Flexibility Training for Gymnastics

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Introduction

Gaining flexibility is primarily about discipline. It requires neither great pain nor specialized knowledge of particular tricks. The primary key to gaining flexibility is simply to stretch often. If you do not stretch, or do so only sporadically, your gains in flexibility will be limited. To improve your flexibility, you should stretch at least once a day, and, if possible, multiple times per day. Short, repeated exposure to stretching is more productive than a single intense or long bout of stretching. For example, it is far better to stretch ten minutes per day, every day, than to stretch 70 minutes once a week.

Stretching is also a long-term commitment and must be continued indefinitely to maintain and/or increase flexibility.

Making significant increases in flexibility will bring marked improvement in performance. Larger ranges of motion (ROM) will allow for longer periods of applied force, improvement in technique, increases in biomechanical advantages, and reduction in joint strain.

When to stretch:

Some light stretching and an active warm-up should be undertaken before working out to prepare for activity, but stretching immediately following a workout will have significantly greater impact on flexibility. After a workout, muscles are warm and fatigued. This state allows for greater ROM, which helps ensure that muscles are actually being stretched in a relaxed state rather than fighting against contracted muscle fibers.

Whenever possible, find ways to stretch while doing other things. Sitting in a straddled pike on the floor while doing paperwork is an excellent example of this. Moreover, once flexibility is sufficient, a straddled pike is one of the most comfortable positions in which to sit on the floor.

Types of Stretching

1. Dynamic Stretching
Dynamic stretching is the ability to perform dynamic movements within the full range of motion in the joint.
Dynamic stretching uses speed of movement, momentum and active muscular effort to bring about a stretch, unlike static stretching.
Arms circles, exaggerating a kicking action and walking lunges (without weights) are examples of dynamic stretches. A walking lunge dynamically stretches the hip flexors by emphasizing hip extension and can reduce muscle tightness around the hip joint.
2. Static Active stretching
Static Active Stretching refers to the ability to stretch an antagonist muscle using only the tension in the agonist muscle. An example is holding one leg out in front of you as high as possible. The hamstring (antagonist) is being stretched while the quadriceps and hip flexors (agonists) are holding the leg up.

A static active stretch should be held for 10-30 seconds for 1-2 stretches per muscle group. As with other forms of stretching, static active stretching is not recommended before a sporting event. It may impair balance and reaction time and reduce power output and without any of the benefits of injury prevention.

3. Static Passive stretching
While dynamic stretches may be more suitable as part of a warm up, static stretching is more effective at increasing range of motion.

Static stretching is slow and constant and held at an end position for up to 30 seconds. Static passive stretching uses an external force to hold the stretch in position. No muscle groups are statically contracted to hold the limb in position - as they are with static active stretching.

An example is holding one leg outstretched with the heel on the floor to stretch the hamstrings. Both floor and bodyweight act as the external forces to bring about the stretch in this muscle group. Lying supine (i.e. flat on the back face up) with one leg held extended at right angles to the body (hamstring stretch) is a static active stretch. If a partner holds the leg in that position it becomes a static passive stretch.

4. PNF Stretching
PNF stretching (or proprioceptive muscular facilitation) is one of the most effective forms of flexibility training for increasing range of motion.

PNF techniques can be both passive (no associated muscular contraction) or active (voluntary muscle contraction). While there are several variations of PNF stretching, they all have one thing in common - they facilitate muscular inhibition. It is believed that this is why PNF is superior to other forms of flexibility training.
Both isometric and concentric muscle actions completed immediately before the passive stretch help to achieve **autogenic inhibition** - a reflex relaxation that occurs in the same muscle where the golgi tendon organ is stimulated. Often the isometric contraction is referred to as 'hold' and the concentric muscle contraction is referred to as 'contract'.

**Hold-Relax**
- A partner moves the athlete's extended leg to a point of mild discomfort. This passive stretch is held for 10 seconds.
- On instruction, the athlete isometrically contracts the hamstrings by pushing their extended leg against their partner's hand. The partner should apply just enough force so that the leg remains static. This is the 'hold' phase and lasts for 6 seconds.
- The athlete is then instructed to 'relax' and the partner completes a second passive stretch held for 30 seconds. The athlete's extended leg should move further than before (greater hip flexion) due to autogenic inhibition activated in the hamstrings.

