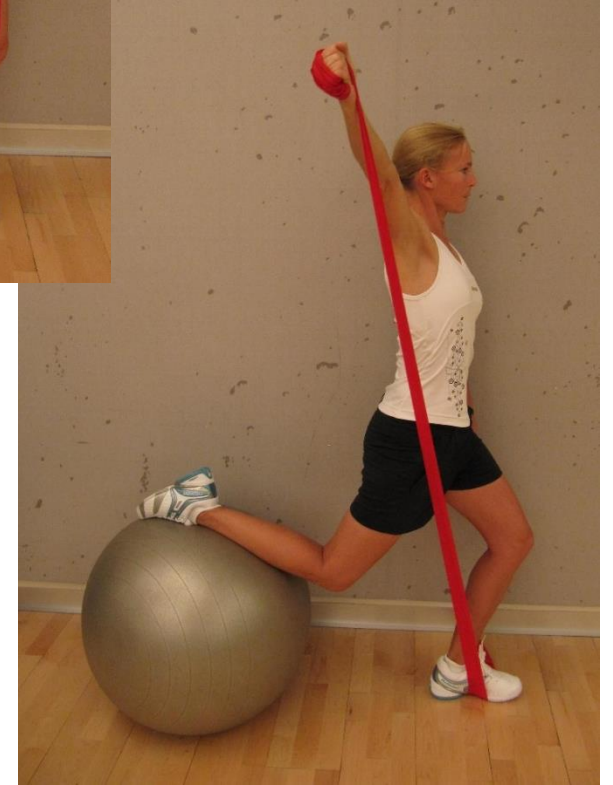
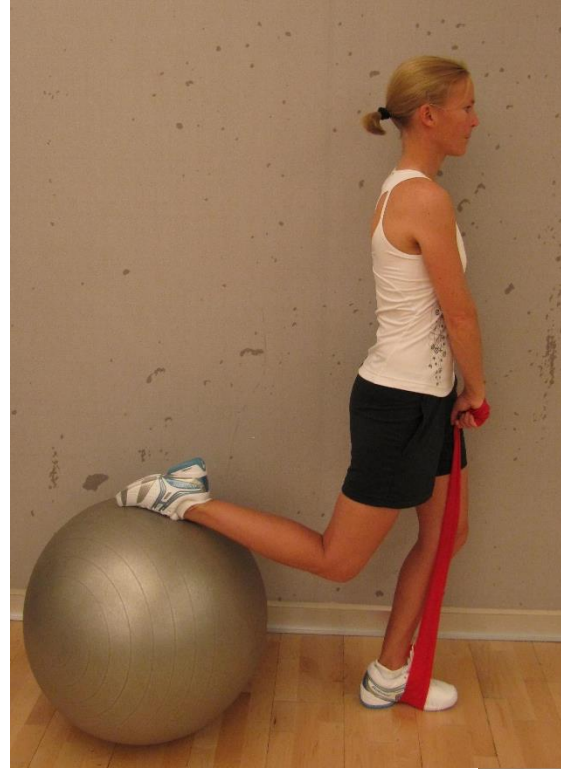
Train Diagonal & Spiral Stability (slings)

- **Posterior Oblique Sling**–
(lat dorsi>TL-fasciae>contra Glut max.)
- **Anterior Oblique Sling**
(Ext. Obliques +TA > contralat Int. Oblique & Adduct)
- **Longitudinal Sling**
(Peroneii > Biceps Femoris > sacrotub lgt. > TL fascia & erector spinae)
- **Lateral Sling**
(Glut Med / Min & TFL > Lateral Stabilizers Pelvis & Thorax)

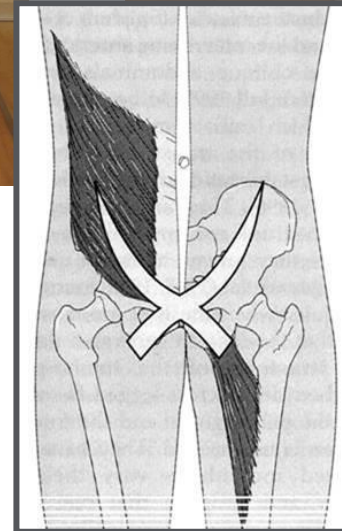
(Snijders et al., 1993) (Vleeming et al 1995)



