

# East Meets West Revisited:

Integrating a mindful,  
active recovery  
program for athletes

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# Conflict of Interests

- The views expressed in these slides and the today's discussion belong to the presenter
- Participants must use discretion when using the information contained in this presentation

# Learning Objectives:

- Organize key terms and concepts that translate from yogic philosophy into the athletic training facility.
  - Distinguish the nuances that differentiate mobility from flexibility.
  - Interpret the intention behind implementing the physical and biopsychosocial elements of yoga in the athletic setting.
  - Compare tension versus compression relationships that appear in yoga asana.
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# Philosophy

Yoga is a journey, not a destination.



# Take a Breath

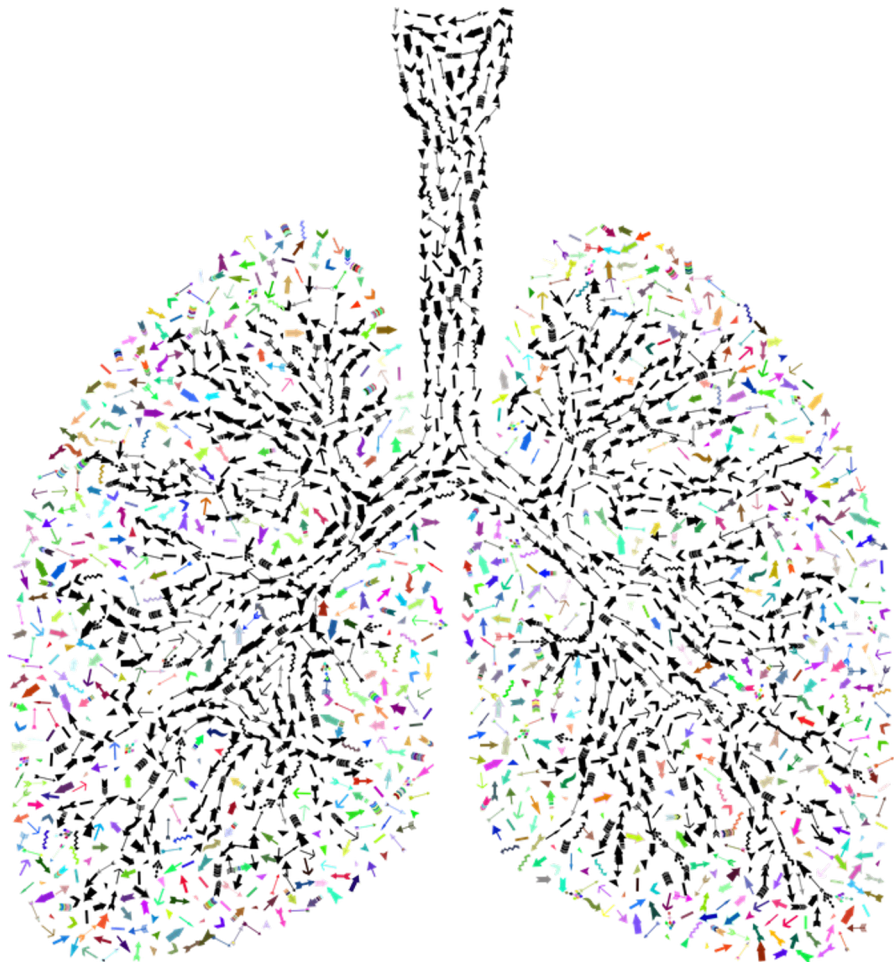
Lengthen your spine but sitting up just a bit taller.

Notice the connection points of your feet on the floor, your sitting bones on the chair, and back resting against the seat back.

Observe the conversations, if any, that are present in your mind.

Now, explore your ability to find stillness in your physical body and in the mind.

Take 3 intentional, expansive breaths here.



# “Let’s Do Yoga”

What comes to mind?



There are several types of yoga, stemming from varying paths/teachers (gurus). For the purpose of this presentation, we will center upon the most commonly practice style: Hatha.

