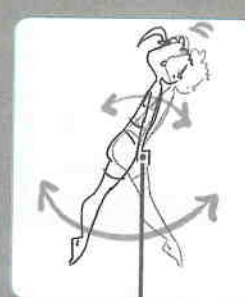
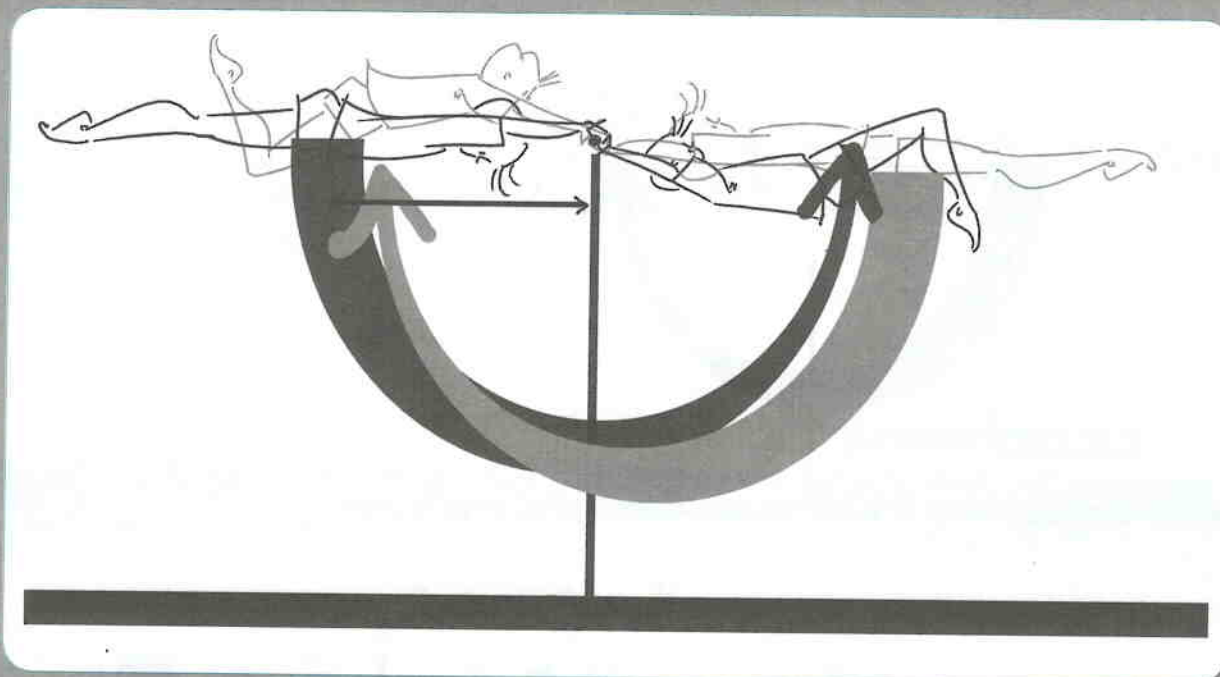


# 7

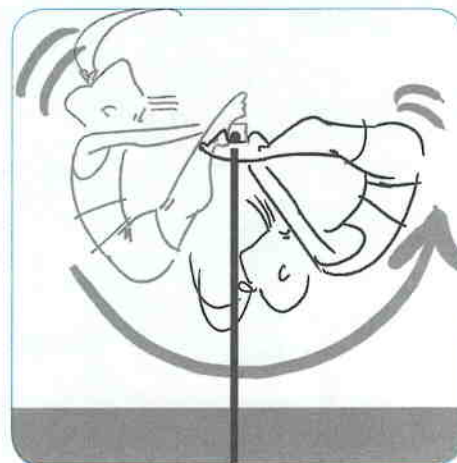
## Swing



# SWING

## MECHANICS OF SWING

A SWING can be described mechanically as a ROTATION about an EXTERNAL AXIS such as a bar, the rings or the pommels.



### Phases of a Swing

All SWINGS have 2 phases:

#### 1. The downward or descending phase

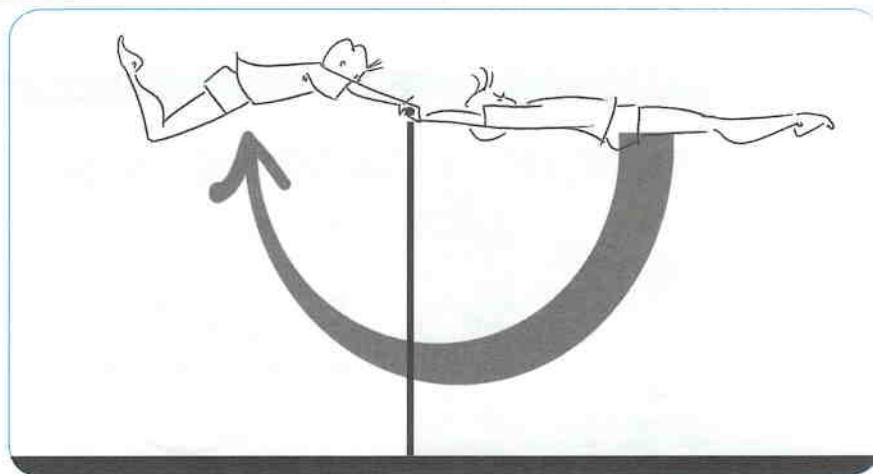
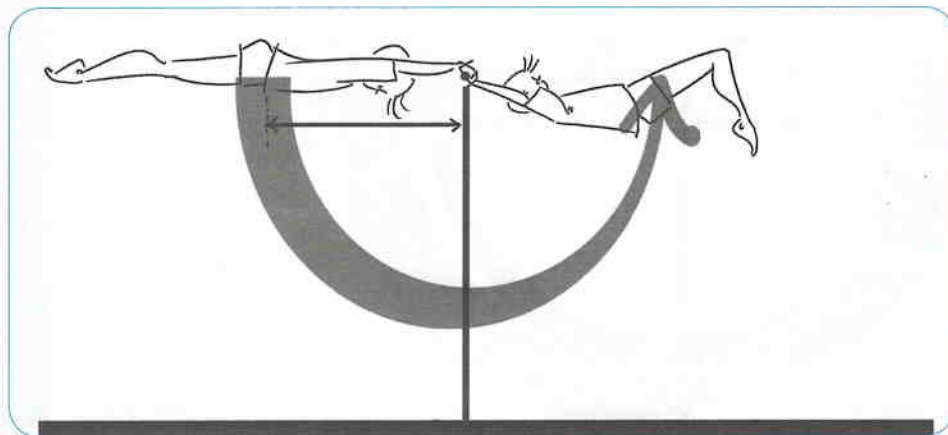
During the descending phase of any swing, gravity acts as a positive off-centre force causing or increasing the rotation about the axis (bar).