**Contract-Relax**
- A partner moves the athlete's extended leg to a point of mild discomfort. This passive stretch is held for 10 seconds.
- On instruction, the athlete concentrically contracts the hamstrings by pushing their extended leg against their partner's hand. The partner should apply enough force so that there is resistance while allowing the athlete to push their leg to the floor (i.e. through the full range of motion). This is the 'contract' phase.
- The athlete is then instructed to 'relax' and the partner completes a second passive stretch held for 30 seconds. The athlete's extended leg should move further than before (greater hip flexion) due to autogenic inhibition activated in the hamstrings.

**Hold-Relax with Opposing Muscle Contraction**
- A partner moves the athlete's extended leg to a point of mild discomfort. This passive stretch is held for 10 seconds.
- On instruction, the athlete isometrically contracts the hamstrings by pushing their extended leg against their partner's hand. The partner should apply just enough force so that the leg remains static. This is the 'hold' phase and lasts for 6 seconds. This initiates autogenic inhibition.
- The partner completes a second passive stretch held for 30 seconds, however the athlete is instructed to flex the hip (i.e. pull the leg in the same direction as it is being pushed). This initiates reciprocal inhibition allowing the final stretch to be greater.
Dynamic Stretches

Arm Swings
1. Stand tall and hold arms out to your side.
2. Slowly swing your arms back and forth across the front of your body.

Side Bends
Stand with a shoulder width stance. Lean to one side keeping your torso straight. Do not bend forward or backwards. Hold for a count of 2 and then repeat to the other side. Complete 10 stretches each side.

Trunk Rotations
Stand with a shoulder width stance. Spread arms out at shoulder height. Turn from side to side keeping feet firmly on the floor.

Full Back Stretch – Rock 'n Roll
Sit on buttocks, pull knees into chest. Rock back to shoulder blades, immediately roll forwards until feet touch the floor.

Hamstring Stretch/ Leg Kicks
Lie on your back resting on elbows, both legs remain straight. Kick R leg up to R shoulder, keeping knee straight and toes pointed. Repeat with other leg.

Groin Stretch – Side Kicks
Lie on your back resting on elbows, both legs remain straight. Kick R leg to side slightly above the ground to R shoulder, keeping knee straight and toes pointed. Repeat with other leg.

Alternate Toe Touches
Start by standing with your feet shoulder width apart. Lean forward toward one leg touching toes with opposite arm. Now touch the other foot with the opposite arm. Continue with continuous motion alternately touching each foot with the opposite hand.

Leg Swings
Start by standing with your feet together, supporting body by lightly holding onto a ballet bar or touching the wall. Keeping your upper body perpendicular to the ground and free
hand stretched out at shoulder height. Swing one leg forward and backward. Do not swing your leg so hard that you cannot keep your upper body from moving.

**Upper body Stretches**

**Neck Stretches**
Stand up straight, tilt your head to place your right hand above your left ear.
Push your left arm towards the floor, while you gently pull your head down to the right side, as shown in picture, to increase the stretch.
You must feel the neck muscle stretching, but be careful not to overdo it.

**Wrists**
Standing on all fours, fingers facing forwards, lean shoulders forwards to stretch back of wrist.
Hands turned to side, sway from side to side to stretch the back and sides of wrist.

**Hands on floor bent arm fingers forward**
1. Sit on your bum with your legs straight in front of you.
2. Put your hands on the floor behind your body, fingers facing towards bum.
3. Walk your legs away from your hands.
4. Bend elbows until you feel your shoulders stretch nicely.

**Hands on floor fingers back**
1. Sit on your bum with your legs straight in front of you.
2. Put your hands on the floor behind your body, fingers facing away from body.
3. Walk your legs away from your hands, keeping your hands fastened on the floor.
4. Walk as far as you can until you feel your shoulders stretch nicely.

**Skin the cat**
Hang on the bar, pull knees up to chest and through arms. Extend legs and body on
the other side. Letting gravity pull body down to stretch shoulders. Alternatively hang on wall bars with hands in reverse open grip.

