

NATIONAL COACHING SYLLABUS

THROWS EVENT GROUP STAGE



**MOVEMENT
DYNAMICS**

Athlete Development





Event Group Syllabus for Throws

At the end of the stage, an athlete focusing on Throws should be able to progress into the event specialisation phase, armed with the necessary development of skills and attributes/qualities to best prepare them for long term success at senior level.

It is imperative that the greatest degree of care is taken in all aspects of physical training and athlete development. When reading, interpreting or implementing any of the information contained, you are fully responsible for the wellbeing and welfare of the athlete.

You must have the physical competence to do the technical stuff and the technical qualities to do the tactical stuff...in that order (Giles, 2005).

Event Group Syllabus for Throws

| | |
|--|--|
| Development age (Indicative) | Male 12-15 years Female 11-14 years |
| Development phases | <p>Athletes at this stage will probably begin to focus on a specific event group (in this case the Throws) as they begin to realise where their potential and interests lie. During the development phase young athletes begin to develop basic sport-specific skills and tactics relating throwing mechanics and movement patterns, as well as stabilising technique:</p> <p>At this point the athlete should focus both sprinting and all the jumps so as to develop a good all round event group specific conditioning and co-ordination base:</p> <p>Strength & Stability Development -</p> <ul style="list-style-type: none">- To develop adequate strength-power levels- To develop energy transfer between body segments- To reduce injury risk <p>Sport Specific Skill Development</p> <ul style="list-style-type: none">- Teach throwing movements, this allows athlete to develop complex co-ordination patterns <p>Appropriate Conditioning (metabolic)</p> <ul style="list-style-type: none">- To develop the energy systems most relevant to the athletes event |
| General guidance | <p>“Know the basics, Master the basics and Don’t deviate from the basics” - V.Gambetta</p> <p>Develop a basic conditioning ability (Total structural strength, stability and range) that stays one step ahead of technical model development.</p> <p>Explore the development of Leg ‘stiffness’ (i.e. reactivity).</p> <p>In throwing events, develop a vocabulary of multi-plane, multi-direction and multi-amplitude throwing experiences.</p> <p>Fit the program to the athlete NOT the athlete to the program.</p> <p>Get them to compete against themselves before competing against others.</p> <p>Get them physically literate, get them strong, get them to move (Run, Jump, Throw) ast and THEN get them fit, in that order..</p> <ul style="list-style-type: none">- Teach them HOW before how far and how fast.- Mechanical before metabolic.- Sessions should focus on quality not quantity. <p>RUNNING</p> <p>Early coaching centres on PAL (Posture, Arms and Legs) - develop the athletes awareness of good posture which is important for the development of mechanical efficiency.</p> <p>JUMPING</p> <p>Develop an all-round multi-directional jumping vocabulary on one and two feet in all directions and amplitudes.</p> <p>Body parts have to ‘brace’ or stop before jumping - teach and condition them to brace / land before teaching them to jump.</p> |

Event Group Syllabus for Throws

General guidance cont'd

THROWING

Throw two-handed and one-handed (both left and right) from one and two feet in every plane and direction to continue to develop a wide and deep throwing vocabulary.

Body parts have to 'brace' or stop before release - teach and condition them to brace / land before teaching them to throw.

Slow moving muscles act first, fast ones last.

'Legs first, then hips, then arms' - All throwing starts at the feet and transfers forces all the way to the hand, from 'toenails to fingernails'.

Large muscles first, smaller ones last.

Transfer of weight from one foot to the other.

Hips ahead of shoulders.

In all throws, athletes should strive to develop competencies in single leg stability, triple flexion / extension, bracing, landing, rotating, hinging, pushing, pulling along with the following qualities of:

- Balance
- Rhythm and timing
- Acceleration
- Range of Movement (ROM)
- Power transfer (From within body segments to the implement)



Event Group Syllabus for Throws

Progression of development
(from previous phase)

It is important that coaches understand the Athlete Development process. The focus in terms of development of throws related skills needs to change in accordance with the athlete's physical development needs.

The focus on running, jumping and throwing mechanics should continue, as athletes will continually need to fine-tune their skills as they mature into their adult body shape. This is especially important for female athletes who undergo the greatest fluctuation in body shape during puberty.

Development of throwing mechanics & movement patterns

- Start & end positions
- Leg dominance to initiate movements
- Balance & rhythm
- Weight transfer mechanics
- Maintenance of range of motion relative to the skill
- Foot cadence
- Spatial awareness & rotational mechanics



Event Group Syllabus for Throws

Delivery

Set up a positive learning environment, "no lists, no laps, no lines"

- No queuing
- Keep coaching cues brief (e.g. 'Chin-Knee-Toe' - 'Make a bow' - 'See it go')
- Lots of activities

Coach to athlete ratio 1:12 (Max) -

1:3 ratio you are coaching the athlete

1:6 ratio you are coaching the group

1:12 ration you are coaching the event

Format -

Solving Movement Puzzles

Guided Discovery -

- Constraints learning (this requires the manipulation of task to achieve the desired outcome)
- Implicit Learning

Explicit Learning

- Directive Coaching

Progressive Content -

- General to Specific
- Simple to Complex
- Slow to Fast
- Unload to Load
- Small amplitude to Large amplitude

Progression -

Based on athletes adaptation

Only once they have earned the right

What about the slow/fast learners and adapters?

- These attributes must be accommodated in the session

- Tools for Progression - General to Specific

General -

Multi-joint / plane / direction / speed / amplitude FOUNDATION movements

Appropriate levels of work-capacity at differing combinations of energy-release mechanisms

Different learning scenarios

Fundamentals of Running, Jumping, Throwing, Kicking, Catching, Striking, Flotation

Social and Mental development

Specific -

The types of muscle action must be similar to those used during competition (intra and inter-muscular)

The structure of the movement must resemble that present during competition (motion of the limbs)