Posterior Oblique Sling

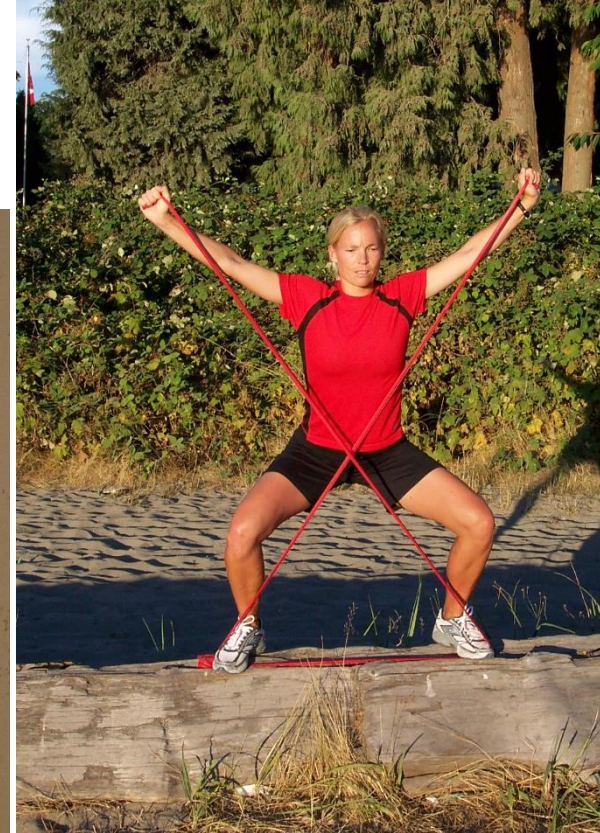
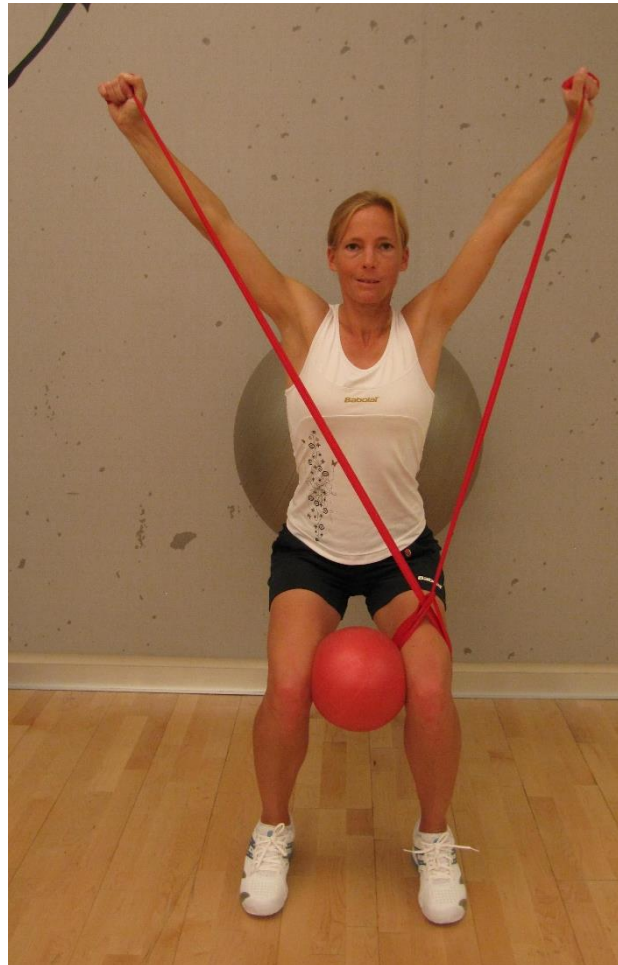
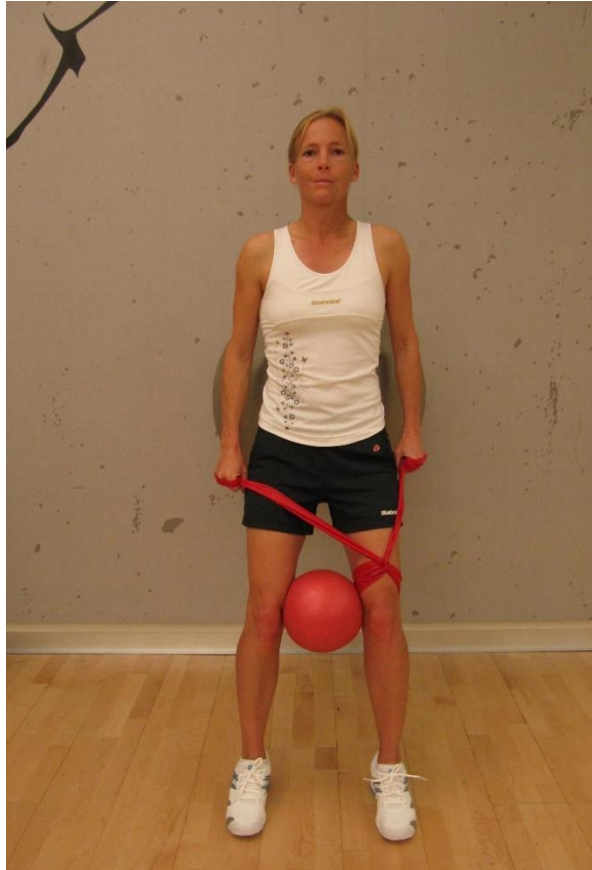