<table>
<thead>
<tr>
<th><strong>Cat stretch</strong></th>
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<tbody>
<tr>
<td>Get down on your hands and knees. Suck your stomach in and place your back in a rounded position, the same way a cat will arch it's back. Try to touch the ceiling with your back.</td>
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<table>
<thead>
<tr>
<th><strong>Arm Across Chest</strong></th>
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<tbody>
<tr>
<td>Place one arm straight across chest. Place hand on elbow and pull arm towards chest and hold. Repeat with other arm.</td>
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<tr>
<th><strong>Triceps Stretch</strong></th>
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<tbody>
<tr>
<td>Place one hand behind back with elbow in air. Place other hand on elbow and gently pull towards head. Hold and repeat with other arm.</td>
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<table>
<thead>
<tr>
<th><strong>Upside Down Shoulder Stretch</strong></th>
</tr>
</thead>
</table>
| 1. Stand up with your legs straight.  
2. Hold your hands behind your back.  
3. Bend your body over and increase your shoulder angle.  
4. The aim is to increase the shoulder angle, and get your head as close as possible to your knees. |

<table>
<thead>
<tr>
<th><strong>Middle and back</strong></th>
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<tr>
<th><strong>Bridge</strong></th>
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<tr>
<th><strong>Spine Rotation</strong></th>
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| Lie on your back, with arms stretched out at shoulder level. Bend both legs to 90 degrees; then drop your knees to one side so one is touching the floor. Keep your shoulder blades flat on the floor, but don't force the stretch. Hold for 30 to 45 seconds, then return to the start before repeating on the
### Lower back safe
Lie on your back and pull both knees up towards the chest. Lift your head, and push your back into the floor while hugging your knees to your chest. The rounder your back, the better the stretch.

### Lower back straight legs
Lie on your back and pull both knees up towards the chest. Extend legs behind head pushing toes into the floor or against a wall. Relax shoulders and back to feel stretch in lower back.

### Mermaid stretch
Lie flat on stomach, hands under shoulders, leg straight. Straighten out arms and extend back.

### Seal bent legs
Lie flat on stomach, hands under shoulders, leg straight. Straighten out arms and extend back. Now bend legs and extend head backwards. Attempt to touch head with feet.

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### Lower body & Hips

#### Butterfly
Sit with your back straight. Place the soles of your feet together and, holding your ankles, pull your feet towards your body. Feel the stretch in your inner thighs as you relax your legs down towards the floor. Intensify the stretch by placing your elbows on your knees.

