



## FLEXIBILITY AND MOVEMENT: THE SCIENCE BEHIND THE MAGIC

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# BASIC PEARLS

1. Louder and repetitive does not mean learning.
2. AR= Available Range
3. AF = Opposite (antagonist) flexibility
4. FS = Functional Strength

\* AR= AF + FS

KEY TO FLEXIBILITY!!!!!!!!!!

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# PEARLS CONT.

5. Form follows function
6. Stability over mobility in extremities
7. Mobility over Stability in spine
8. NEVER push! Sometimes assist

# TYPES

Static

Dynamic

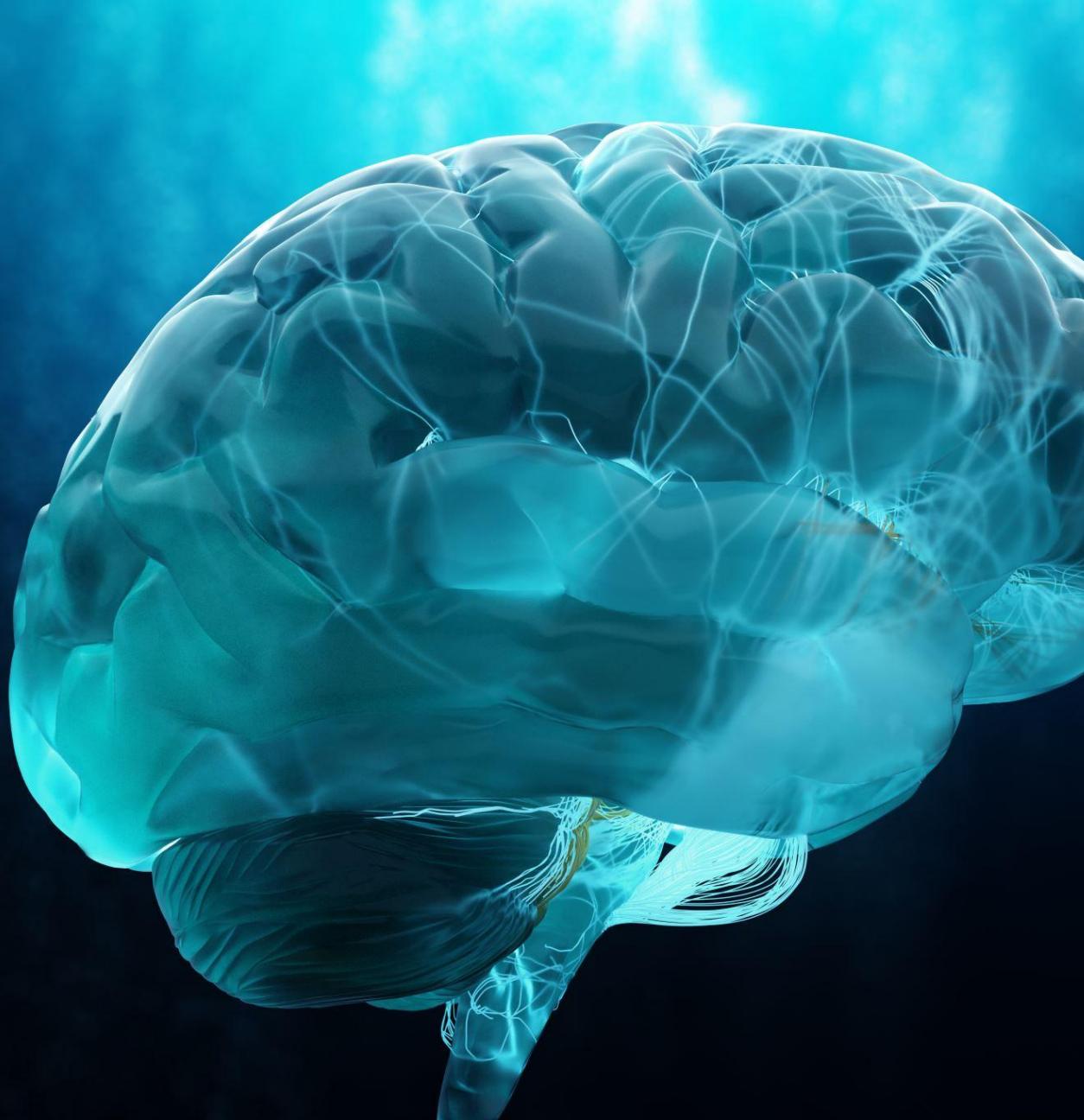
Roller/Instrument  
Assisted

Joint mobility

Neurodynamic/Neur  
o assisted

# ORDER

- Warm up the body, heart rate elevated
- Joint motion- general warm up
- Neuro preparation
- Dynamic joint motion- non end range
- Static
- Advanced Dynamic
  - Good, sport specific
- Skill specific
- Revisiting: rotation and time based



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# WHY THIS ORDER?