Anterior Oblique Sling



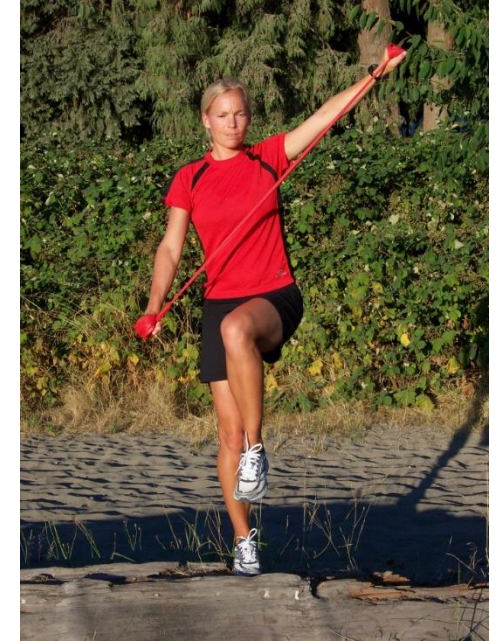
Longitudinal Slings

(Peroneii > Biceps Fem > sacrotub lgt. > TLF & erector spinae)



Lateral Slings

(Glut Med / Min & TFL > Lateral Stabilizers Pelvis & Thorax)



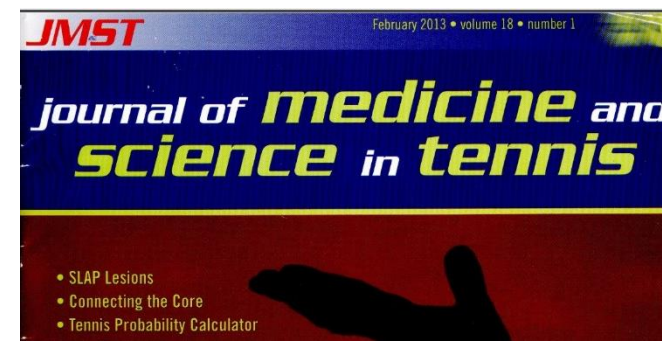
BENEFITS OF CONNECT YOUR CORE STABILITY TRAINING

- Improves postural set and helps maintain correct pelvic alignment
- Improves strength of functional muscle slings that connect the upper and lower core
- Improves joint and muscle position sense (kinesthetic awareness), helping to center the joint and absorb stress
- Improves stability in a functional hip-extended position
- Improves ability to counter-rotate or dissociate the upper and lower torso and extremities
- Improves dynamic balance and movement efficiency
- Adds additional force vectors of resistance to traditional training methods
- Helps to improve athletic performance and helps the body to be able to react to unexpected events
- Provides exercises that are versatile, practical, transportable and affordable

Connecting the Core

-Exercises to Enhance Stability (Petersen & Nittinger)