The sensory information must resemble that present during competition

The dominant energy system used during competition must be called upon

The movement result must resemble that present during competition

Event Group Syllabus for Throws

Physical Development

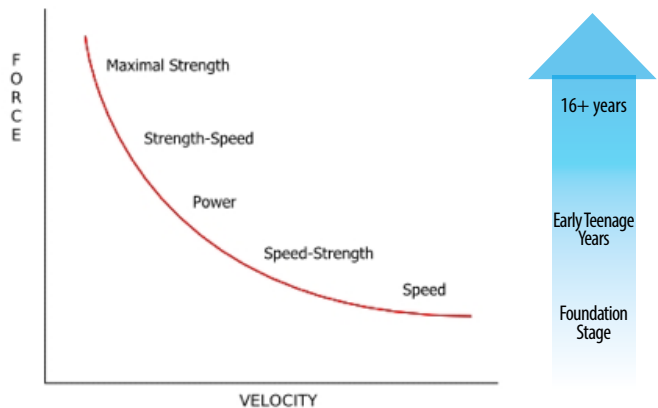
| | |
|--|---|
| <p>Posture & body alignment</p> | <p>The growth rate of the arms & legs will reach a peak prior to that of the trunk. This will cause a change in the centre of gravity and postural integrity exercises, through body management exercises, will refine and aid re-learning in techniques. Functional (throwing & rotating; entry & delivery position) postural integrity training introduced and (by the end of the stage) fully integrated into the athletes training.</p> <p>Implications -</p> <p>Requires a focus on the individual by monitoring on a regular basis of:</p> <ul style="list-style-type: none"> - Segment lengths - Height - Weight <p>Monitoring of these factors allows the coach to adapt any training sessions.</p> <p>Growing requires energy and metabolic resources so physiological demands may be increased during these periods, resulting in reduced performance in training and competition.</p> |
| <p>Agility, balance & co-ordination</p> | <p>Central nervous system is almost fully developed, with agility, balance & co-ordination fully trainable & rapidly improvable during this stage. Smaller muscle groups are becoming more developed.</p> <p>Co-ordination & technique drills should be used to continually develop co-ordination as body proportions change.</p> <p>This is not easy as it comes at a time when the athlete may begin to experience difficulties in co-ordination that can regress previously mastered skills.</p> <p>The coach needs to work with the athlete who is experiencing these co-ordination difficulties so they understand what is happening, and they do not become de-motivated or lose confidence.</p> <p>Controlling circle & runway dynamics are introduced.</p> |
| <p>Strength training</p> | <p><i>“It’s not how strong you are, but how much you can use”</i></p> <p>At this stage strength training should be used to develop adequate strength-power levels, to prepare the athletes for the increasing forces they experience (absorb, stabilise and produce), as they develop.</p> <p>With the growing interest in youth resistance training, it is important for coaches to understand the fundamental principles of normal growth and development. Because the training of young athletes is becoming more intense and complex, anatomical and physiological factors that may be associated with acute and chronic injury also need to be considered.</p> <p>Emphasis on strength development as an individual in relation to the progression of the adolescent growth spurt, where the volume of training is managed during peak growth velocity.</p> <p>Weight lifting technique to be developed at the beginning of this stage, with technical proficiency achieved, providing the athlete has ‘earned the right’ by displaying the appropriate physical competencies. (See physical competency section). Therefore, movement efficiency and consistency comes before external load and any increase of intensity.</p> |

Event Group Syllabus for Throws

Physical Development

Strength training cont'd

Athletes have to encounter all aspects of the strength continuum while executed with good functional movement and technical competency:



“As soon as you put a load on someone, you slow the movement down”

Strength is continued to be developed through multi-plane and multi-directional movements using body weight exercises and medicine balls.

Females become increasingly differentiated from males in terms of relative upper body strength.

Strength training has been consistently demonstrated to be crucial for the performance of all running events. If the coach is not competent to teach these skills, then they should endeavour to upgrade their individual coaching skills, or seek advice and guidance from competent professionals.



Event Group Syllabus for Throws

Physical Development

| | |
|-----------------------|---|
| Power training | <p>Dynamic & Explosive movements are introduced and developed through multiple jumps, bounds and upper body movements providing the athlete is displaying appropriate movement consistency. (See physical competency section)</p> <ul style="list-style-type: none">- Static (In-place) Jumps- Horizontal bounds (bilateral and unilateral)- Box Jumps / Hurdle bounds*- Reactive bounds (Ground contact time <200ms)- Dynamic upper body movements <p>* Height is determined by the athletes' ability to maintain technique and posture. If these are compromised the athlete is at risk of injury, and the height must be reduced.</p> <p>The prescribed volume and intensity is related to individual strength development, functional movement and technical competency.</p> <p>Introduction to complex work (strength exercises followed by explosive exercise).</p> <p>Introduction to Contrast work (e.g. Overweight throwing & underweight throwing followed by competition weight throwing).</p> <p>Power has been consistently demonstrated to be crucial for the performance of all throwing events. If the coach is not competent to teach these skills, then they should endeavour to upgrade their individual coaching skills, or seek advice and guidance from competent professionals.</p> |
| Work capacity | <p>"Work Capacity is not Just the ability to withstand large training loads. It is the ability to maintain the quality and intensity of an activity."</p> <p>Endurance is based upon movement efficiency; what do you want the athlete to endure? Teach the athlete the action first, then build on that to provide movement resilience.</p> <p>Develop musculoskeletal endurance (Movement consistency and Movement resilience).</p> |
| Flexibility | <p>Flexibility emphasised (very important in maturing individuals) and developed through dynamic exercise (Pre-workout) and static stretching post-workout, or as individual training sessions.</p> <p>Understanding of static & dynamics methods in relation to performance preparation, improving ROM & preventing injury; increased range must be applied to the movement immediately, in order to:</p> <ul style="list-style-type: none">- Increase the natural range of motion in joints- Enable the athlete to have effective technique- Decrease likelihood of injury due to imbalance in flexibility between body segments |

Event Group Syllabus for Throws

Physical Development

Speed development

The primary method for speed development is execution of sound movement technique. Athletes should perform tasks at submaximal learning speeds to establish proper mechanics. Therefore, sessions should focus on quality not quantity.

Speed is developed throughout the year using the following training methods:

- Acceleration
- Maximum velocity

Method - Acceleration

Intensity - $\geq 95\%$

Distance - 0-60m

Recovery - Full (approx. 1min per 10m)

Duration - $< 7s$

Method - Maximum Velocity

Intensity - $\geq 95\%$

Distance - From 10m-40m Flying

Recovery - Full (approx. 1min per 10m)

Duration - $< 5s$



Event Group Syllabus for Throws

Personal Development

| | |
|-------------------------------|---|
| Lifestyle | <p>Athletes take increasing ownership of the '24hr athlete' concept. The development of life-skills and behaviours that are needed in and outside training and competition. Athlete takes increasing responsibility for rest, hydration health and hygiene.</p> <p>Introduction and development of the use of a training diary.</p> <p><i>"Where are your reps and sets for the development of attitude, commitment, discipline, humility and respect?"</i></p> |
| Recovery and nutrition | <p>Individualised pre and post exercise routines are introduced.</p> <p>Athlete aware that performance = training + recovery.</p> <p>Introduction to drug-free sport principles and practice.</p> |
| Decision making | <p>Coach to devise practices which continue to develop performer's independent thought and decision making abilities relative to situation.</p> <p>Athlete increases contribution to session content and outcome with support and guidance from the coach.</p> <p>Allow athletes to choose the level they wish to participate in, this promotes autonomy, leads to increased opportunity to feel competent and hence leads to increased intrinsic motivation.</p> |



Event Group Syllabus for Throws

Physical Competency

Physical competency

(Based on physical competence assessment manual by Kelvin Giles MA, CertEd revised October 2011)

Please refer to Movement Dynamics Progressive Exercises Syllabus (PES) and Additional Movement Progressions for appropriate progression and regression exercises to help develop the physical competencies.

