WELSH ATHLETICS
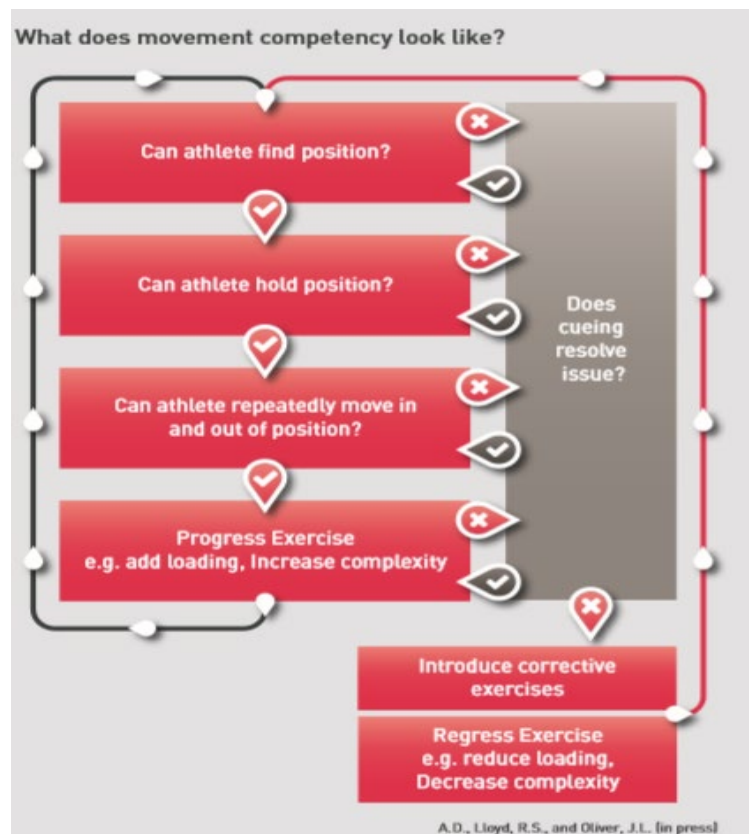ATHLETAU CYMRU

Improving Movement Patterns:

Benefits of Body weight training

What is body weight training?

Bodyweight training is a type of strength training that does not require you to use any weights or equipment. Instead this type of exercise uses the weight of your own body as resistance, or load, in different shapes or positions.

How does body weight training improve movement patterns?

A movement pattern is made up of series of shapes or positions fastened together. Therefore, when evaluating an athlete's ability to move well (movement competency) if the coach is unable to cue (technical points) the athlete to execute the movement in a controlled manner, through full range of motion, the limitation may be a lack of strength at a certain key point in the movement. The addition of appropriate body weight training will provide a suitable stimulus for the simultaneous development of fundamental motor skills as well as muscle strength to overcome these limitations. This will also serve as the foundation for more athletics motor skills such as running, jumping, and throwing.

What does movement competency look like?

- Can athlete find position?
- Can athlete hold position?
- Can athlete repeatedly move in and out of position?
- Progress Exercise e.g. add loading, Increase complexity
- Does cueing resolve issue?
- Introduce corrective exercises
- Regress Exercise e.g. reduce loading, Decrease complexity

A.D., Lloyd, R.S., and Oliver, J.L. (in press)

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SHAPES

Please see below examples of **key shapes and positions** which athletes should be competent at performing to underpin their general athleticism

ARCH

Technical Points
- Bend at the lower back
- Lift chest and arms off the floor
- Lift knees and feet off the floor

Common errors
- Legs not straight
- Arms not straight
- Head up

DISH

Technical Points
- Brace core
- Lift arms, shoulders, and head off the floor
- Lift legs off the floor

Common errors
- Arch at lower back
- Shoulders on the floor
- Legs not straight

TUCK

Technical Points
- Flat back
- Bring legs to chest
- Heels off the floor

Common errors
- Rounded back
- Legs too straight
- Heels on the floor

PIKE

Technical Points
- Flat back
- Arms straight overhead
- Legs straight and together

Common errors
- Rounded back
- Legs not straight
- Arms not straight

STRAIGHT

Technical Points
- Flat back
- Arms straight
- Legs straight and together

Common errors
- Arching at lower back
- Legs not straight
- Arms not straight

PUCK

Technical Points
- Flat back
- Bending at hips and knees
- Weight on heels

Common errors
- Rounded back
- Knees too far over toes
- Weight towards front of foot

SHAPES

POSITIONS

STRADDLE

Technical Points
- Flat back
- Legs straight
- Legs apart

Common errors
- Bending at lower back
- Rounded back
- Legs not wide enough apart

FORWARD STRADDLE

Technical Points
- Flat back
- Arms and legs straight
- Bend at hip with one leg to point to ceiling

Common errors
- Arching at lower back
- Legs not straight
- Leg not raised to appropriate height

STAR

Technical Points
- Flat back
- Arms and legs straight
- Legs apart

Common errors
- Arching at lower back
- Arms not straight
- Legs not wide enough apart