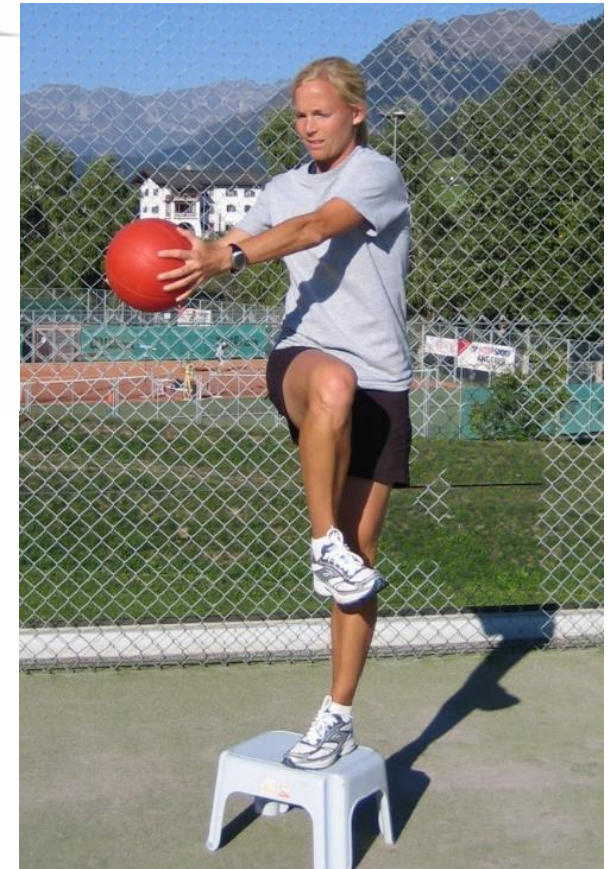
J Med Sci Tennis 2013;18(1): 13-20



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Reset the Balance Clock

- ↑ Proprioceptive awareness
- Life is in 3 dimensions /planes
- Better prepared for multi-planar stressors
- Create multi joint & muscle chaos



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Re-set the Balance Clock (practical applications)

BOTH LOWER & UPPER EXTREMITY:

- Wobble boards
- ½ Foam rolls
- Rolled towels
- Bosu Balls
- Reebok Core Board
- Dynamic Edge
- Ski Fitter



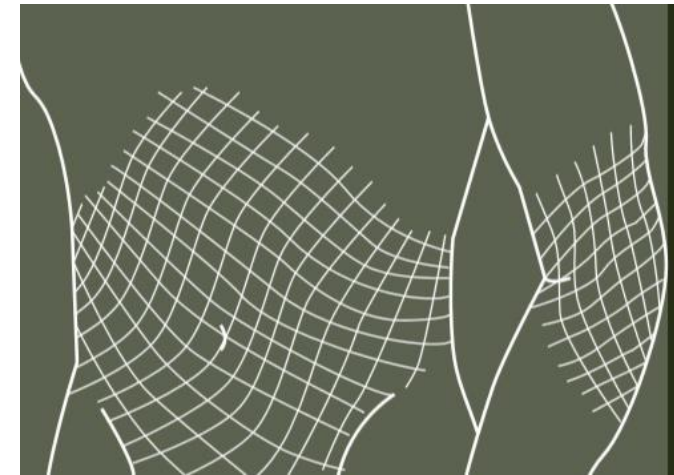
Release the Soft Tissue

- Pressure stretches on muscle fibers
- Decreases trigger points & adhesions
- Good soft tissue techniques on the road



Release the Soft Tissue

- Active, irritable trigger points result from heavy training
 - May reduce muscle strength
 - Inhibit contraction- relaxation coordination of the muscles
 - **Decrease blood flow to muscle**
- Can impair training and competition & can progress to injury if they are not resolved (Brukner & Khan, 2002)



Release the Soft Tissue (practical application)

- Fascia system responds best when pressure is applied & sustained for 2 more minutes
- Good prone bridge exercise to **Re-Connect the Core.**
- Portable massage-easier to find a wall or floor than RMT
- Small balls / rollers
- Hands & elbows