PES 4 - Lower Body
01 - Double Leg Squat

All round physical development is important to bullet proof the athlete from future injuries.

Every posture or movement pattern in sports specific actions, whether running, jumping or throwing demands that the athlete express some form of force production, force reduction and force stabilisation. This sequence of events occurs along the entire kinetic chain and demands degrees of multi-joint, multi-plane and multi-directional movement efficiency.

Therefore the premise underlying the functional movement screening (FMS) is that the athlete should be armed with the physical competence to carry out these sports-specific activities.

Through the FMS, athletes at this stage should be able to achieve the following competency levels in push, brace, squat, hinge and land.

Athletes must have achieved previous Competency Assessments (Stages 1-2) prior to undergoing the following assessments:

General Physical Competency Assessment (PCA)

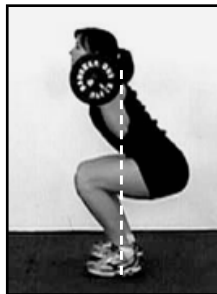
SQUAT -

Loaded Squat - 10 reps with 25% Body Weight

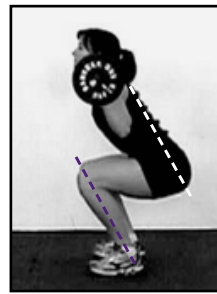
Coaching Points -

- Appropriate Footwear
- Athlete performs 10 x parallel squats with a broomstick to ensure technique
- "Head Up, Chest Up, Butt Out, Heels down".
- Bar is held across top of the Shoulders and not on the Neck.
- Trunk stays as upright as possible with broomstick or bar aligned above Toes.
- Feet are a little wider than Shoulder width apart
- Heels must stay in contact with the ground at all times

Squat - Correct Trunk alignment.
Neck aligned with mid-Foot



Squat - Correct Trunk alignment.
Trunk and Shins parallel.



Executing all 5 points scores 5

- Depth - thighs parallel
- Ankle, Knee Hip Alignment
- Equal stance on both legs
- Heels Down
- Trunk in proper alignment; Trunk parallel to shins

Event Group Syllabus for Throws

Physical Competency

PES 4 - Lower Body
04 - Single Leg Squat

Single Leg Squat to Parallel - Hold for 3 Seconds

Coaching Points -

- Bare feet
- From a single Leg balance.
- Lower to parallel Thigh, hold for 3 secs and return.
- "Head Up, Chest Up, Straight Back, Butt Out".
- Ankle, Knee and Hip aligned, with Hips square.
- Trunk stays as upright as possible with Neck aligned above Toes.



Static Squat Stance - Parallel

Executing all 5 points scores 5

- Correct depth
- Ankle, Knee and Hip alignment (Knee doesn't collapse in or Foot doesn't turn or collapse).
- Heel down
- Waistband level (Hip doesn't 'hitch' out)
- Trunk in proper alignment; parallel to Shins.

PES 4 - Lower Body
01 - Double Leg Squat
(Overhead series)

Overhead Squat - 10 Reps

Assess movement efficiency before attempting repetitions (movement consistency).

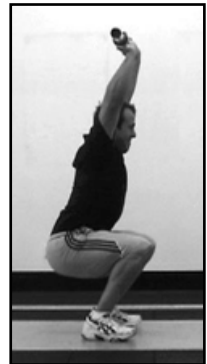
Coaching Points -

- Broomstick / light bar overhead, Arms straight.
- Arms in line with Ears.
- Hands just outside Shoulder width.
- Head up / Chest up.
- Feet at Shoulder width.
- Heels down (maintain).
- Butt out and Squat to parallel.

Main 5 Scoring Points (Depth).

Executing all 5 points scores 5

- Depth - Thighs parallel to the floor.
- Ankle, Knee, Hip alignment (Knees don't collapse in or Feet don't turn or collapse).
- Equal stance on both legs (Hips don't swing to favour one side).
- Heels down
- Back straight.



Overhead Squat Stance - Correct Depth

Event Group Syllabus for Throws

Physical Competency

PES 4 - Lower Body
 13 - Lunge
 14 - Walking Lunge

LUNGE -

Overhead Walking Lunge - 10m

A unique test of function, balance, coordination and vertical stability where the athlete takes 10 slow walking lunge steps continuously with a broomstick / light bar held stable over head and with a slight pause at the standing position.

Coaching Points -

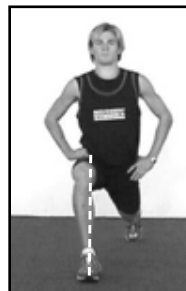
- Broomstick / light bar overhead, Arms straight.
- Arms in line with Ears.
- Hands just outside Shoulder width.
- Head up / Chest up.
- View from front and side.



Lunge - Correct alignment at mid-stride. Step over opposite Knee. Full extension of support Leg.



Lunge - Correct alignment at contact.



Lunge - Correct alignment - front view.
 Ankle, Knee and Hip aligned.



Lunge - Correct alignment.
 Waistband level.
 Shin vertical at pull-through.

Main 5 Scoring Points.

Executing all 5 points scores 5.

- Step over opposite knee without any collapse at waist (waistband level)
- Step over opposite knee without support Leg flexing.
- Step over opposite knee without the Shin of the trail Leg turning out or in to get through.
- Ankle, Knee and Hip aligned at landing (Shin remains vertical).
- Land and take-off smoothly and in balance.

Event Group Syllabus for Throws

Physical Competency

PES 2 – Stability
03 – Horizontal Stability

BRACE -

Lateral brace (Side Bridge hands) - 45 Seconds

Coaching Points -

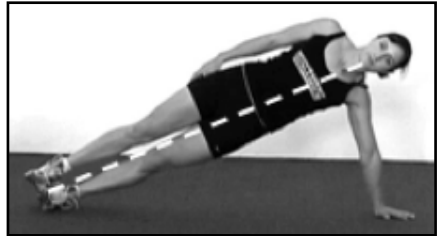
- From hand and foot.
- Support arm at 90° to the body (Elbow under shoulder).
- Free arm in-line with body.
- Body straight and in-line.
- Shoulder blades retracted – ‘down and back’.
- Top hip stacked above bottom hip.
- Head in neutral position (head in-line with spine).
- Gluteus braced.
- Abdomen braced.