- Brain has to be prepared
- Body has to be warm
- Tissues have to be receptive
- Muscle spindles and receptors have to be told “it is time” to be ok to let go of resting protective mechanism
- Bookend ranges have to be allowed
- 60-80-100 rule

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# FLEXIBILITY BUILDS

## Preschool:

- Shaping
- Proper alignment during flexibility
- Understanding how joints move, end ranges, why

## Developmental

- Making sure athlete understands WHY they need each stretch
  - Skill performance and advancement
  - Injury mitigation
- Body shaping
- Importance of proper holding techniques
  - Breathing
  - Positioning
  - Alignment
  - Muscle focus

## Advanced

- Skill 2 year prediction
- What is needed to GET skills
- What is needed to keep end range from causing issues (switch leaps, blinds)

# WHAT NOT TO DO IN FLEX/STRETCH INJURY?



Static stretch (dynamic motion, non end range instead!)

Ice (heat, blood flow!)

Complete rest (movement, blood flow)



NSAIDS (you want inflammation body response for healing!)

Strength train at 100% (instead- BFR!)

Leave it alone (you want to encourage lymphatics, muscle contraction, blood, eccentric when ready)

# MOST COMMON ISSUES- BODY PARTS

## Spine Pain

- Improper square splits
  - Hip flexor back leg- rotation and impingement
  - Hamstring- front leg- square vs turnout
- Intersegmental motion
  - Slinky
  - Reversal
  - Three planes of motion

## Achilles

- Tendon of the gastric and soleus
- Ankle joint motion vs actual pliability of achilles
- Use and guarding- short landings
- Muscle control on landing itself – gluteals, eccentrics

## Wrist

- DRUJ
- Shoulder and elbow position for wrist

## Shoulder

- IR and ER
- Sh Flexion
- Impingement



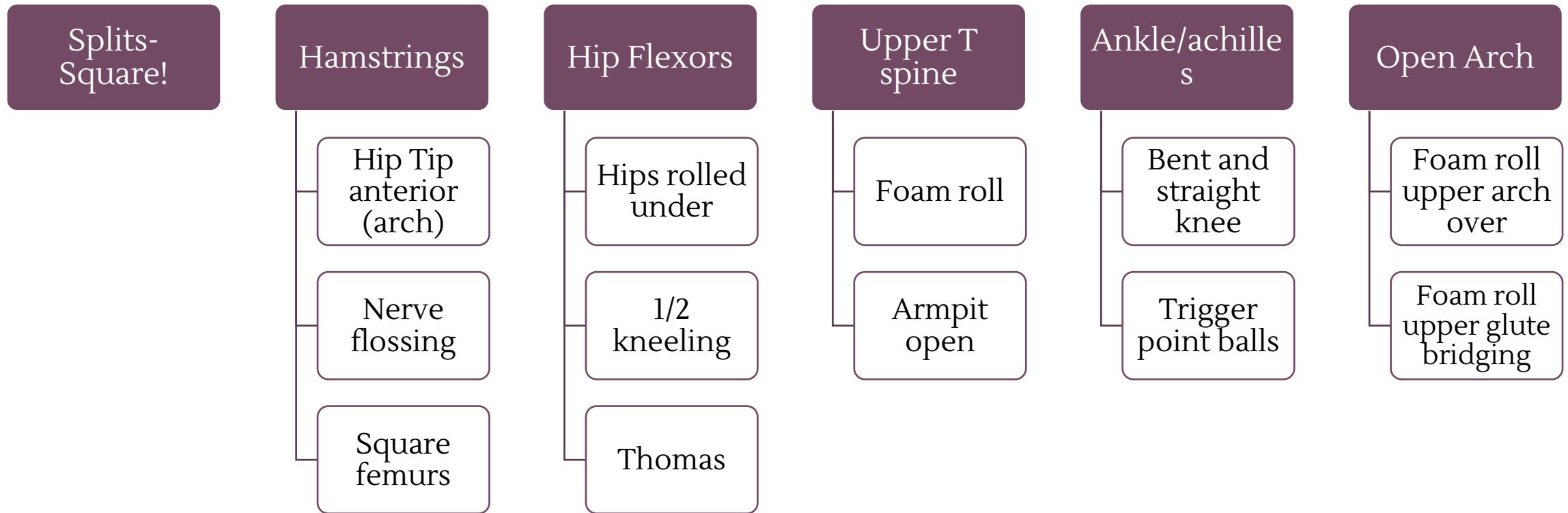
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## CHOREOGRAPHY AND FLEXIBILITY: CONNECTION!

- Visual gymnastics performance
  - Think BIG motions, dance (Netherlands, Canada, Brooklyn Moors, Nastia Liukin)
  - Finishing to fingertips
- Total Range of motion
  - High kick
  - Arabesque
  - Contractions
  - Rib motion in all 4 planes
  - Open arch position

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# HOW DO WE GET THERE? TAKE HOME TIPS!



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# CONTACT ME!



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