Fig. 10.17

Fig. 10.18

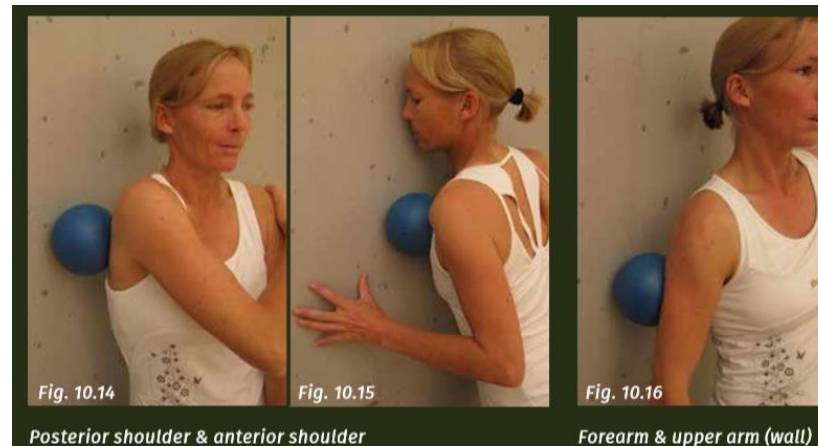


Fig. 10.14

Fig. 10.15

Fig. 10.16

Posterior shoulder & anterior shoulder

Forearm & upper arm (wall)

Reinvigorate the Tissues

Hydrotherapy Guidelines

Hot / Cold / Hot Contrast

- 30-300 seconds. of one temp extreme
- Followed immediately by 30-300 seconds of contrasting temp.

(repeat x 4-30 minutes) (Wilcock et al, 2006)



Recovery. Proper recovery strategies are essential to maximize workout results.



Reinvigorate with Recovery Menu (practical application)

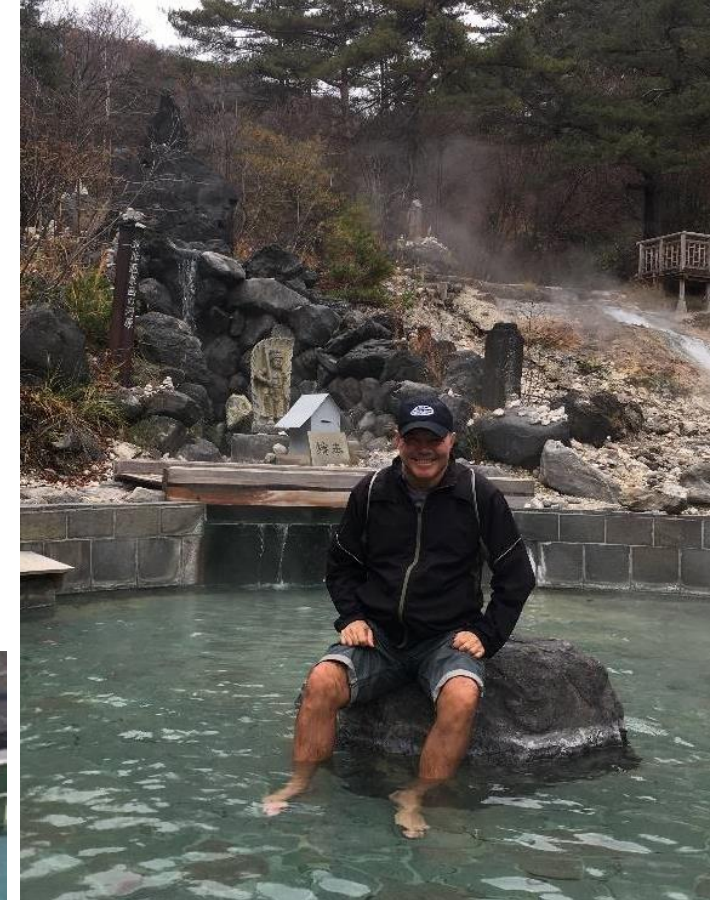
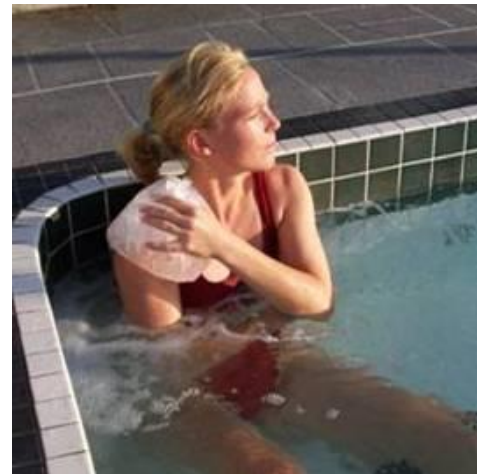
Hot & Cold (A)