In order to maximize this positive effect of gravity we must increase the distance between the bar and the body's Centre of Mass (off-centre force) on the descending phase of the swing. This usually means lengthening the body (pushing the Centre of Mass away from bar).

#### 2. The upward or ascending phase

During the ascending phase of any swing, gravity acts as a negative off-centre force decreasing the swing.

In order to minimize the negative effect of gravity on the ascending phase of the swing we must decrease the distance between the bar and the body's Centre of Mass. This usually means shortening the body (bringing the Centre of Mass closer to bar).

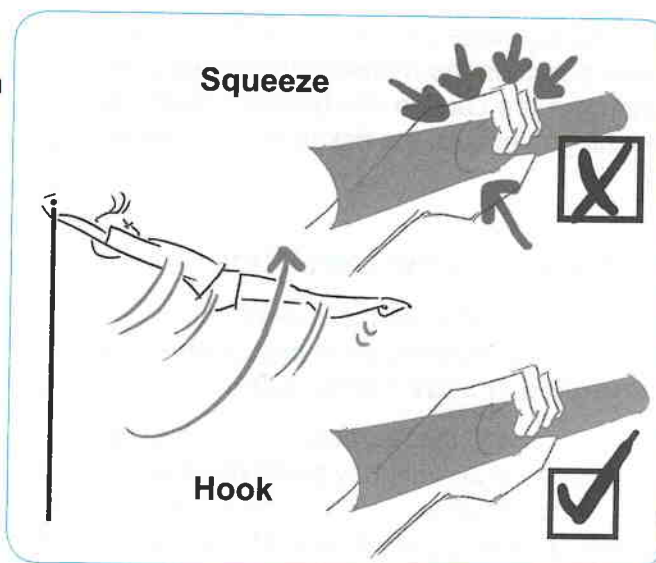


## Mechanics of Hand Grasps

In a forward overgrip swing, the hands will **ROTATE FREELY** on the forward swing (and the grasp will even tighten), but, on the backward swing the hands will **LOOSEN** and not rotate naturally on the bar.

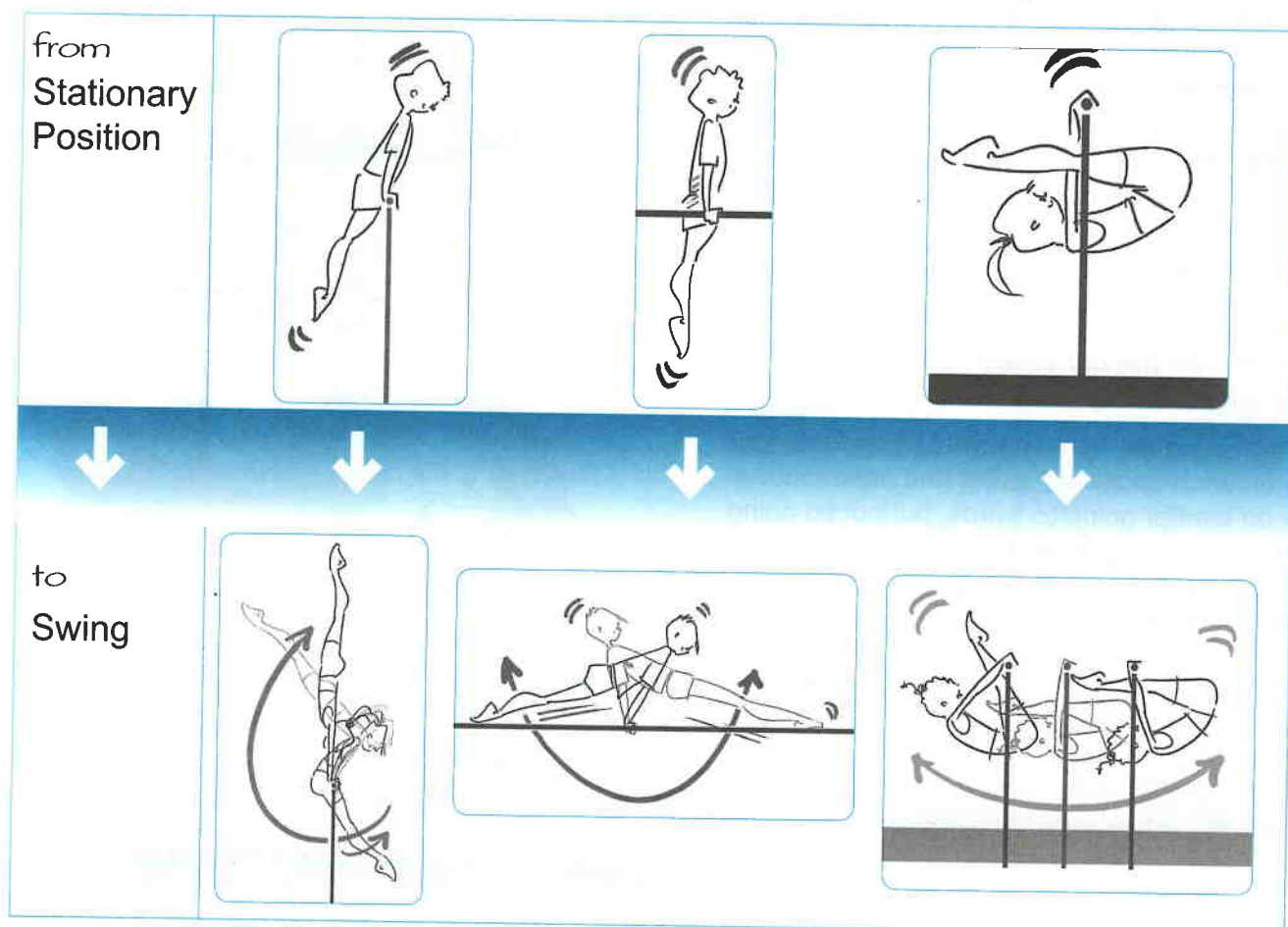
It is best to firmly **HOOK** the hands on the bar rather than to **SQUEEZE** the bar.