#### Standing ITB Stretch
Stand upright, with your arms straight at your sides. Cross your left ankle over the right ankle, keeping both feet flat on the floor. Bend sideways, trying to touch your right knee with your right hand without bending your legs. Repeat with right ankle in front of left ankle, bending to your left side. Keep legs straight as you bend sideways.
<table>
<thead>
<tr>
<th>Exercise</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Seated pike</td>
<td>Place legs out straight. Bend forward from the waist keeping your back flat. Hold and repeat.</td>
</tr>
<tr>
<td>Seated Pike with one leg</td>
<td>Place leg out straight and bend the other so your foot is flat into your thigh. Bend forward from the waist keeping your back flat. Hold and repeat with the other leg.</td>
</tr>
<tr>
<td>Standing Pike</td>
<td>Stand upright, with your arms straight at your sides. Legs straight, feet together. Bend forward from the hips, trying to touch your toes without bending your legs.</td>
</tr>
<tr>
<td>Pretzel stretch</td>
<td>Sitting on floor with right leg bent, place right foot over left leg. Place left arm over right leg so elbow can be used to push right knee. Hold and repeat for other side.</td>
</tr>
<tr>
<td>Glute Stretch</td>
<td>Lie on your back on the floor. Bend the knee of your right leg, while keeping your right foot on the floor. Cross your left leg over your right leg so your left ankle is resting just above the right knee. Clasp the thigh of your right leg firmly with both hands and gently pull towards you. Feel the stretch in your bottom and your outer left thigh. Hold the stretch for about 30 seconds, then slowly return your legs to the start position. Repeat the stretch using the other leg.</td>
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<tr>
<td>Adductor Stretch</td>
<td>Stand with feet as wide apart as is comfortable. Shift weight to one side as knee bends. Reach towards extended foot and hold. Repeat for other side.</td>
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<tr>
<td>Standing Quadriceps</td>
<td>Standing on one leg grab the bottom of one leg (just above ankle). Pull heel into buttocks and push the hips out. Your thigh should be perpendicular to the ground. Hold and repeat with the other leg.</td>
</tr>
<tr>
<td>Pancake</td>
<td>Place legs out straight as wide as possible, without bending legs. Bend forward from the waist keeping your back flat. Try to go down as far as possible, until stomach touches floor.</td>
</tr>
<tr>
<td>Pull through</td>
<td>Place legs out straight as wide as possible, without bending legs. Bend forward from the waist keeping your back flat. Using your arms pull hips forward through middle split, onto stomach, close legs at the back.</td>
</tr>
<tr>
<td>Seated straddle with one arm in and over to side</td>
<td>Place legs out straight as wide as possible, without bending legs. Place left hand on the floor in front of you, reach right hand over your head to touch left foot. Try to go down as far as possible, until right shoulder touches left leg. Hold and repeat with the other leg.</td>
</tr>
<tr>
<td>Seated straddle chin to knee</td>
<td>Place legs out straight as wide as possible, without bending legs. Turn shoulders toward left leg, bend forward from the waist keeping your back flat. Try to go down as far as possible, until stomach touches left leg. Hold and repeat with the other leg.</td>
</tr>
<tr>
<td>Knee lunge with bent rear leg</td>
<td>Sit on your knees. Push your right leg in front of your body, with the knee of the right leg in line with your right foot. Rest your hands on your right knee. Lean forward into your hips, keeping your spine as upright as possible, and pushing your left knee straight backwards. Push your buttck towards the floor. Feel the stretch in the front hip of the left leg. Repeat the stretch with the left foot forward.</td>
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</tbody>
</table>
### Kneeling pike
1. Kneel on one leg.
2. Straighten your other in front.
3. Put your arms by your side for support.
4. Bend at your hips and lean down towards your front leg.
5. Make sure that you keep your hips square.

### Over splits
1. Put one leg out to the front, and the other out to the back. Both onto a slight height.
2. Straighten both legs as much as possible.
3. Put your arms by your side for support.
4. Go as far down as you can.
5. Make sure that you keep your hips square.

### Side split
1. Stand in side lunge, straighten out both legs and slide feet away as much as possible.
2. Put your arms in the middle in front of your body.
3. Go as far down as you can.
4. Make sure that you keep your hips square.

### Front Split
1. Put one leg out to the front, and the other out to the back.
2. Straighten both legs as much as possible.
3. Put your arms by your side for support.
4. Go as far down as you can.
5. Make sure that you keep your hips square.

### Calf and Achilles Stretch
A perfect stretch for isolating your heel and calf. This 2 in 1 exercise is great for those who hate wasting time.
1. Find a ledge to stand on.
2. Find something to help you balance.
3. Put the frontal part of your foot on the edge of the ledge.
4. Allow your heel to drop.
5. Feel your heel and calf stretching.
Standing Calf
Place feet in front of each other about 18 inches apart. Keep back leg straight and heel on the floor. Push against a wall to increase the stretch. Hold and repeat with other leg.

Ankle – Point ‘n Flex ‘n Twist
This foot stretch warms up and stretches the ankles and the toes.
1. Face your feet towards the sky.
2. Stretch your toes towards you as hard as you can.
3. Then point them forwards as close to the ground as possible.
4. Repeat this action about 20 times.
A variation of this exercise can be seen in the bottom picture. This stretch and warm up exercise can be done in the following way:
1. Face your feet towards the sky.
2. Roll them in circular movements from your ankles.
3. Draw circles with your toes.
4. Do this 10 times and then swap the direction.

Kneeling ankle stretch
1. Kneel on the ground.
2. Sit on your ankles and lean backwards.
3. Make sure that your knees raise off the ground.
4. Feel your toes and feet pointing and stretching
Standing ankle stretch
1. Standing upright cross Left leg over Right, toes pointed, place toes on floor.
2. Push your R foot into the floor.
3. Feel your toes and feet pointing and stretching.