Athletes will stop when posture becomes distorted or excessive tremors occur.

Athletes are asked to stop if they feel any pain.

Time the athlete in the correct position.

Assess both sides.



Lateral Bridge -Hand - Correct Position.

PES 5 – Upper Body (1)
03 – Trunk Flexion

60° Static Sit up - 60 Seconds

Coaching Points -

- Sitting with bent knees the athlete leans back to 60° and holds the position. Feet are fixed.
- Abdomen braced.
- Back is kept straight with shoulder blades drawn ‘down and back’
- Arms are kept across the chest or hands held at ribs. Keep elbows back to straighten back.
- Keep chin up, head in neutral position.
- Time the athlete in the correct position.



60° Static Sit up - Correct Posture.

Event Group Syllabus for Throws

Physical Competency

PES 5 - Upper Body (1)
04 - Trunk Extension

BRACE -

Trunk Extension - 60 Seconds

Coaching Points -

- With Feet fixed the athlete hangs out over the edge of the bench from the Pubic Bone.
- Hands are clasped across Chest.
- Head in neutral position.
- Shoulder Blades must remain retracted and Gluteus contracted at all times.
- Back is extended to parallel to the ground.
- A neutral Spine position is to be held at all times.

Time the athlete in the correct position.
The athlete is asked to cease the test if they feel pain at any time.



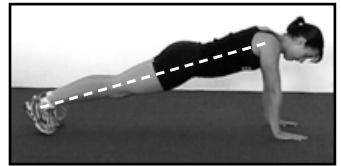
Back Extension -
Correct Posture.

PES 2 - Stability
01 - Horizontal Stability

Front bridge (Prone) - 4 P Hands - 60 Seconds

Coaching Points -

- From Hands and toes
- Head in neutral position - looking down (head in-line with spine)
- Gluteus braced
- Abdomen braced
- Shoulder blades retracted - 'down and back'
- Body straight and in-line
- Athletes will stop when posture becomes distorted or excessive tremors occur.
- Athletes are asked to stop if they feel any pain
- Time the athlete in the correct position



Front Bridge - Hands - Correct Position.

FOUNDATIONS - Physical Competency Standards for Athletics

| | STAGE 1 (Indicative 8 - 10 years) | STAGE 2 (Indicative 10 - 12 years) | STAGE 3 (Indicative 12 - 14 years) | STAGE 4 (Indicative 14 - 17 years) |
|------------------|--|--|---|--|
| SQUAT | Squat - Arms in front (Efficiency) | Squat - 10 reps (arms behind head) Single Leg Squat - (90°) (Efficiency - Each Leg) Overhead Squat - (Efficiency) | Loaded Squat - (10 reps) (25% BW) Single Leg Squat - Hold for 3 secs (low position - thighs parallel) Overhead Squat - (10 reps) | Loaded Squat - (10 reps) (50% BW) Single Leg Box Squat - 5 reps (low position - thighs parallel) Overhead Squat - (25% BW) (Efficiency) |
| LUNGE | Lunge - Forward & Return (Efficiency) | Lunge - - End of year 1 - Forward & Return (5 reps each leg) - End of year 2 - Walking Lunge (10m) | Overhead Lunge - - End of year 1 - Forward & Return (5 reps each leg) - End of year 2 - OH Walking Lunge (10m) | OH Walking Lunge - 25% BW (10m) |
| BRACE | Lateral Brace - Forearm (Level 1) - 25s | Lateral Brace - Hand (Level 2) - 45s | Brace - (Level 2) - Lateral - Hand (45s) - 60° (60s) - Trunk Extension (60s) - Prone - 4 point hands (60s) | Brace - (Level 3) - Lateral - Hand (70s) - 60° (90s) - Trunk Extension (90s) - Prone - 4 point hands (90s) |
| PUSH/PULL | Push Up - - End of year 1 - Efficiency - End of year 2 - 5 reps Lying Pull Up - - End of year 1 - Efficiency - End of year 2 - 5 reps | Push up - (Level 2) - 10 reps Chin Up - End of year 1 - ≥ 1 rep (Efficiency) End of year 2 - 5 reps | Push up - (Level 3) - 15 reps Chin Ups - (Narrow Grip) - 5 reps Wide grip (Efficiency) | Push Up - (Level 4) - 30 reps Chin Ups - (Level 3) - Narrow Grip - 10 reps - Wide Grip - 5 reps |
| HINGE | | Hinge - (Reverse deadlift) Level 2 - Lower to mid-Shin and return (Efficiency) | Hinge - (Reverse deadlift) Level 3 - Lower to floor and return - 5 reps | Hinge - (Reverse deadlift) Level 3 - Lower to floor and return - 5 reps (40% BW) |
| LANDING | Landing - Double to double (60cm) (Efficiency) | Landing - - Double to Single (60cm) - Single to Single (60cm) - Lateral Step & Stick (Efficiency) | Landing - - Single to single (100cm) - Lateral hop & Stick (Efficiency) - 5 Jumps (Efficiency) | Landing - - Slalom Reactive Hops (L&R) (> 10 reps) - 5 hops (> 11.00m) |
| NOTES | Assess the movement efficiency Athletes must achieve Desirable (Executing all 5 points) | Assess movement consistency as well as efficiency Athletes must achieve Desirable (Executing all 5 points) | Assess movement consistency as well as efficiency Athletes must achieve Desirable (Executing all 5 points) | Assess movement consistency as well as efficiency Athletes must achieve Desirable (Executing all 5 points) |

Event Group PCA (Additional Event Group Specific assessments to be carried out in conjunction with Stages 3 and 4)

| EVENT GROUP | SPRINTS & HURDLES - | JUMPS - | THROWS - | ENDURANCE - |
|-------------|--|--|---|--|
| | Wall 'A' Stance - Level 1 (Static and Dynamic) Thomas Test 1 - (L&R) - Thigh Angle 5° Below horizontal Thomas Test 2 - (L&R) - Shin Angle 80-90° Hamstring > 90° Ankle Range - (L & R) - > 12cm | Wall 'A' Stance - Level 1 (Static and Dynamic) Thomas Test 1 - (L&R) - Thigh Angle 5° Below horizontal Thomas Test 2 - (L&R) - Shin Angle 80-90° Hamstring > 90° Ankle Range - (L & R) - > 12cm Hanging Raises - Straight Leg | Medicine Ball Rebound Throws - ≥20 seconds Standing Shoulder External Rotation - (Vertical) Shoulder Lift Off - > 20cm Bench Pull - Loaded - (Efficiency) Mini-Hurdle Hops - Square Pattern - (Efficiency) | Wall 'A' Stance - Level 1 (Static and Dynamic) Thomas Test 1 - (L&R) - Thigh Angle 5° Below horizontal Thomas Test 2 - (L&R) - Shin Angle 80-90° Hamstring > 90° Ankle Range - (L & R) - > 12cm |