If you squeeze the bar hard when swinging you will have difficulty maintaining your grasp on the backward swing and you will tear your hands quickly. You will also have more difficulty swinging freely and safely. Thus you should practice forming a very strong hook with your hands and placing that hook over the bar without actually squeezing the bar.



## Evolution of All Swings

All swings in gymnastics begin life as a Support or as a Hang.



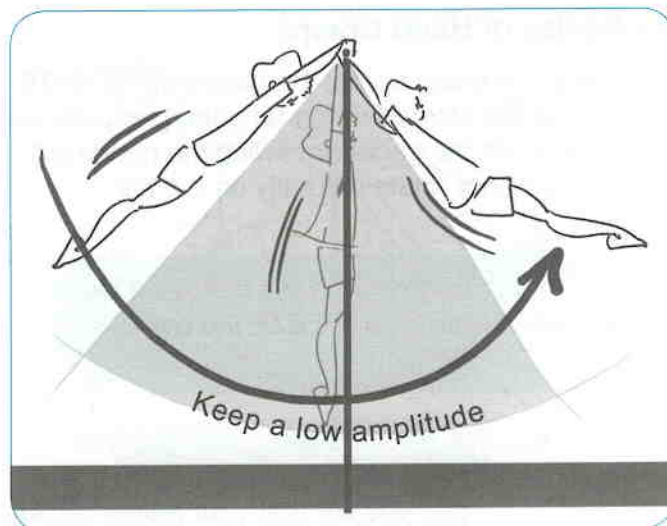
## SAFETY OF SWING

SWING is a large part of competitive Artistic Gymnastics. In the recreational and educational settings extra caution can be easily built into the teaching to ensure the risk of injury is minimized.

### 1. Swing with **LOW AMPLITUDE**

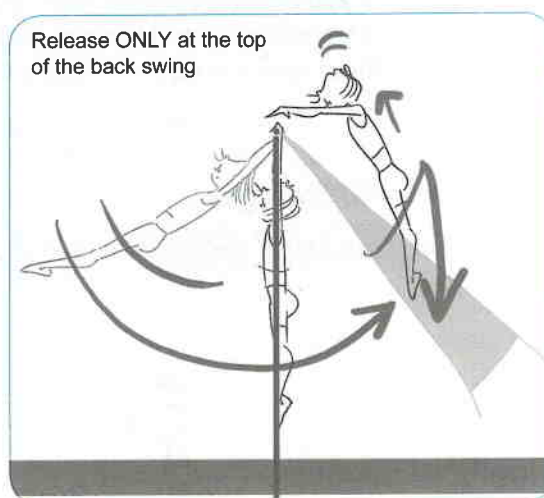
The single most important rule about swinging is that **all pendular-type swings should be performed at LOW AMPLITUDE.**

Long Swings in the recreational and educational settings must be carefully supervised so that gymnasts do not swing too high. It is safer for them to **swing side to side and in circles** rather than forward and backward (and equally good for upper body endurance, strength and flexibility).