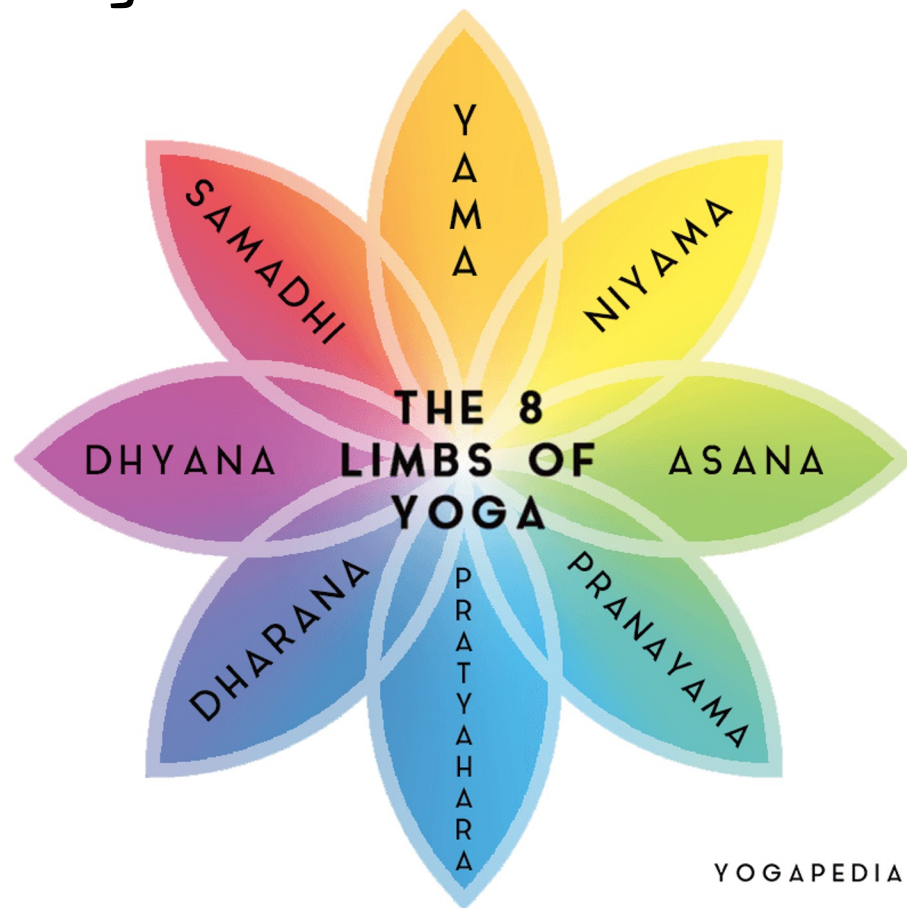
Hatha yoga is delineated from Raja yoga, which embraces the 8 Limbs of Yoga.

- Vinyasa
- Bikram
- Iyengar
- Kundalini
- Ashtanga
- Restorative
- Yin

# Acknowledging the roots of Yoga

## Patajali's 8 Limbs of Yoga

1. Yama (others)
  - a. *Ahimsa*: nonviolence
  - b. *Satya*: truthfulness
  - c. *Asteya*: nonstealing
  - d. *Brahmacharya*: continence
  - e. *Aparigraha*: noncovetousness
2. Niyama (self)
  - a. Saucha: cleanliness
  - b. Samtosa: contentment
  - c. Tapas: heat; spiritual austerities
  - d. Svadhyaya: self-study
  - e. Isvara pranidhana: surrender to a higher being
3. Asana
4. Pranayama
5. Pratyahara
6. Dharana
7. Dhyana
8. Samadhi





Is It Yoga?





# Are We Teaching Yoga?

- The practice of yoga is the integration of movement & breath.
- Yoga can draw one's attention inward; something we refer to as embodiment.
- Is there an underlying theme that embraces the 8 limbs?

If we don't call it yoga, then what are the alternatives? Are there cultural or geographical barriers to using the term? Mindful movement or moving with intention may be an alternative?





# What's the Evidence?

- 1) On effectiveness of mindfulness-based practice:
  - a) can be an effective adjunct to exercise therapy in the rehabilitation of PFP in recreational female runners.
  - b) consider it as a regular complementary mental skills training approach for athletes, such as pitching, golf, and other “precision” sports.
- 1) Results suggest that a regular yoga practice may increase the flexibility and balance as well as whole body measures of male college athletes and therefore, may enhance athletic performances that require these characteristics.

## Adding Mindfulness Practice to Exercise Therapy for Female Recreational Runners With Patellofemoral Pain: A Randomized Controlled Trial

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**Context:** Considering current models that highlight the role of psychological components in pain management, mindfulness practice may be an effective strategy in the management of pain.

**Objective:** To examine the effects of adding an 8-week mindfulness program to exercise therapy on the perceptions of pain severity, knee function, fear of movement, and pain catastrophizing of female recreational runners with patellofemoral pain (PFP).

**Design:** Randomized controlled clinical trial.

**Setting:** University laboratory.

**Patients or Other Participants:** Thirty female runners (age = 28.3 ± 7.08 years) with PFP were randomly assigned to the exercise or mindfulness-exercise group.