Event Group Syllabus for Throws

Physical Competency

PES 6 - Upper Body (2)
09 - Vertical Pushing

PUSH / PULL -

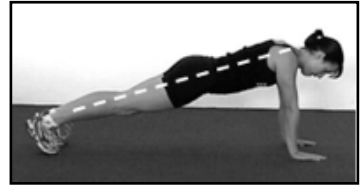
Push Up - 15 Reps

Coaching Points -

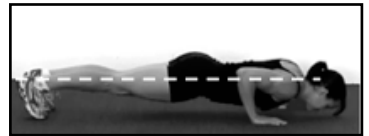
- Athlete sets the Shoulder Blades down and back and supports the weight on Hands and Feet. Hands placed in a comfortable position, Fingers forward.
- Full body braced.
- Lower the Chest to floor and return.
- Trunk remains fixed and straight at all times.
- Head in neutral position at all times.

Executing all 5 points scores 5

- Chest to touch floor
- Body remains straight & braced
- Head remains in neutral position (Head in line with spine)
- Shoulders remain 'down & back'
- Elbows tight to ribs



Push Up (Standard) - Correct Start Position.



Push Up (Standard) - Correct Position from side. Straight Line. Elbows Cloae to Ribs.

PES 2 - Upper Body (2)
02 - Vertical Pulling

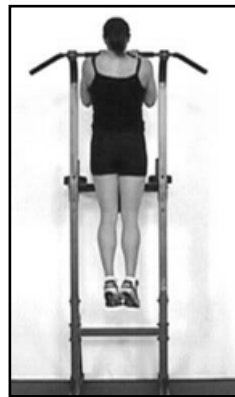
Chin Ups - Narrow Grip - 5 Reps

Coaching Points -

- Under-grasp, Hands at Shoulder width.
- Full range of motion is to be achieved to count the repetition.
- Legs can be straight or bent but must remain in chosen position.
- Athlete pulls so that the Chin is over the bar and returns to the long hang position in control.



Chin Up - Start Position.



Chin Up - Correct Position for End of Pull.

Event Group Syllabus for Throws

Physical Competency

PUSH / PULL -

Chin Ups - Wide Grip - Movement Efficiency

Coaching Points -

- Over-grasp grip.
- Hands wide outside Shoulder width. Full range of motion is to be achieved to count the repetition.
- Legs can be straight or bent but must remain in chosen position.
- Athlete pulls so that the Chin is over the bar and returns to the long hang position in control.



Wide Grip Chins - Start Position.



Wide Grip Chins - End of Pull.

Additional Movement Progressions
07 - The Hinge

HINGE -

Reverse Deadlift - Lower to floor and return - 5 reps

Coaching Points -

- Appropriate footwear.
- Light bar or Broomstick held at Shoulder width.
- Arms straight.
- Head Up, Chest Up, Shoulders 'down and back', Back straight.
- Heels down.
 - Lower Bar to floor.
 - Hinge at Hips - Butt out.
- Return by:
 - Extend Ankles, Knees and Hips and drive Hips to Bar.
 - Pull Shoulder Blades into a 'shrug' action.

Main Scoring Points

Executing all 5 points scores 5

- Shoulders stay 'down & back'.
- Back straight.
- Shoulders ahead of Hands.
- Ankle, Knee and Hip aligned. (Knees don't collapse in or Feet don't turn or collapse)
- Full extension at 'Pull' - Arms stay straight.



Head Up, Chest Up, Shoulders 'down and back'



Butt out to lower bar. Shoulders ahead of Hands.



Drive Hips to bar. Shrug Shoulders

Event Group Syllabus for Throws

Physical Competency

PES 7 - Jumping
01 - Landing Fundamentals

LANDING -

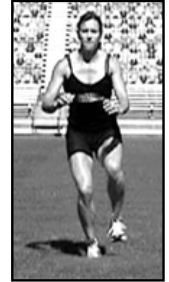
Forward Hop and 'Stick' (L&R), Single to Single - 100cm

Coaching Points -

- Bare Feet (suitable surface)
- Toe at start line.
- Hop and 'stick' landing with Head up, Chest up, Butt out.
- Hip, Knee, Ankle alignment (Knee doesn't collapse in or Foot doesn't turn or collapse).
- Waistband level (Landing Hip doesn't 'hitch' out)
- Trunk aligned to Shins.
- Full balance throughout.
- Measure to Heel.
- Only measure the repetition that displays an efficient landing.



Hop & 'Stick' - Forward - Landing - Correct landing position. Trunk and Shins aligned. Butt out.



Hop & 'Stick' - Forward - Landing - Correct landing position from front

Lateral Hop & 'Stick' (L&R) - Movement Efficiency

Coaching Points -

- Bare Feet (suitable surface)
- Start sideways, outside Foot parallel to start line.
- Hop and 'stick landing' with Head up, Chest up, Butt out.
- Hip, Knee, Ankle alignment (Knee doesn't collapse in or Foot doesn't turn or collapse).
- Waistband level (Landing Hip doesn't 'hitch' out)
- Trunk stable.
- Full balance throughout.
- Repeat exercise for both sides.

Check the ability to hold position for 5 secs without deviation or distortion.



Lateral Hop Landing - Desirable Position

Event Group Syllabus for Throws

Physical Competency

PES 7 - Jumping

07 - Jumping - Single Leg

5 Hops (L&R) - Movement Efficiency

Coaching Points -

- From a standing start the athlete hops for distance landing on the same Leg continuously for 5 hops - the last landing on two Feet.
- Head Up, Chest Up.
- Vertical stability and alignment through the Trunk, Hips and Knees must be attained.
- Check for any lateral deviation during hops.



5 Hops Start -
Correct Posture.



5 Hops Landing -
Correct Posture.



5 Hops Landing -
Correct Posture.

In all of the above jumping and landing assessments, executing all 5 points scores 5.