- Hot (comfortable) x 2 min.
- Cold (as possible) x 10 sec.
(repeat 6-10 x)



Hot & Cold (B)

- Cold (as able to stand) x 1min.
- Hot (as comfortable) x 30 sec.
(repeat 8-10 x)



Reinvigorate with Recovery Menu (practical application)

Cold Water hose:

- 45 sec each leg /
30 sec. each arm.
- Warm Shower -30 sec.
each leg / 20 sec. each
arm.

(repeat 5-7 x)



Reinvigorate Tissues with Therapeutic Modalities

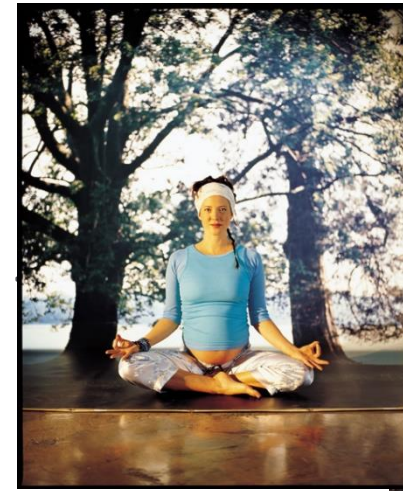
- Thermal (hot & cold)]
- Mechanical
 - Soft tissue techniques
 - Whirlpool jets
 - Ultra Sound
 - Needles (Acupuncture/IMS)
- Light (laser /infrared)
- Electrical
 - EMStim
 - IFC /TENS
- **Interaction with therapist – doing something to aid recovery * Social & Emotional Recovery**



Rest, Relax, Recharge & Reflect



- Take time to rest, relax & recharge give yourself space to think
- Importance of **SOCIAL RECOVERY** in young developing players
- Coaches recovery from busy lives need to take time to reflect



- Walk / hike /swim
- Read
- Write in a journal or logbook
- Talk to others
- Travel time (lounges / airplane)
- Massage



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Growth Spurt Management

* **PRO-ACTIVE** Recovery Rules

- Refuel, rehydrate & rebuild properly: **CHO, H2O & Protein**
- Realign the body: posture & pelvic alignment concerns
- Release the soft tissue: tight muscles with TP's cannot slide & strengthen due to inhibition
- Regain muscles strength: accessory muscles & deceleration strength
- Regain muscle length: stretch dynamically before activity & statically after
- Review technique: growth spurts affect alignment, COG, posture & proprioception
- Rest (active & passive) when needed

To Travel Well-Recover Well (Everyone) Coaches & Sport Scientists Must:

Use The Rules of Recovery that:

- Perceived to be relevant
- Easily transferable & portable
- Allow easy access to equipment
- Multi-modal
- Relevant based on type of fatigue



Fig. 2.31

Adapt to different venues of training.

Keep it fun!

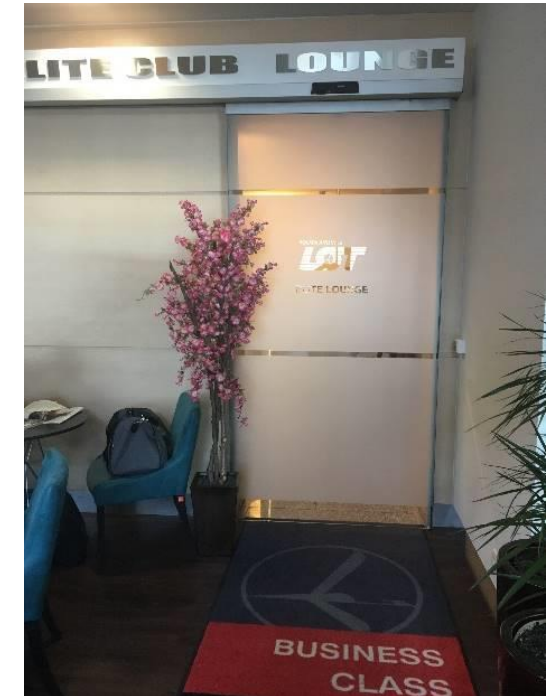
Training should be **fun AND stimulating**,
both **physically AND mentally**.