**Intervention(s):** The exercise-only group followed a protocol (18 weeks, 3 sessions/wk) that featured training modifications to help control injury-related symptoms. The mindfulness-exercise group received an 8-week mindfulness intervention in addition to the exercise protocol. The mindfulness component started 4 weeks before the exercise component; therefore, the 2 components overlapped during the first 4 weeks of the intervention.

**Main Outcome Measure(s):** Usual pain, pain during stepping, and pain during running were assessed using visual analog scales. Functional limitations of the knee were assessed using the Knee Outcome Survey. Fear of movement, pain catastrophizing, and coping strategies were measured via the Tampa Scale for Kinesiophobia, the Pain Catastrophizing Scale, and the Coping Strategies Questionnaire, respectively. These outcomes were assessed at baseline, at week 9, and after 18 weeks.

**Results:** Pain during running, pain during stepping, and functional limitations of the knee were less for the mindfulness-exercise group than for the exercise-only group ( $P$  values < .05). The mindfulness-exercise group reported greater perceived treatment effects than the exercise-only group ( $P$  < .05). Pain catastrophizing was less and coping strategies were more favorable for mindfulness-exercise participants than for exercise-only participants ( $P$  values < .05).

**Conclusions:** Mindfulness practice can be an effective adjunct to exercise therapy in the rehabilitation of PFP in recreational female runners.

**Key Words:** sport rehabilitation, sport injuries, anterior knee pain

### Key Points

- Adding an 8-week mindfulness intervention to an exercise therapy program facilitated a quicker onset of perceived therapeutic effectiveness in terms of clinical and psychological outcomes in runners with patellofemoral pain.
- After 18 weeks of exercise therapy, participants who received an 8-week mindfulness program showed greater improvements in clinical and psychological outcomes than those who did not receive the program, indicating better long-term effectiveness.
- Adding an 8-week mindfulness practice to the patellofemoral pain exercise therapy program led to more long-lasting effects 2 months after the interventions.

# Appropriation vs. Appreciation

- Find a balance between modernization and yoga tradition as a whole. We cannot appreciate the practice of yoga without understanding where it has come from.



*"As I continue to learn, am I comfortable with the practices and purchases I'm choosing to make, or should I make some changes?"*



# Application

Yoga as Rehabilitation & Active  
Recovery Care



# Why We Love Yoga: Embodiment

## Definition

noun: a tangible or visible form of an idea, quality, or feeling.

The representation or expression of something in a tangible or visible form.

*To me: Mind-Body Connection.*

## Activity

Ability to stay connected and FEELING of your emotions.

## Somatic Embodiment Tools:

- Breath
- Meditation: Body Scan, Breath Count
- 5 senses check in
- Movement: Stillness vs. Shaking



# Biomechanics

The study of forces going through the body all based off ground reaction forces (GRF)

*Allows you to use rehab exercises/yoga postures more intentionally*

## **Open Kinetic Chain =**

- Open in space
- Zero impact; no GRF
- Motion occurs at distal joint
- Stability
- Non-predictable patterns

## **Closed Kinetic Chain =**

- Locked in; whether that be with the ground, the wall or another person
- More impact, increased ground reaction force (GRF)
- Locks in distal joint
- Motion occurs at proximal joint
- Predictable patterns

# Stretching

**Static** - Research stating static stretching = Decrease in power output

Use for cool down only. In yoga there's a style called "yin" where you hold each pose for 3-5 min. It has a HUGE impact on the fascial system and will absolutely help increase flexibility in the muscles to increase ROM but limited impact on mobility aka active ROM. *Creep response.*

**Dynamic** - BEST way to warm up your athletes without seeing power decreases.

**MFR** - NOT about setting a timer and suffering through pain. About relaxing, telling your body that you're safe to ACTUALLY see changes.

On a scale of 1-10 10 = I can't breathe through this. Stay around a 6-7. Softening, relaxing, melting.

1. Scribble/explore the area
2. Pick one spot that feels tense but not the 10/10 spot (just move slightly off of it!)
3. Breathe! Soften! Relax!
4. Explore gentle active movements around that joint

**PNF** - Contract - Relax: 6 sec hold, 10 sec stretch



# Mobility vs. Flexibility

**Passive Range of Motion vs.  
Active Range of Motion:  
AROM aka Mobility = BEST!**

What's your intention with "stretching"?

Stretching before vs. after (power output)  
How long do you hold stretches for?

What are you actually targeting in stretching?