- Ankle, Knee and Hip Alignment (Knees don't collapse in or Feet don't turn or collapse)
- Bend at Ankle, Knee and Hips (Triple Flexion, Butt out)
- Waistband level (Landing Hip doesn't 'hitch' out)
- Trunk parallel to shins
- Full balance throughout



Event Group Syllabus for Throws

Physical Competency

PES 9 - Medicine Ball
Throws
03 - Side Throws

The following assessments are specifically related to the event group (Throws) which must be assessed in conjunction with the above PCA's:

Event Group Specific (PCA) -

Medicine Ball Rebound Throws - (20 seconds) - ≥ 20 reps



Medicine Ball Rebound
Throw - Start Position



Medicine Ball Rebound
Throw



Medicine Ball Rebound
Throw

Allow 3 attempts and record best effort

Coaching Points -

- Stand Back to wall - Heels 1 metre away from wall.
- Medicine Ball held between Chest and Waist.
- Head Up.
- Chest Up.
- Back straight.
- Transfer weight across to throwing side.
- Hips, Trunk, Shoulders and Head rotate in direction of throw.
- Throw and catch rebound.
- Immediately repeat to other side.
- Count wall impacts in 20 seconds.
- Only count repetitions where balance was maintained.



Event Group Syllabus for Throws

Physical Competency

PES 5 - Upper Body 1
 01 - Shoulder Stability &
 Control - Isolated

Standing Shoulder External Rotation -

| Exercise | Desirable | Above Average | Average | Below Average | Poor |
|--|-----------------|----------------------------|-----------------------------|-----------------------------|-----------------------------|
| | 5 | 4 | 3 | 2 | 1 |
| Standing Shoulder External Rotation | Vertical | 1-10° from Vertical | 11-20° from Vertical | 21-30° from Vertical | 31-40° from Vertical |

Coaching Points -

- Stand with Back flat against wall, Head in contact, Chin down.
- Can have Feet away from wall to ensure correct lower Back contact
- Ensure that lower Back remains in contact with wall throughout.
- Raise Arms to 90°, bend Elbows to 90°.
- Externally rotate upper Arm to best height.



Starting Position



Measurement Position

Event Group Syllabus for Throws

Physical Competency

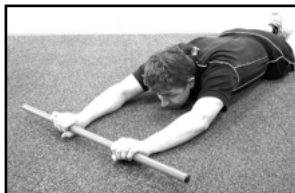
PES 5 - Upper Body 1
01 - Shoulder Stability & Control - Isolated

Shoulder Lift Off -

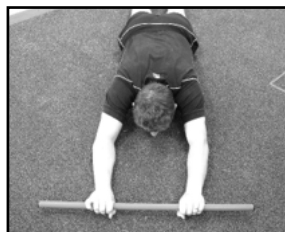
| Exercise | Desirable | Above Average | Average | Below Average | Poor |
|--------------------------|-----------|---------------|---------|---------------|-------|
| | 5 | 4 | 3 | 2 | 1 |
| Shoulder Lift Off | >20cm | 16-20cm | 11-15cm | 6-10cm | 0-5cm |

Coaching Points -

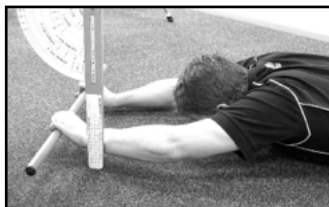
- Lying flat, Arms ahead and straight.
- Grip broomstick at Shoulder width, over-grasp.
- Chin forward and in contact.
- Raise straight Arms slowly to best height.
- Keep Chin forward and in contact with the ground at all times (Tester should gently hold Neck down to feel for any movement or place fingers at Chin to feel for any movement).
- Measure to Underside of Wrist



Shoulder Lift Off - Start Position



Shoulder Lift Off - Start Position



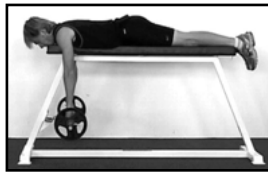
Shoulder Lift Off - End Position

Event Group Syllabus for Throws

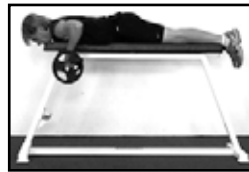
Physical Competency

PES 6 - Upper Body 2
01 - Pulling - Vertical
Pulling (Bench Pulling)

Bench Pull - Barbell (25% BW) – 10 reps



Bench Pull - Start Position
Correct Position from Side



Bench Pull - Correct Position at
End of Pull



Bench Pull - Start Position
Correct Position from Front



Bench Pull - Correct Position at
End of Pull

Coaching Points -

- Bar is held with pronated (over-grasp) grip, Shoulder width apart.
- Bar is pulled up towards the Chest, making contact with the bench.
- Pull Shoulder Blades 'down and back' to start the pull.
- Chest, Hips and Forehead (or Chin) must remain in contact with the bench.
- Athlete does 10 reps with a light bar to check technique.
- If satisfactory the athlete conducts the test with a load equal to 25% bodyweight.

PES 7 - Jumping
07 - Jumping - Single Leg

Mini Hurdle Hops - (20cm) - Square Pattern (L&R)

Coaching Points -

- Athlete starts inside a 1m square of 20cm high hurdles.
- The centre of the square should be marked with a cross or dot.
- Always landing and taking off from one foot the athlete completes the test by:
 - Start in the centre of the square and hop forwards out.
 - Hop backwards into the centre of the square and sideways out.
 - Hop sideways into the centre of the square and backwards out.
 - Hop forwards into the centre of the square and sideways out.
 - Hop sideways back into the centre of the square to 'stick' the landing.
- This is a continuous sequence with short contact time.
- Good balance with smooth transitions is required to score high.
- Head Up, Chest Up, Trunk braced.
- The athlete must land on the centre mark each time.
- Test both Legs.