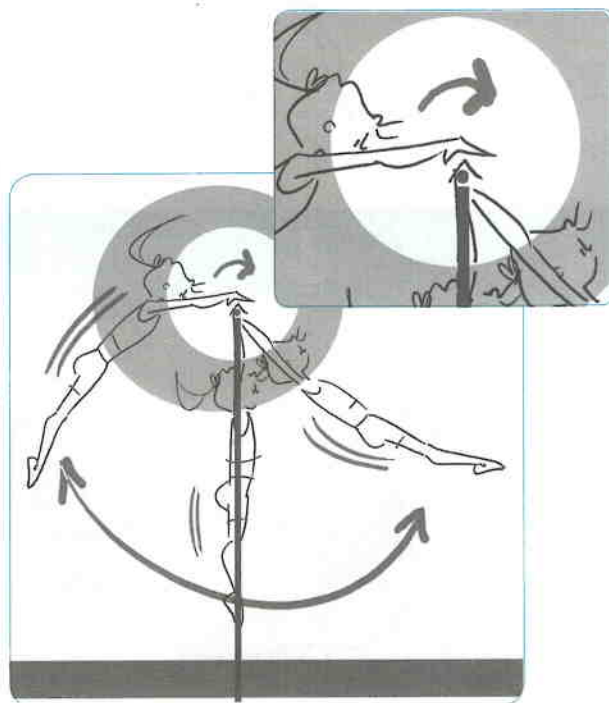
### 2. **RELEASE** bar (dismount) **only at the TOP of the backward swing**

On long swings, the only safe place to release the bar is at the very TOP of the backward swing – the point where the swing is neither ascending nor descending. Releasing the bar at any other time could result in the gymnast landing on her stomach or back on the mat.



### 3. **REGRAASP** the bar at the **TOP of every backward swing**

In a long swing the hands progressively lose their grasp on each backward swing (the hands rotate easily on the bar going forwards, but not so going backwards). The gymnast must re-establish her hand grasp at the same point on the top of every backward swing.



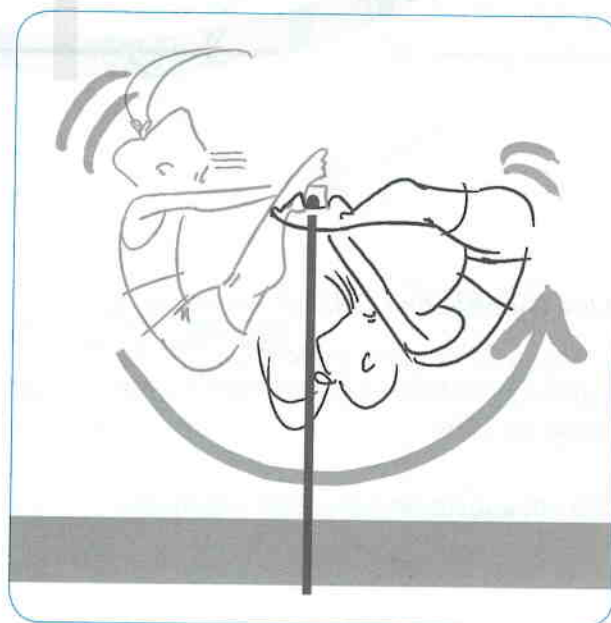


## SAFETY OF SWING

continued ...

### 4. *INVERTED Swings*

There are several inverted swings in gymnastics (sole swings, piked inverted swings) that should be done in the controlled environment of an advanced recreational or beginning competitive class where small groups work with an instructor. They should only be done after the readiness activities done in this manual have been completed.



## SAFETY OF SWING

continued ...

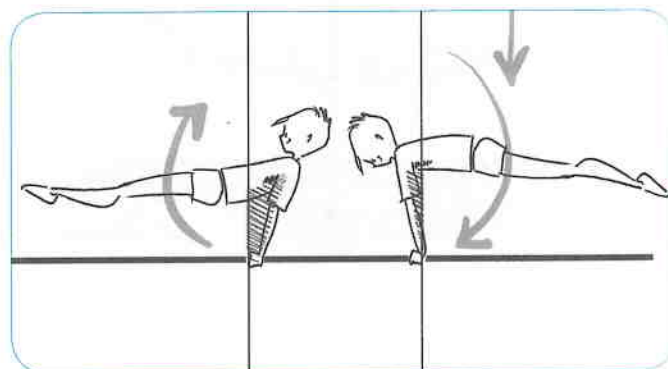
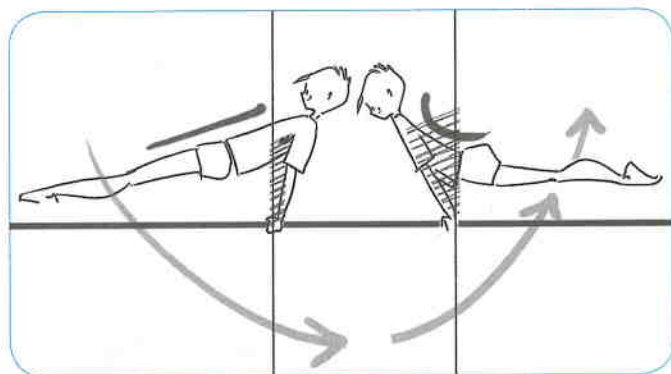
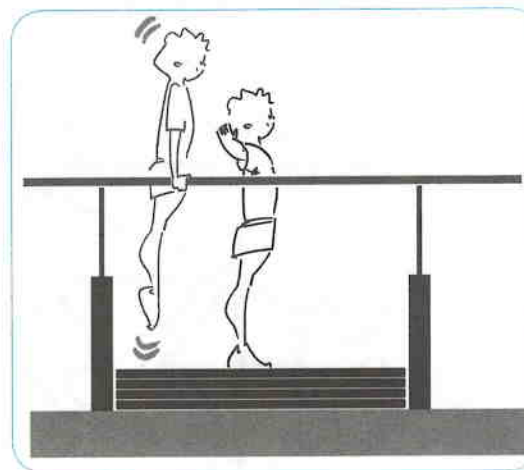
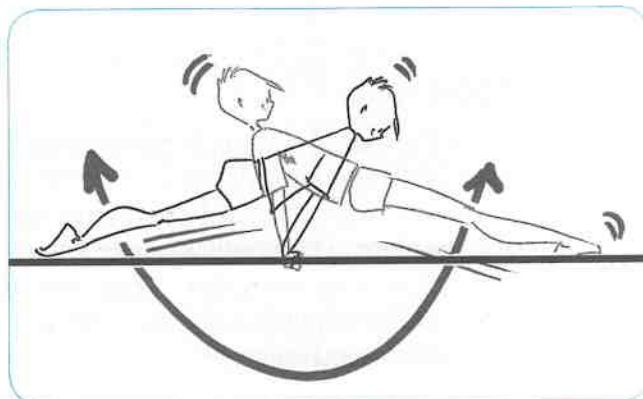
### 5. CROSS SUPPORT Swings

