

Stretching the limits:

Recognizing and Training the Hypermobile Gymnast



Recently started my own business in Pittsburgh, PA area!!



We believe in:

“Lifelong health, Elite performance”

Gymnasts treating gymnasts, on-site where they train

Mission:

- 1) Engage and influence the culture- Education
- 2) Know the problems before the “crisis”- Injury prevention
- 3) Address the interruptions- Injury rehabilitation and return to sport
- 4) Create patterns of time, moments, milestones- Performance enhancement
- 5) Live without regrets
- 6) Never give up!



What's the difference?!

Flexibility versus Hypermobility

Hypermobility= ALL soft tissue, ligaments, joint capsules, visceral

Flexibility= relative resistance of muscles and fascia

Think...

Silly Putty (hypermobility) vs. Rubber Band (flexibility)

Recognize- How do you know?

Signs=

Body type- thin, don't appear "sturdy"

They do "circus tricks", like to stretch, does it often

They "Bend AND Fall Apart"- Prone to sprains and dislocations

Do not heal well

Little to no resistance felt with manual stretching, full to excessive PROM

Recognize- the hypermobile gymnast

Symptoms=

Beighton Hypermobility Tests-

Thumbs to forearm, pinky finger 90 degrees,
overextended elbows and knees, palms to floor

5/9 + considered hypermobile

Recognize- the hypermobile gymnast



+ Sulcus sign shoulders

+ Ankle hypermobility

Possible + Skin hyperelasticity

Possible + GI issues

Diagnoses-

Joint hypermobility syndrome

Ehlos-Danlos

Marfans

Refer to rheumatologist



Recognize- the flexible gymnast “Don’t Bend but Break”

Signs-

Body type- Normal to “sturdy” appearance”

Doesn’t like to or care to stretch

Resistance felt with manual stretching

Limited to full PROM

Symptoms-

<5/9 Beighton Scale

- Shoulder, ankle, skin tests (unless previous traumatic injury)

Tend to sustain overuse/tendinitis injuries

What to do?! The Hypermobile gymnast

#1 STOP STRETCHING!!! And start
ACTIVATING and STABILIZING!!

#2 Focus on end range strength

#3 Focus on stability, especially in end
ranges of motion

Shoulders

Assess:

- lies on back and shoulders go flat without ribs popping
- seated on prone, can get shoulders to ears or can't maintain the position without compensation (ie, rib tilt, shoulder hiking, shoulder blade pops out)

Problem: Risk for shoulder dislocations, poor overhead strength/stability for skills

- Lacks core control
- Lacks scapular strength
- Lacks scapular stability

Shoulders



Stop these stretches!

Bad



Best



Better, correct form
but still not
recommended

Shoulders

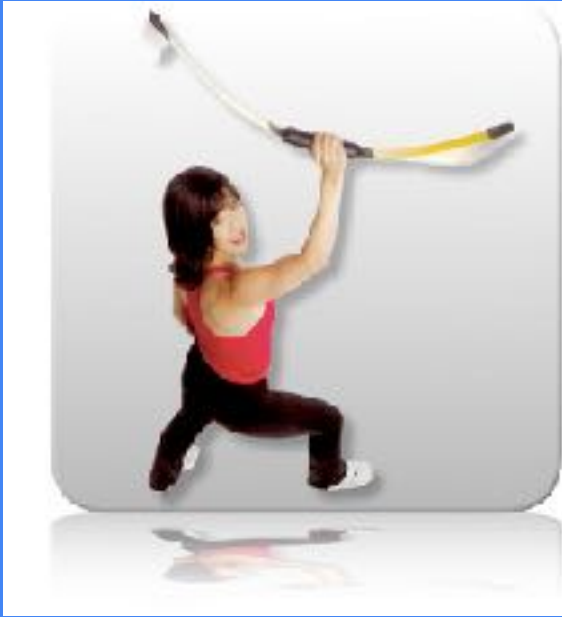
Training fixes:

Abdominal stability- recent research demonstrates importance of core stability with overhead athletes

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2953337/>

- 1) “Shelf position” feet on wall, alternating arms overhead,
B arms overhead
- 2) Progress to feet off of wall
- 3) Unstable surface (BOSU or tramp)
- 4) Progress to ½ kneel, tall kneel
- 5) Then quadraped-->plank

Shoulders



Training Fixes:

Body blade- Don't just stand there! Vary training positions and surfaces

Tall kneel/half kneel

Quadrapped/plank positions

Arm positions progress from arm at side → shoulder height → overhead

Goal= 30sec

Shoulders



Ball Pushes:

The gymnast simply pushes into the ball using her shoulder/shoulder blade (not leaning body)

- 1) Ball in front → ball to side
- 2) Tall knee → 1/2 kneel
- 3) Quadraped "T"
- 4) Quadraped overhead

15reps ***under control***

Elbows

Assess:

Gymnast weight bears and elbow hyperextends but triceps muscle feels “soft”

Standing with arms out and elbows hyperextend

Problem:

Gymnast hanging on joint, not activating tricep

Risk for elbow dislocation, Panner’s disease, cartilage damage

Loses power thru elbows for skills

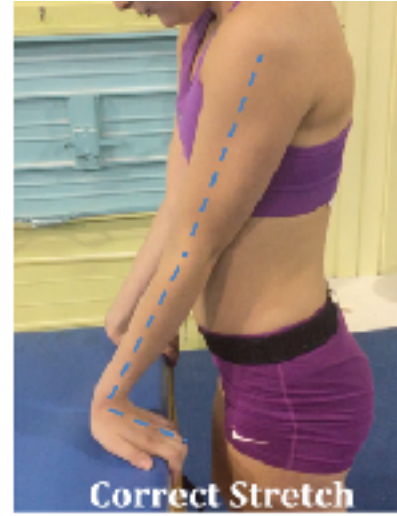
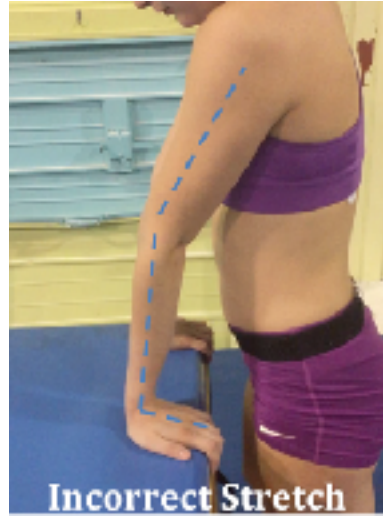
<http://www.flogymnastics.com/article/45792-gymnastics-injury-prevention-with-marla-preventing-elbow-injuries#.WUK5uMbMxxg>



Elbows

Training Fixes:

Stop this stretch! (same in non weight bearing)



Elbows

Training Fixes:

Normally limited in ability to "push"

Activate- shoulder blade muscles, rotator cuff

Train stability in "straight elbow" position

- Pressouts->Arm "marching"--> shoulder tapping



Progress from quadruped-->plank→ pike
handstand→ full handstand

Body blade elbow bent and straight (not
hyperextended)

Elbows

Training Fixes:

Elbow Brace or “X” taping-

- Limit hyperextension
- Teach gymnast by giving feedback



Wrists

Usually a lack of mobility, but assume that wrist pain in a hypermobile gymnast may be due to hypermobility.

Assess:

Wrist *easily* passes 90degrees in weight bearing and non weight bearing with fingers extended

Unable to hold fist in a straight line when weight bearing through it, wobbly

Problem:

Too much mobility leads to wrist sprains, painful “popping”, bone bruising of wrist bones

Wrists

Training Fixes:

1) Wrist stability training -

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2) Tiger Paws

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Tiger Paws

Hips

Only recently recognized as having the ability to be “unstable” - “microinstability” in dancers, gymnasts, martial artists

Assess:

Difficult to do

Can hear/feel a “clunk” when pull on leg

Problems:

Chronic groin/hip flexor strains, hip “giving way”, loss of motion and pain increases with stretching

Hips

Training Fixes:

STOP over splits and FORCED stretching!

It doesn't work- only stretches joint structures.

Activate glutes!

- 1) Stick to hip flexor group
- 2) Proper hip flexor stretch to deactivate any reflexive guarding
- 3) Glute series - clams, side and prone leg lifts (15 reps, 2count hold, 4 count lower)

Hips

Train stability of lumbar spine with hip mobility

- 1) Quadraped opp arm/leg → bear crawl
- 2) Ball on the wall with core stability and hip movements (similar to shoulder) on back and side
- 3) Kneeling single leg balance, ½ kneel
 - a) Progress to eyes closed
 - b) Manual perturbation - partner pushes them around
 - c) Ball toss
 - d) Leg lifts

Hips

Transitional movements for hip stability:

1) Double kneeling squats

2) Single kneeling squats

- unstable surface

- ball toss

- weights in hands (B → one side)

Hips

Open chain stability training (leg in the air to mimic other skills):

MAINTAIN proper core recruitment!

hooklying → 90/90 → neutral → sidelying

Write ABCs, cicles

- knee bent --> knee straight
- Manual pushes

Knees

Assess:

Gymnast stands with her knees locked out

“Flamingo leg”

Problems:

Rests on knee joint, no quad use

Loss of power

Loss of ability to land

Poor stability/balance

Susceptible to knee ligament injuries

Knees

Training Fixes:

Similar to elbow training fixes

Train quad activation with towel roll under knee - “lengthen leg, squeeze and push out”

Balance- DL and SL with progression to dynamic and transitional movements

- Static Balance
 - Eyes open→ closed
 - stable-->unstable surfaces
 - Quick kicks
 - Upper body figure of 8s
 - Ball toss

Knees

Training Fixes:

Activate the hamstring and glute

- Hip lift (flat and releve')
- Progress to ball hamstring curls
- Progress to straight leg hip lifts avoiding flamingo knees
- 15 reps, 2 count hold, 4 count lower

Integrate-

- Stand and reach avoiding flamingo knee

Ankles

Assess:

“Floppy feet”, ankles roll out when in releve’

Difficulty/wobbly when standing on one leg, especially with eyes closed

Problems:

Chronic ankle sprains

Various strains, arch pain

Poor landings/landing strategies

Lack of power and push off with jumping

Ankles

Training Fixes:

Stability program-

“Tripod foot”- big toe, little toe, heel, arch lifted

In releve’ avoid “sickling”

- Static Balance
 - foot flat and in releve’ holds
 - Eyes open → closed
 - stable → unstable surfaces
 - Quick kicks
 - Upper body figure of 8s
 - Ball toss

Ankles

Stability Program:

Dynamic Balance-

- Star Excursion Drill
- Single Leg Stand and reach drill

Transitional Balance-

- Squatting
 - Eyes open and closed
 - Double and Single leg
- Balance lunges
- Multidirectional hop balance
- Landing drills

Conclusion

Gymnastics is a sport that requires extreme ranges of flexibility

It therefore attracts kids that can are able to achieve them.

Be aware of the kids in your program who are more than just flexible

If there is ever a question - contact your nearest medical professional, or feel free to reach out to me!

Thank you!

If you have any questions or concerns, or need help finding a medical professional in your area, please feel free to contact me!

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