Hurdle Hops - Landing

Event Group Syllabus for Throws

Technical Competency

| | |
|--|--|
| Throwing specific skills (See General Guidance) | During this stage the technical model becomes unstable during the growth spurt. Therefore it is important to always go back to teaching the foundations. Taking care of the technical elements involved with all aspect of the athlete's future development at this time, is time well spent. Athletes should be able to perform technical skills associated with the blue level in athletics 365. |
| Refer to 365 purple/blue coach support card 23 for technical competence | <p>JAVELIN - Approach - Introduce correct grip and carry. Establish controlled ,relaxed and rhythmic running over six strides.</p> <p>JAVELIN - Five Strides Out - Develop withdrawal, throwing arm extension, correct position of javelin, pre throwing impulse stride.</p> <p>JAVELIN - Delivery - Develop final delivery stride, stable left side, dynamic pull through.</p> <p>JAVELIN - Recovery - Develop a recover strategy of leaving sufficient space between left leg and foul line to allow right leg to advance.</p> <p>JAVELIN - Aerodynamics - Introduce to aerodynamics of the event.</p> |
| Refer to 365 purple/blue coach support card 22 for technical competence | <p>SHOT LINEAR - Back of the Circle - Establish correct Grip and balanced start position. Develop right foot push and left leg drive.</p> <p>SHOT LINEAR - Middle of the Circle - Develop balanced closed position and active right side.</p> <p>SHOT LINEAR - Front of the Circle - Establish braced left side and efficient delivery position.</p> <p>SHOT LINEAR - Recovery - Develop an active reverse to avoid fouling</p> <p>SHOT ROTATIONAL - Preparation and Turn - Ensure correct positioning of shot in neck and balanced start position. Develop loading of left side and separation (hips/upper body) as turn begins.</p> <p>SHOT ROTATIONAL - Movement - Rotation - Develop optimum speed from back of circle. Develop right foot pick up and kick for centre of circle. Develop a balanced entry.</p> <p>SHOT ROTATIONAL - Delivery - Develop bodyweight over rotating right foot with left foot landing quickly at front of circle. Develop delivery with right side working against braced left.</p> <p>SHOT ROTATIONAL - Recovery - Develop an active reverse to avoid fouling.</p> |

Event Group Syllabus for Throws

Technical Competency

Refer to 365 purple/blue coach support card 24 for technical competence

DISCUS - Preparation - Swing -

Establish good start position with discus sitting in hand, feet shoulder width apart and bodyweight central.

Develop a long relaxed swing with discus, once swung back staying behind hips and shoulders.

DISCUS - Turn -

Develop balanced left side load with weight over left foot.

Develop right foot swing and vigorous drive for centre of circle.

DISCUS - Turn -

Develop swing towards inversion (for depth before height).

Develop turn & bar clearance.

DISCUS - Delivery -

Ensure right foot begins to rotate and left foot stabs for front of circle.

Develop an awareness of active right side working against braced left with discus being whipped through fast and last.

Introduce to aerodynamics of the event.

Refer to 365 purple/blue, coach support card 25 for technical competence

HAMMER - Preparation Swings -

Develop preparation swings to initiate rhythm and Balance.

HAMMER - First Turn -

Create long double foot support phase.

Encourage arms Straight and Long.

Develop pivot on heel of right foot and ball of left.

HAMMER - Second & Third Turns -

Ensure acceleration continues.

Ensure on landing on completion of each turn left and right foot remain active.

Develop left side brace.

HAMMER - Release -

Develop strong balanced position from final turn.

Develop vigorous leg drive and extension.

Develop left side block and brace.

Develop upward and left movement of arms into whiplash slinging action.

Event Group Syllabus for Throws

Planning

| | | |
|------------------------|---|---|
| <p>Planning</p> | <p>TYPICAL PREPARATION PERIOD* (Winter/Off-Season) - Week 1**</p> <p>Mon - Balance Drills / Speed Development Tue - Technique (DT) / Conditioning Wed - Rest Thu - Technique (SP Rotational) / Bounding Fri - Rest Sat - Technique (SP Linear) / Conditioning Sun - Active Rest / Flexibility</p> <p>(Winter/Off-Season) - Week 2**</p> <p>Mon - Balance Drills / Speed Development Tue - Technique (HT) / Conditioning Wed - Rest Thu - Technique (JT) / Bounding Fri - Rest Sat - Technique (JT) / Conditioning Sun - Active Rest / Flexibility</p> | <p>TYPICAL PREPARATION PERIOD* (Spring/Summer, In-Season)</p> <p>Mon - Rest Tue - Technique (related to next competition) / Speed Work Wed - Rest Thu - Technique (related to next competition) / Conditioning Fri - Rest Sat - Compete Sun - Rest</p> |
| | <p>SESSION EXEMPLAR</p> <p>Warm up (incorporating physical competency development - linked to skill development)</p> <p>Warm up should be related to session activity</p> <p>Balance Drills (Discus) - 90/180/360/270 Turns - Entry Drills - Emphasis on control and accuracy</p> <p>Partial Positions (Discus) - Half Turn to Power Position - Power to End Position - Practice consistency & accuracy and coach to correct and allow athlete to 'feel' the position</p> <p>Technical Throws - Standing emphasising right hip lead and triple extension - Fixed Foot Throw emphasising balance rhythm and upper lower body separation. - Introduce partial throws, Half Turn, South African only if required</p> <p>Body Circuits - Movement modules - Linked to achieving physical competency</p> <p>Warm Down - Stretch - Reflect on session goals</p> | <p>SESSION EXEMPLAR</p> <p>Warm up (incorporating physical competency development - linked to skill development)</p> <p>Warm up should be similar to competition warm up and related to the session activity</p> <p>Rhythm & Balance (dependant on event) - Big Circle small circle drills on Javelin runway/Continual right foot pick up drills. - Vary Emphasis - Cadence, Accuracy, End Position</p> <p>Technical Throws - Working on technical points related to competition - Linked to 365 (purple/blue)</p> <p>Cadence runs (30m) - Fast and Reliable Runs - 10-10-10 (accel, fast, faster)</p> <p>Warm Down - Stretch - Reflect on session goals</p> |

Event Group Syllabus for Throws

Planning

Planning

Training 3-4 times per week. Please note that it is important that sporting activities within the athlete's school programme must also be factored into the planning of the training programme.

**If working on four throwing events technical training microcycles must be of two weeks duration.

Training must have sufficient variety to counteract any negative influences that are related to growth.

The training load is increased from the previous phase.

Young athletes will be growing considerably at this age. Therefore the need to employ a variety of training means is important.

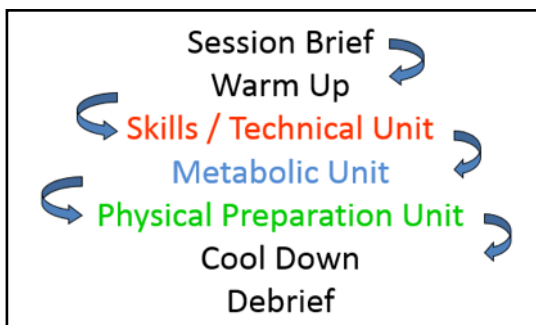
When an athlete attempts to work on two or more units in a session the athlete should always work on:

1. "Neuromuscular" training (e.g. coordination, technical training, speed, speed strength and maximum strength)

BEFORE

2. "Metabolic - Energy production" training (i.e. emphasis on endurance - aerobic)

For example, the training session may be constructed in the following progression



KPI's

The aim is to achieve 5 out of 5 in all physical competencies outlined in this text.