Cross support swings are excellent for developing upper body strength in both male and female gymnasts. They should, however, always be done with LOW amplitude (feet not higher than the bar) and ALWAYS on parallel bars that are not higher than the participant's armpits when standing on the mat between the bars.

You may have to add mats (or a box top) to the area under and between the bars to bring the floor up closer to the bars so that the gymnasts can stand on the mats with the bars at armpit height.

Good mechanical technique would, of course, have the gymnasts descending on their forward and backward swings with their bodies straight.

Likewise, good mechanical technique would have the gymnasts dish or hollow their body on the forward ascending swing and learn to both dish (hollow) their body AND arch their bodies on the ascending backward swings.



### 6. Use Gymnastics CHALK when swinging

Magnesium Carbonate chalk (and nothing else) should always be used on the hands when you are swinging on bars.

- ❖ Do not substitute with other materials!

## BEGINNING SWING ACTIVITIES

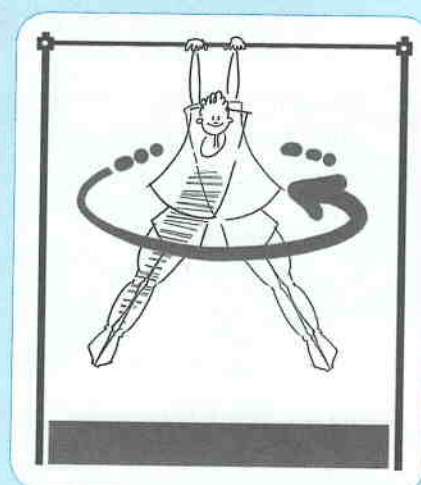
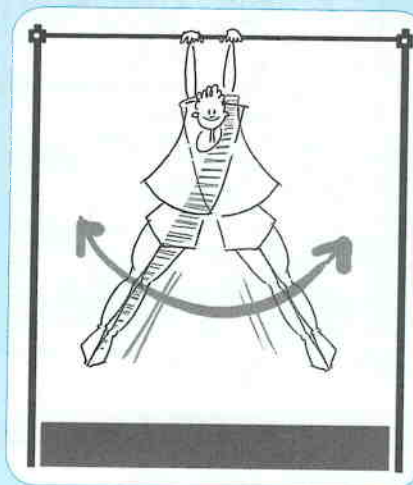


Work in groups of 3 – 5 (depending on availability of equipment) under the guidance of the course facilitator:

As can be seen from the preceding section, HIGH AMPLITUDE SWINGS are mainly used in the competitive setting. There are many safe and beneficial swinging activities that can be done in the recreational and educational settings, but these must be carefully monitored to make certain that unsafe swinging activities do not occur.

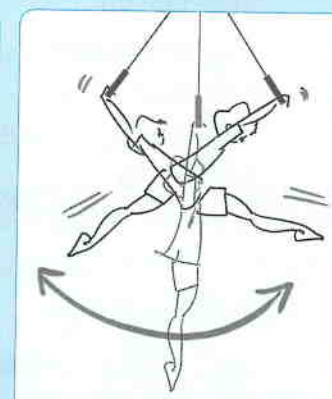
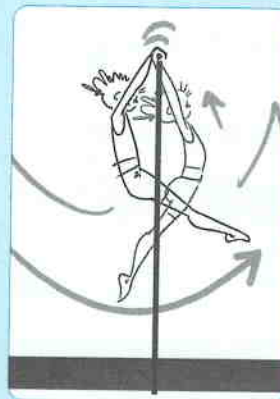
### 1. Long hang swing on low horizontal, uneven, parallel bars, rings

- Swing body and legs side to side
- Swing body and legs in a circle



### 2. Beat swing on low horizontal, uneven, parallel bars, rings

- Legs go forward and shoulder backward on forward action of swing
- Legs go backward and chest goes forward on backward action of swing
- Centre of mass stays under the bar throughout