## Stability vs. Flexibility vs. Mobility

Stability	Return to a position after a perturbation – Control of movement
Flexibility	Total available movement at a joint – Active and passive range of motion (AROM and PROM)
Mobility	Mobility – Active and controlled range of motion (ROM)
Strength	The ability for the muscles to create a force against resistance
Rigidity	Absence of movement

# Tension & Compression

## **Biomechanics:**

Compression = 2 forces coming together

Tension = 2 forces going away from each other

## **In Yoga:**

Compression = 2 forces coming together creating a bone on bone end range limiting or inhibiting ROM

Tension = ROM limited due to muscular or fascial stretch sensation



Photo: Credit of Paul Grilley

<https://www.paulgrilley.com/bones>

# Diaphragm

## **Anatomy**

Connect to all your ribs, xiphoid process and lumbar vertebrae.

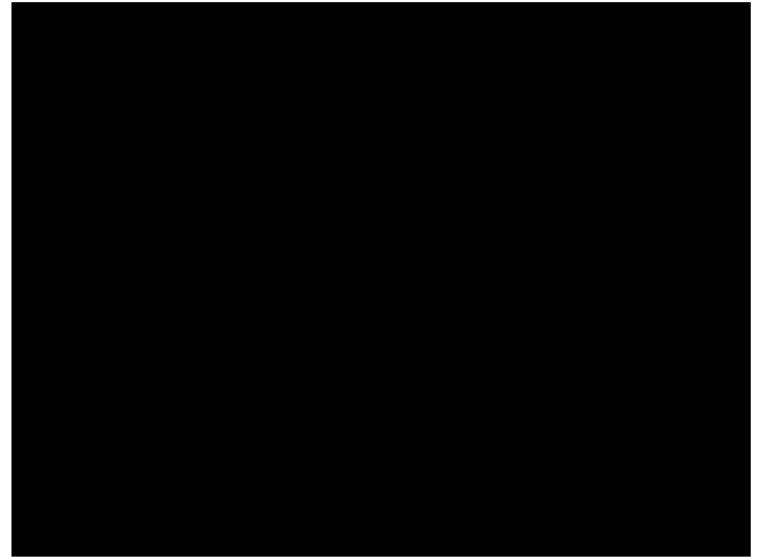
Innervated by the phrenic nerve (C3-5 keep the diaphragm alive!)

The Phrenic nerve runs through your anterior scalene and SCM (when we're stressed = only breathe with our neck).

Polyvagal Theory = THE IMPORTANCE OF THE EXHALE

## **Breath Practice:**

360 breathing with hands



# Workshop Portion

## Case studies

- What is the goal/desired outcome? Provide 3 intentions for the group.
- Identify 2-3 focal muscles/joints.
- Select 2 shapes per joint/muscles to address anatomy
- Embodiment strategy? (breath, guided med, progressive relaxation)

## Implement physical/biopsychosocial techniques

1. One together
2. Small Group (4-5)

# Case Study 1: Junior Hockey

- **What is the goal/desired outcome? Provide 3 intentions for the group.**
  1. *Create space in the t-spine for rotation capacity through the kinetic chain*
  2. *Engage spine extensors and posterior chain to offset training*
  3. *Get them out of heightened state; relaxation*
- **Identify 2-3 focal muscles/joints. Then, select 2 shapes per joint/muscles to address anatomy**
  1. *Glutes: Bridge & Locust Pose*
  2. *Thoracic Spine: Thread the needle & Sphinx pose*
- Embodiment strategy? (breath, guided med, **progressive relaxation**)

# Workshop Portion

## Case studies

- What is the goal/desired outcome?  
Provide 3 intentions for the group.
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## Implement physical/biopsychosocial techniques

1. One together
2. Small Group (4-5)

**Open your camera for  
the Pose Cheat Sheet**



# Group Discussion

Barriers to implementation?

Cultural?

Time?

Space?

Yoga for Mental Health?

► Additional supplemental material is published online only. To view, please visit the journal online (<http://dx.doi.org/10.1136/bjsports-2022-105596>).

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## Effect of mindfulness-based programmes on elite athlete mental health: a systematic review and meta-analysis

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### ABSTRACT

**Objective** To determine the effectiveness of mindfulness-based programmes (MBPs) on the mental health of elite athletes.

**Design** Systematic review and meta-analysis.

**Data sources** Eight online databases (Embase, PsycINFO, SPORTDiscus, MEDLINE, Scopus, Cochrane CENTRAL, ProQuest Dissertations & Theses and Google Scholar), plus forward and backward searching from included studies and previous systematic reviews.

**Eligibility criteria for selecting studies** Studies were included if they were randomised controlled trials (RCTs) that compared an MBP against a control, in current or former elite athletes.