SQUAT

Technical Points
- Flat back
- Bending at hips and knees
- Weight on heels

Common errors
- Rounded back
- Knees too far over toes
- Weight towards front of foot

LUNGE

Technical Points
- Flat back
- Legs at 90 degrees
- Front shin vertical

Common errors
- Rounded back
- Knee too far over front toes
- Shin not vertical

LATERAL LUNGE

Technical Points
- Flat back
- Hips pushed back and down
- Trail leg straight

Common errors
- Rounded upper back
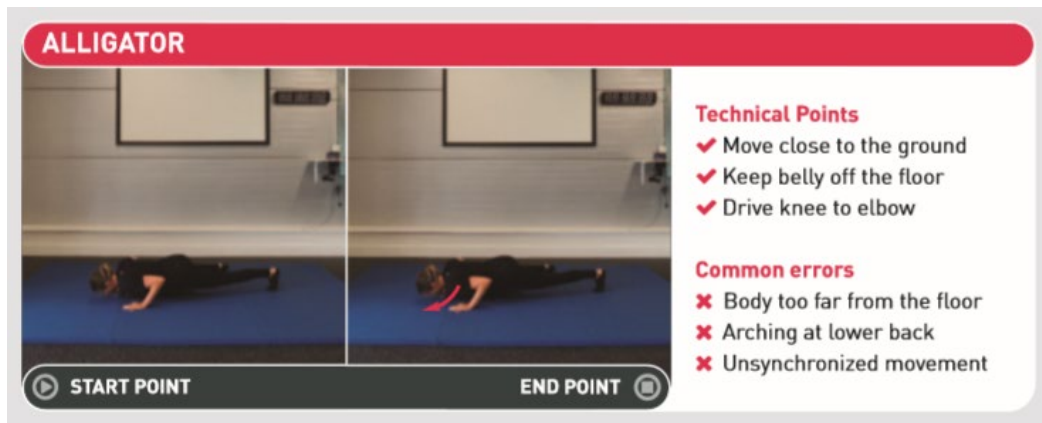- Knee not inline with toes
- Trail leg not straight

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POSITIONS

FRONT SUPPORT

Technical Points
- ✔ Straight line from shoulders to toes
- ✔ Arms straight
- ✔ Shoulders above hands

Common errors
- ✘ Rounded back
- ✘ Arching at lower back
- ✘ Shoulders not above hands

SIDE SUPPORT

Technical Points
- ✔ Straight line from shoulders to toes
- ✔ Arms straight
- ✔ Shoulders above hands

Common errors
- ✘ Hips dropping
- ✘ Arching at lower back
- ✘ Shoulders not above hands

BACK SUPPORT

Technical Points
- ✔ Straight line from shoulders to toes
- ✔ Hands facing feet
- ✔ Shoulders above hands

Common errors
- ✘ Hips dropping
- ✘ Arching at lower back
- ✘ Hands facing backwards

SHOULDER STAND

Technical Points
- ✔ Straight line from shoulders to feet
- ✔ Arms straight, palms facing the floor
- ✔ Feet pointing to the ceiling

Common errors
- ✘ Hips dropping to the floor
- ✘ Legs not straight
- ✘ Legs not together

SUPERMAN

Technical Points
- ✔ Flat back
- ✔ Legs straight and arms straight
- ✔ Pelvis level

Common errors
- ✘ Arching at lower back
- ✘ Pelvis moving side to side
- ✘ Unsynchronized movement

BRIDGE

Technical Points
- ✔ Shoulders above hands
- ✔ Hips to the ceiling
- ✔ Straight arms

Common errors
- ✘ Hands not facing feet
- ✘ Arms not straight
- ✘ Hips dropping to the floor

These are only examples shapes and positions, and coaches should attempt to develop their own library of exercises. These will be relevant to the an athletics's needs based on observing movement patterns and problem solving their areas of development.

It is also important to remember that as much as athletes should be physically challenged, techincal competency and saftey should be the overriding factor when exposing athletes to bodyweight training.

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How to improve Movement Patterns: Alligator

Alligator

Problem Solving Process

- Observe the movement
- Match/ Mismatch what you see with the technical points above
- What is the error?

If the error is that <u>the body too far from the floor</u> where does the solution lie? Is it mobility, stabilty or strength or a combination of all three? The bodyweight workout below will help to highlight, and improve, current restrictions in terms of mobilty but also limitations in strength depending on the needs of the athlete.

Alligator: Bodyweight exercise and mobility circuit

- Perform 10 reps of each, in order x 3 sets. Scale as appropriate.
- Rest 30 seconds between exercises, 2-3 mins between sets

1. Kneeling leg swings x 10 each leg
2. Press up x 10 (easier exercise: press-up from knees)
3. Kneeling hip rotations x 10 each leg
4. Alternating Staggered press up x 10 total (easier exercise: press-up from knees)
5. Standing lateral legs swings x 10 each leg
6. Bear crawl x 5m forward 5 m back
7. Alternating arm leg raise from press up position x 10 total
8. Spiderman push up (easier exercise: alternate leg raise push up for knees) x 10 total