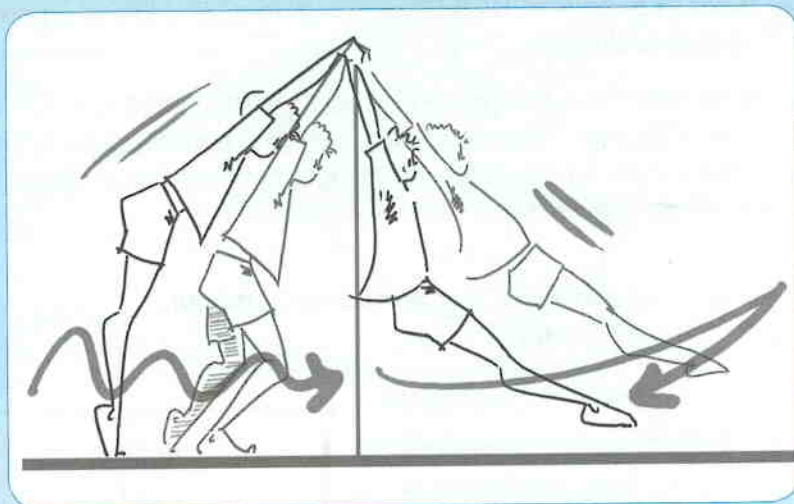


## BEGINNING SWING ACTIVITIES

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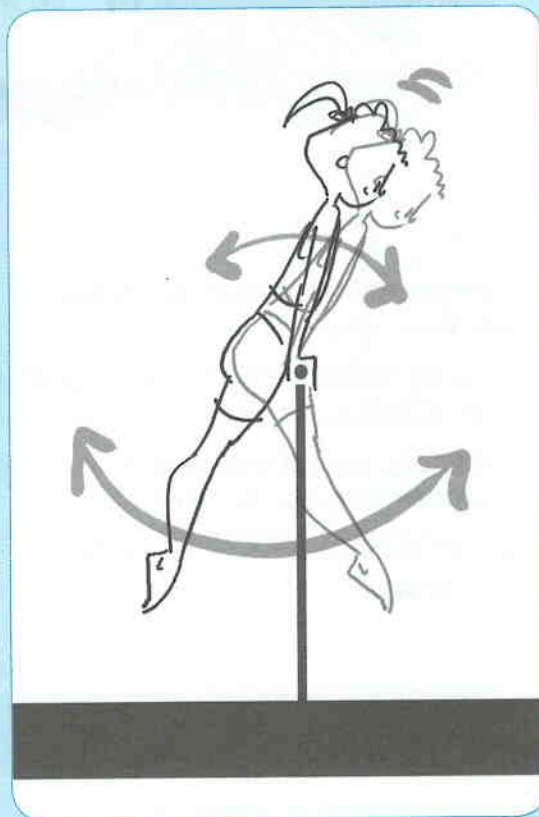
### 3. *Glide swing activities*

- On low horizontal, uneven, parallel bars
- Run forward, run backward
- Run forward, glide backward legs tucked
- Glide forward legs tucked, run backward
- Glide forward legs tucked, glide backward legs straddled
- Glide forward legs straddled, glide backward legs straddled



### 4. *Front hip support swing*

- On low horizontal, uneven, parallel bars
- Swing legs forward and backward, keeping hips on bar
- Repeat with bit more amplitude so hips just lift off bar
- Try bending arms slightly to move bar from thigh to hips
- Try elevating shoulders to move bar from thigh to hip



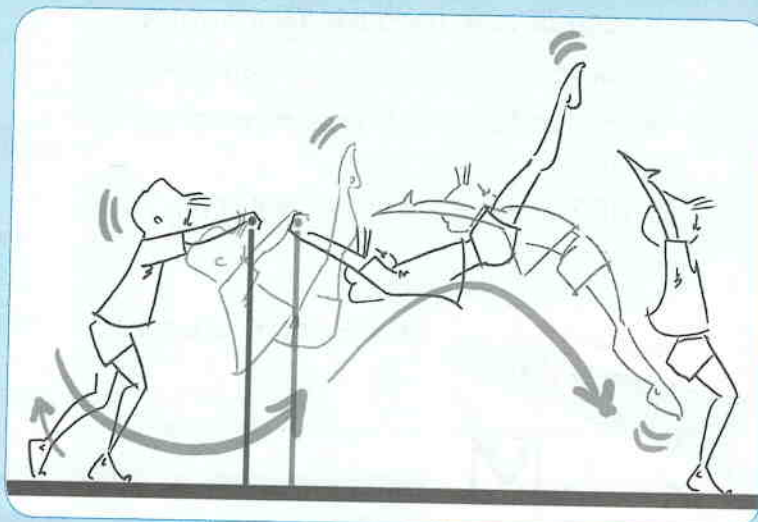


## BEGINNING SWING ACTIVITIES

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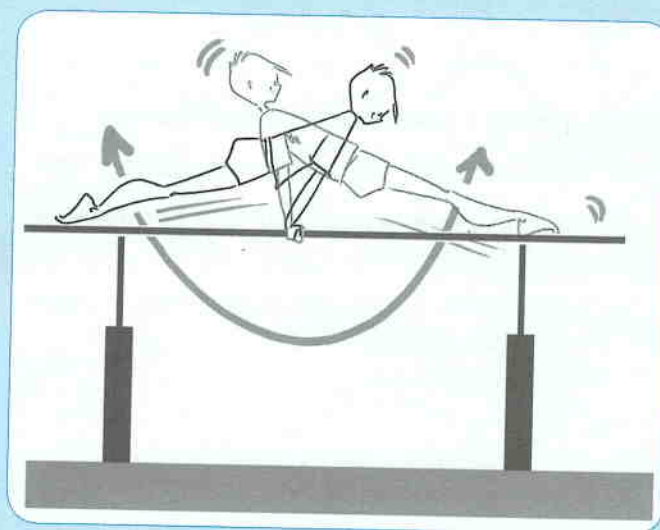
### 5. Underswings