**Results** Of 2386 articles identified, 12 RCTs were included in this systematic review and meta-analysis, comprising a total of 614 elite athletes (314 MBPs and 300 controls). Overall, MBPs improved mental health, with large significant pooled effect sizes for reducing symptoms of anxiety (hedges  $g = -0.87$ , number of studies ( $n$ ) = 6,  $p = 0.017$ ,  $I^2 = 90$ ) and stress ( $g = -0.91$ ,  $n = 5$ ,  $p = 0.012$ ,  $I^2 = 74$ ) and increasing psychological well-being ( $g = 0.96$ ,  $n = 5$ ,  $p = 0.039$ ,  $I^2 = 89$ ). Overall, the risk of bias and certainty of evidence was moderate, and all findings were subject to high estimated levels of heterogeneity.

**Conclusion** MBPs improved several mental health outcomes. Given the moderate degree of evidence, high-quality, adequately powered trials are required in the future. These studies should emphasise intervention fidelity, teacher competence and scalability within elite sport.

**PROSPERO registration number** CRD42020176654.

treatment options for athletes who are experiencing high psychological strain but do not meet the criteria to be diagnosed with a clinical disorder.<sup>9</sup> Recommended treatment options should, therefore, be rigorously tested in elite athletes and the unique environments in which they operate.<sup>5,12,13</sup>

Mindfulness-based programmes (MBPs) such as mindfulness-based stress reduction (MBSR) and mindfulness-based cognitive therapy (MBCT) aim to improve dimensions of mindfulness including attentional control, acceptance, emotional reactivity and self-compassion.<sup>14,15</sup> They are comparable to other evidence-based approaches, such as cognitive-behavioural therapy, in treating mental health disorders.<sup>16,17</sup> Mental health represents a spectrum from 'flourishing' to 'languishing'.<sup>18</sup> An individual may experience positive states of well-being (flourish) while living with a mental health disorder, or experience poor mental health (languish) in the absence of clinically relevant symptoms of a mental health disorder.<sup>18</sup> MBPs teach foundational skills that support mental health and well-being across this spectrum.<sup>19</sup> MBSR and MBCT typically consist of eight sessions per week, each lasting 2.0–2.5 hours, and are delivered in group settings by teachers who have successfully completed mindfulness-based teacher training.<sup>20</sup> MBPs are associated with improvements in athletic performance, making mindfulness-based approaches popular in contemporary sports psychology.<sup>21–23</sup> Careful adaptation of these programmes is required when targeting specific new groups and new contexts, such as elite athletes, to maximise acceptability, effectiveness, ease of implementation and scalability.<sup>24</sup> The adaptation of MBPs to elite sport settings must take into



Let's Flow!

# Key Take Aways

- What can you implement now?
  - Appreciate the knowledge that differentiates yoga from stretching
  - Introduce intention and embodiment when prescribing yoga-inspired postures or mobility/flexibility techniques
  - How to select yoga postures based on intention and biomechanics
- What can you implement over time?
  - An active recovery program that is appropriate for your demographic, be it traditional yoga sequencing or selecting postures with the cultural appreciation of its origin. Most importantly, do your due diligence!
  - You may decide that a training program is the next best thing.

# Ask Us!

Have you been asked to offer yoga? We'd love to stay connected and help support you.

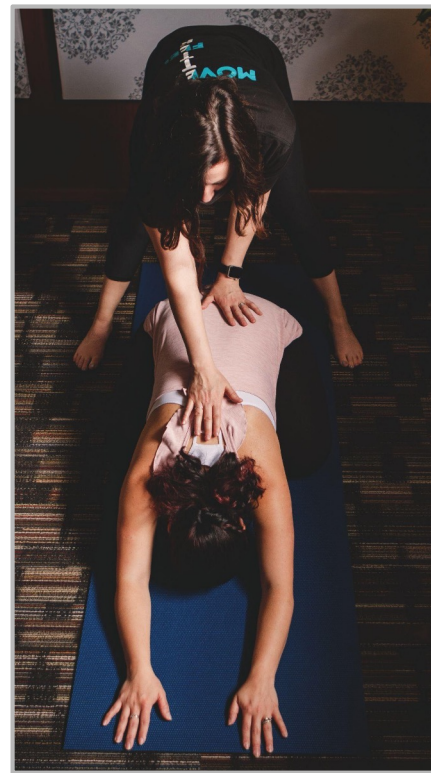
Maybe there is content within this presentation that has particularly landed and you'd like to explore further. Please feel free to reach out.



Connect with Gab!  
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## QUESTIONS??



Connect with Jenn!  
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