Introduction to field-based fitness tests for running, jumping and throwing (acceleration, speed, power, endurance). However, these types of tests are maximal and should only be used when the athlete is technical efficient and physically competent. Markers of strength & individual development can also be monitored.

"Testing is training and training is testing" -

Coaches can use markers in training to monitor improvement.

Event Group Syllabus for Throws

Planning

Coach education for coaches, includes coaching knowledge and coaching practical application
(To include athlete supplementary knowledge as already listed)

Event Group Coaches working with athletes at this stage should have the knowledge and understanding of the following:

- Understanding of children's physiological development and physical literacy for this stage.
- Appropriate technical knowledge and application (in line with athletics 365, purple, blue and black stage).
- Key coaching principles applicable for this age group, making sport & athletics fun
- Understand the key concepts that underpin athlete development
- Understanding of physical competency requirements
- Competency based progression
- Physical vs technical preparation
- Appreciate and understand the ways in which an athlete's physiology changes as they mature and develop
- Understand how the physical development of the athlete influences what training methods are most appropriate at different stages during their development
- UKA Coaching Qualifications
 - Coach Assistant
 - Athletics Coach
 - Event Group Coach / L3 Performance Coach

Resources

UK Athletics 365 Coaching Pack
scottishathletics Athletic Development Manual
Movement Dynamics Physical Competency Assessment Manual
Movement Dynamics Movement Library
UKAD – 100%ME



Event Group Syllabus for Throws

Glossary Of Terms

Intensity - Relative Intensity: % of PB or current potential maximum performance.
Evaluates the effect of exercise on the nervous/endocrine systems (often delayed).

Effort - How "hard" the exercise felt (amount of discomfort) either during or immediately after exercise.
Evaluates the immediate effect of exercise.

Competence - Ability to do something successfully or efficiently and consistently.

Multi-Directional - Functioning or going in more than one direction.

Multi-Plane - movements that are utilising Sagittal, Frontal and Transverse planes together or individually

Amplitude - Athletes' range of movement in an action e.g. short to long, small to big

Metabolic - Range of biochemical processes that occur within the body e.g. Anaerobic, aerobic.

Aerobic - Refers to the primary use of oxygen in muscles' energy-generating process.

Anaerobic - Refers to energy production without the presence of sufficient oxygen

Lactate System – This system involves the breakdown of glycogen in the absence of oxygen, with the resultant formation of ATP plus lactate (lactic acid and associated products).

Locomotor system - how all the body parts work together to create movement also known as the musculoskeletal system

Musculoskeletal - relating to or denoting the musculature and skeleton together.

Implicit Learning - learning movements, postures and actions by personal experimentation, trial and error.

Explicit Learning - following a set of cues and drills

Movement Puzzles - a means of learning movements by experimentation and personal discovery rather than telling them exactly how to do it.

Physical Literacy - developing a movement vocabulary in every plane, direction, speed, amplitude and force requirement.

Foundation Movements - Squat, Lunge, Pull, Push, Brace, Rotate, Hinge and Jumping / Landing movements (and all subsequent and progressive hybrids). These are the basic building blocks for all skill acquisition.

Cardio-respiratory System - Transports oxygen and nutrients to the body, removes waste, and regulates the body temperature.

Fartlek - Fartlek, comes from the Swedish for 'Speed Play' and combines continuous and interval training. Fartlek allows the athlete to run whatever distance and speed they wish, varying the intensity, and occasionally running at high intensity levels.
This type of training stresses both the aerobic and anaerobic energy pathways.

Kinaesthetic Sense - relating to the use of sense organs in your muscles and other body parts to feel the position and movements of your body. The athlete's perception through neuromuscular feedback of a body movement.

ROM – Range of Movement

Kinetic Chain - Combination of several successively arranged joints constituting a complex motor unit. The movements that occur within these segments present as two primary type - open and closed.

Neuromuscular system - Muscle fibres are innervated by motor neurons that transmit impulses in the form of electrochemical signals from the spinal cord to muscle.

Endocrine System - The collection of glands of an organism that secrete hormones directly into the circulatory system to be carried towards a distant target organ.

Electrochemical Signal - is an electrical signal that takes place within the nervous system, which transmits signals to different parts of the body.

Intrinsic Motivation - Intrinsic motivation refers to behaviour that is driven by internal rewards or for his or her own internal satisfaction or fulfilment.



Event Group Syllabus for Throws

COACHING CHECKLISTS

| | | |
|-------------------------------|--|-------------------------------------|
| General strategic aim | To support all athletes by presenting a progressive journey that is appropriate to their individual needs (at every biological stage of their development). | ✓ |
| General coaching aims | Athlete appropriate leading to sports / event specific. Know where the athlete is - physically, technically and mentally. Fit the program to the athlete – not the other way round. | ✓ |
| Specific coaching aims | <p>Give them the physical competence to do the technical stuff. Give them the technical competence to do the competition / arena stuff</p> <p><i>In that order</i> For all events – Get them physically literate Get them strong Get them to move (Run, Jump, Throw) fast; Get them fit - in that order.</p> <p>Develop a basic conditioning ability (Total structural strength, stability and range) that stays one step ahead of technical model development. Give them a movement vocabulary to assist skill learning.</p> <p>Get them strong and stable enough to deliver the movements and postures of the event.</p> <p>Teach them the progressions of each event.</p> <p>Build fitness and work capacity of the high quality movements and actions you have created.</p> | ✓ |
| Specific session aims | <p><i>No laps / No lines / No lectures</i> Prepare the session area / environment early (space, equipment, etc). Deliver an appropriate warm-up. Avoid athletes having to queue for an attempt. Look a lot more, listen a lot more, speak a lot less. Use simple instructions. Apart from appropriate recovery time after strenuous activity - keep them active.</p> <p><i>Precision / Progression / Variety</i> Demand excellence in every action and posture. Repeat until they have adapted permanently under all conditions (speed, fatigue and pressure). Use a variety of actions, postures, loads, words, cues, drills to achieve the specific goal.</p> <p><i>Can do / Can do / Can't do / Can do</i> Know how to make a movement or posture easier or harder. Start with what they can do. Then allow them to be challenged and then move them back to what they can do.</p> <p><i>Coach all four pillars in every session</i> Create modules for each session and rotate through them as required. 1. Warm Up 2. Solve puzzles (general or event specific) 3. Event specific activities 4. Physical (strength, stability, mobility, work capacity)</p> | <p>✓</p> <p>✓</p> <p>✓</p> <p>✓</p> |



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THROWS



**MOVEMENT
DYNAMICS**

Athlete Development