- Dismount-type swing done on shoulder-high bar (horizontal, uneven bars)
- Arms straight, 1 leg kick
- Swing under bar and dismount on front



### 6. Cross support swings

- On low parallel bars, 2 low beams no higher than armpit height
- Swing forward and backward using only arms and shoulders
- Turn sideways and swing forward and backward
- Bend arms and swing
- Swing on elbows (forearms)

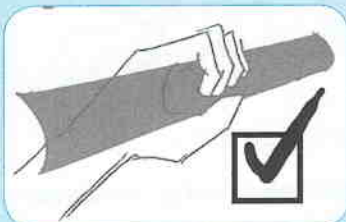


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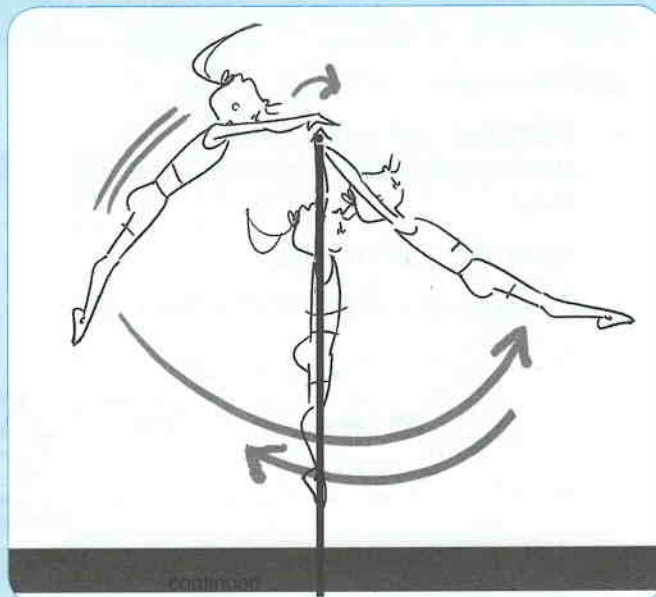
## INTERMEDIATE SWING ACTIVITIES

### 1. Low amplitude long hang pendular swings

- On horizontal, uneven, parallel bars, rings
- Regrasp at the top of every backward swing
- Do NOT squeeze the bar, hook it firmly



Hook - don't squeeze



### 2. Long hang non-pendular (beat) swings

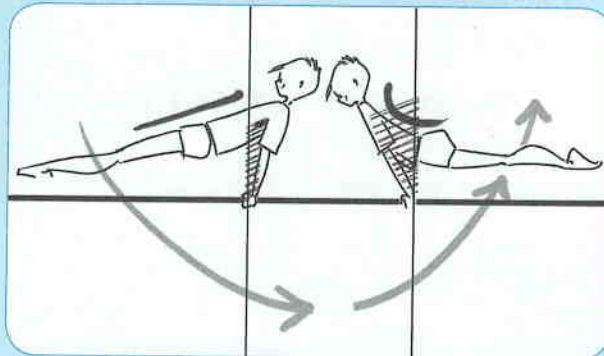
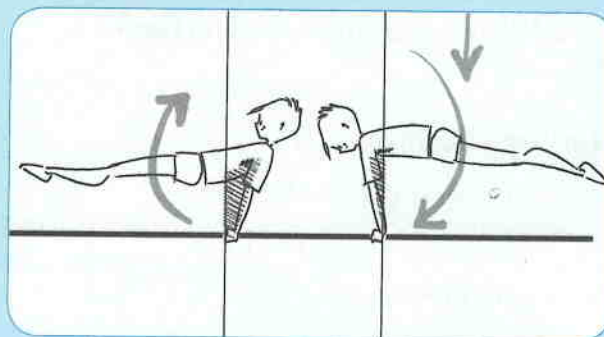
- On horizontal, uneven, parallel bars, rings
- See how high you can lift your shoulders in back and your feet in front
- See how high you can lift your feet in back and your chest in front