If it's not, why are you doing it?

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Travel Well – Recover Well

- Flown over 2 million miles
- MAY Not always have luxury to fly business (J) class
- Access to FF Lounges key
- Nutritious healthy food
- Quiet spaces to rest & sleep
- Access to showers



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Sample Recovery Daily Plan

TRAVEL DAY

- Pre-Flight: Rehydrate + Refuel, Rebuild & Repair (hydration & nutrition)
- At Airport & on Plane: Rest, Relax, Reflect & Recharge
- At Hotel/Housing: Resynchronise with Fit to Play Travel Protocol
- Regain & Maintain Muscle Length + Release the Soft Tissue
- Re-Invigorate + Physiotherapy (PRN)
- Rest (sleep)

TRAINING DAY

- Self Check for muscle tension & ROM
- Shower + Release the Soft Tissue

AM - Off or On Court Training

- Recovery Workout + Rehydrate & Refuel together
- Re-Align the Body + Re-Connect Core + Reset the Balance

PM - Off or On Court Training

- Repeat AM post training plan
- Regain & Maintain Muscle Length + Re-Invigorate + Physiotherapy (PRN)
- Rest (sleep)

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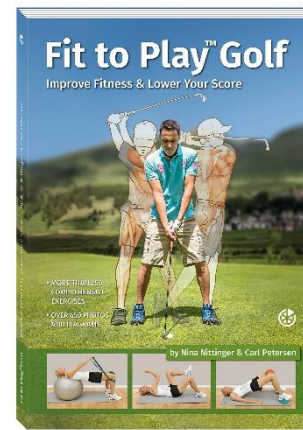
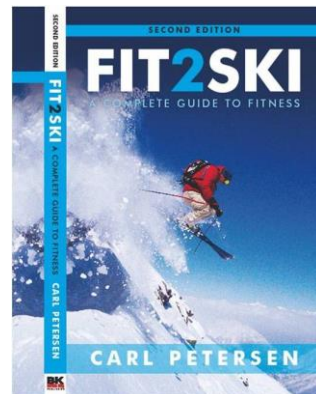
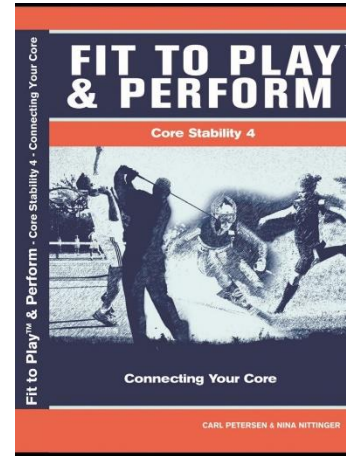
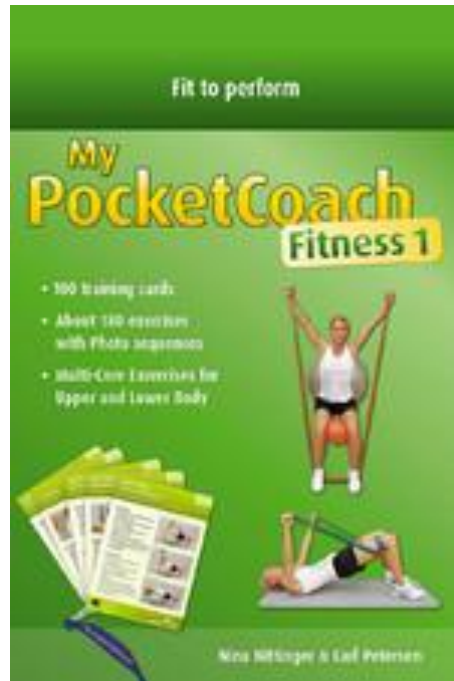
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Training Resources

www.citysportsphysio.com/resources/publications



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