## INTERMEDIATE SWING ACTIVITIES

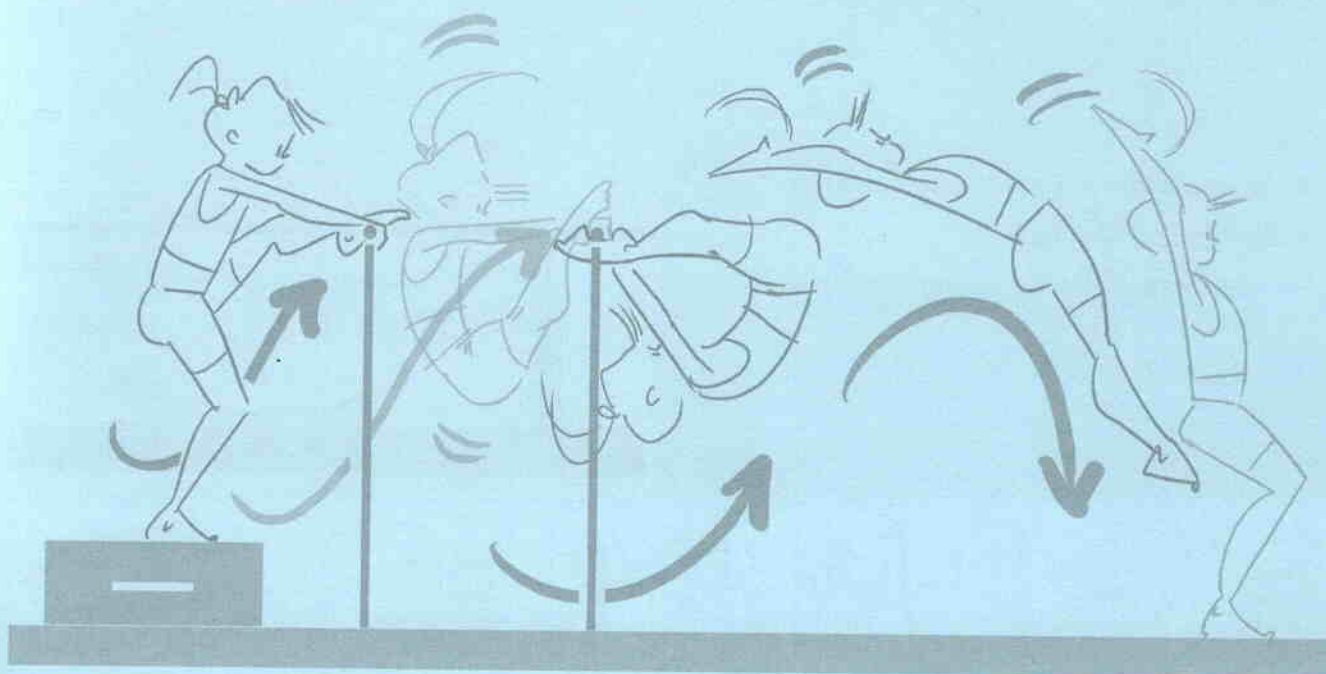
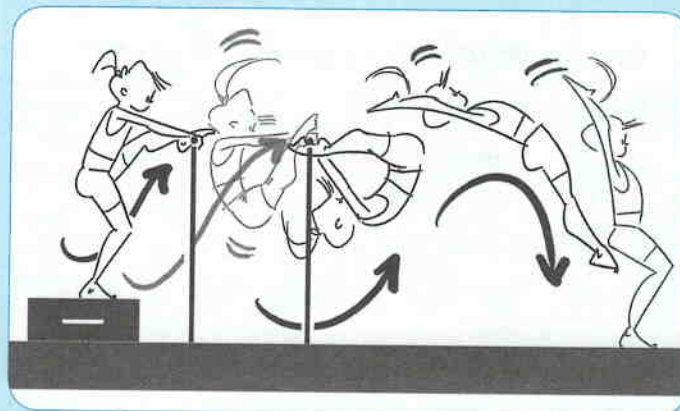
### 3. *Low amplitude cross support swings*

- Parallel bars or beams
- Try to keep the arms fairly vertical on both descending swings
- Try to lean arms forward on the backward ascending swing
- Try to lean arms backward on the forward ascending swing



### 4. *Low amplitude sole underswing*

- This can be learned from standing on box top and stepping 1 leg at a time
- Eventually jump both legs to sole hang swing and dismount from front



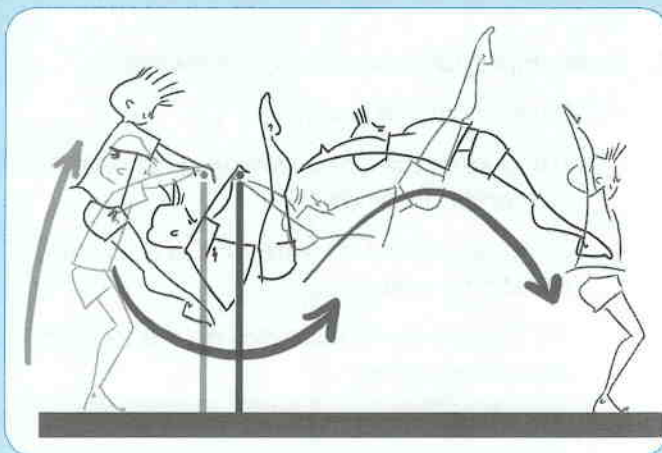


## INTERMEDIATE SWING ACTIVITIES

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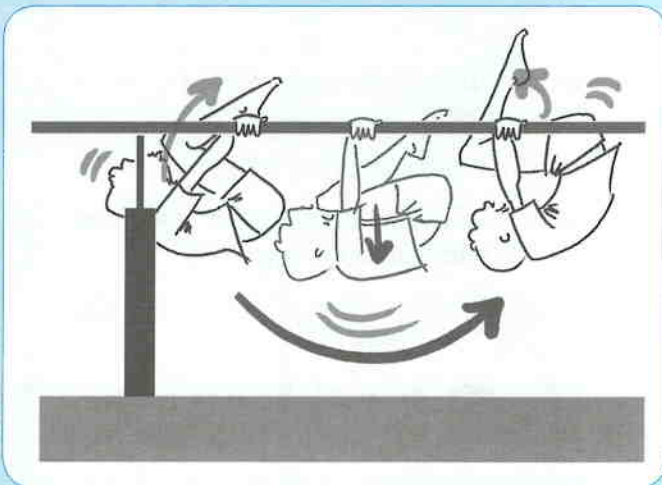
### 5. Underswing dismount

- Done on shoulder high bar
- Arms straight, 1 leg kick
- Arms straight, 2 leg kick
- Jump almost to hip support, then swing
- Swing in pairs
- Swing over foam noodle held horizontal



### 6. Low amplitude tucked inverted swings

- ❖ Easiest on parallel bars
  - Generate swing by pulling and pushing arms
  - Try on all bars



### 7. Low amplitude piked inverted swings

- ❖ Easiest on parallel bars
  - Generate swing by pulling and pushing arms
  - Try on all bars

