

# *Moving Toward a High Level of Competence Through a Systematic Approach*

*Competence Creates Confidence!!!*

WHAT CAN THE ATHLETE & COACH CONTROL??

Technique  
Injury – YES!!  
Nutrition  
Sleep  
Recovery  
Thoughts

**Focus on PROCESS!!!!**

**90% Physical → 10% Mental**

How Science Defines What We Do

Velocity = Distance over Time  
Acceleration = Distance over Time Squared  
Center of Mass = average position of mass  
Momentum = Mass x Velocity

Linear Momentum = Horizontal & Vertical  
Angular (Rotary) Momentum = speed around the axis

Projected Distance of a Throw Determined by:

Height  
Angle  
Velocity of Release

Critical Factors in the Rotational Shot Put

1. Toe to Toe Distance
2. Ball Path
3. Flight Phase (Left foot recovery)
4. Base in Power Position
5. Shoulder/Hip Separation
6. Angle of Release

## Understanding the Science

Realizing the highest velocity of release will be achieved by maximizing rotational momentum as opposed to maximizing linear momentum. However, transferring rotational momentum to linear (vertical) momentum IS critical at the moment of release. Achieving maximum release velocity utilizing the rotational technique is done through;

- Utilizing a long ball path
- Creating an effective axis of rotation in first single support
- Maximizing toe to toe distance with the free (sweep) leg while in first single support
- Optimal use of the legs throughout the throw allowing the upper body to remain passive
- A passive upper body through first single support and the flight phase will allow for “optimal” shoulder hip separation vs. maximal separation
- Maintaining proper position of the center of mass over the axis of rotation into and through second single support
- Creating longer double support phases allowing for greater potential acceleration patterns.
- Effective transfer of rotational momentum into linear (vertical) momentum at the moment of release.

## Applying the Science to Create Technical Competence

- Build a Technical Model that “fits” the thrower - What are the Best Attributes of the Thrower?
- Choose to focus on the thrower’s strengths and bring along the weaknesses  
Thereby creating a focus on EXCELLENCE vs. Potential MEDIAOCRITY
- Cantwell Example:

Best Attributes:

- a. Leverage
- b. Speed
- c. Spatial Awareness
- d. Arm Speed

Identifiable Weaknesses:

- a. Leg Strength
- b. Injury Limitations

“His” technical model utilizing Best Attributes

- a. Utilize Leverage System
- b. ↑ Center of Mass
- c. Minimize Ball Deceleration in middle of the throw
- d. Finding “optimal separation”

Areas for Improvement

- a. Delivery Point
- b. COM in first single support
- c. Toe to Toe Distance

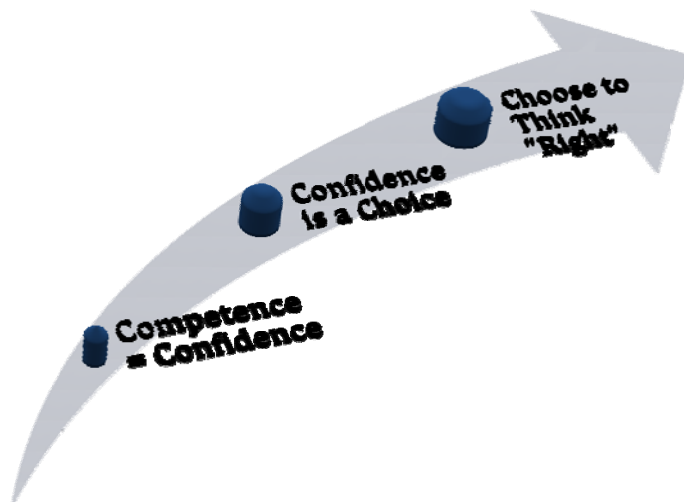
## Dealing with Injury

- Patterns of Injury
- Prevention
- Technical Adjustments – take what you can get
- Confidence

Thinking Right: Choose to be Confident Everyday!

Only YOU Decide Your Thoughts!!!!

**90% Physical → 10% Mental**



## 1. Choose to Focus on Process vs. Outcome

- a. Process
  - i. Training Plan
  - ii. Practice w/Intention
  - iii. Nutrition
  - iv. Sleep
  - v. Recovery
  - vi. Injury Prevention
  - vii. Et all...
- b. Outcome
  - i. Place at Meets
  - ii. Validation – last practice

## 2. Choose to Focus on Success Through Appropriate Goal Attainment Strategies

- a. Goals Setting
  - i. Performance Goals
    - 1. Attainable
    - 2. Specific
    - 3. Measurable
    - 4. Time Specific
    - 5. Control
  - ii. Process Goals
    - 1. Sleep Habits
    - 2. Nutrition Habits
    - 3. Lifestyle
    - 4. “Averages”
    - 5. Other...

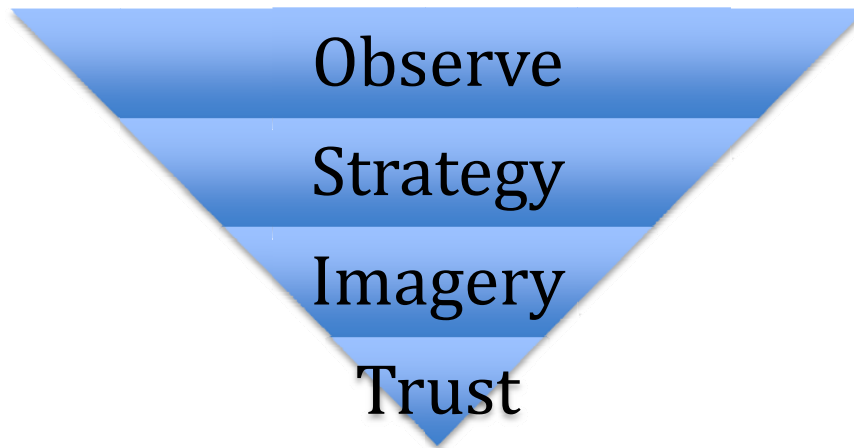
## 3. Choose to Take Control!

- a. Be adaptable
  - i. The best plans are non-linear
  - ii. NO Have to's – ie, If A then B which could leave one to believe if not A then no B.
- b. Travel and Competition Expect bumps (3)
- c. Create Competitive Integrity
  - i. Cook's Concentration Model

**Broad  
External**



**Narrow  
Internal**



**Observation:** See everything related to you and the throw that is about to be delivered.

**Strategy:** Review Cues

**Visualize:** See yourself deliver CONFIDENTLY the perfect throw. See it once again – this time SO REAL you can feel it.

**Trust it:** Step in the ring, one go cue..... and DO IT!

**See It → Feel It → Trust It**

**Cook's Model Applied:**

**"...to follow:** See everything! Take it all in. Cue in on those things directly related to the event. The ring, the officials, the sector, etc..

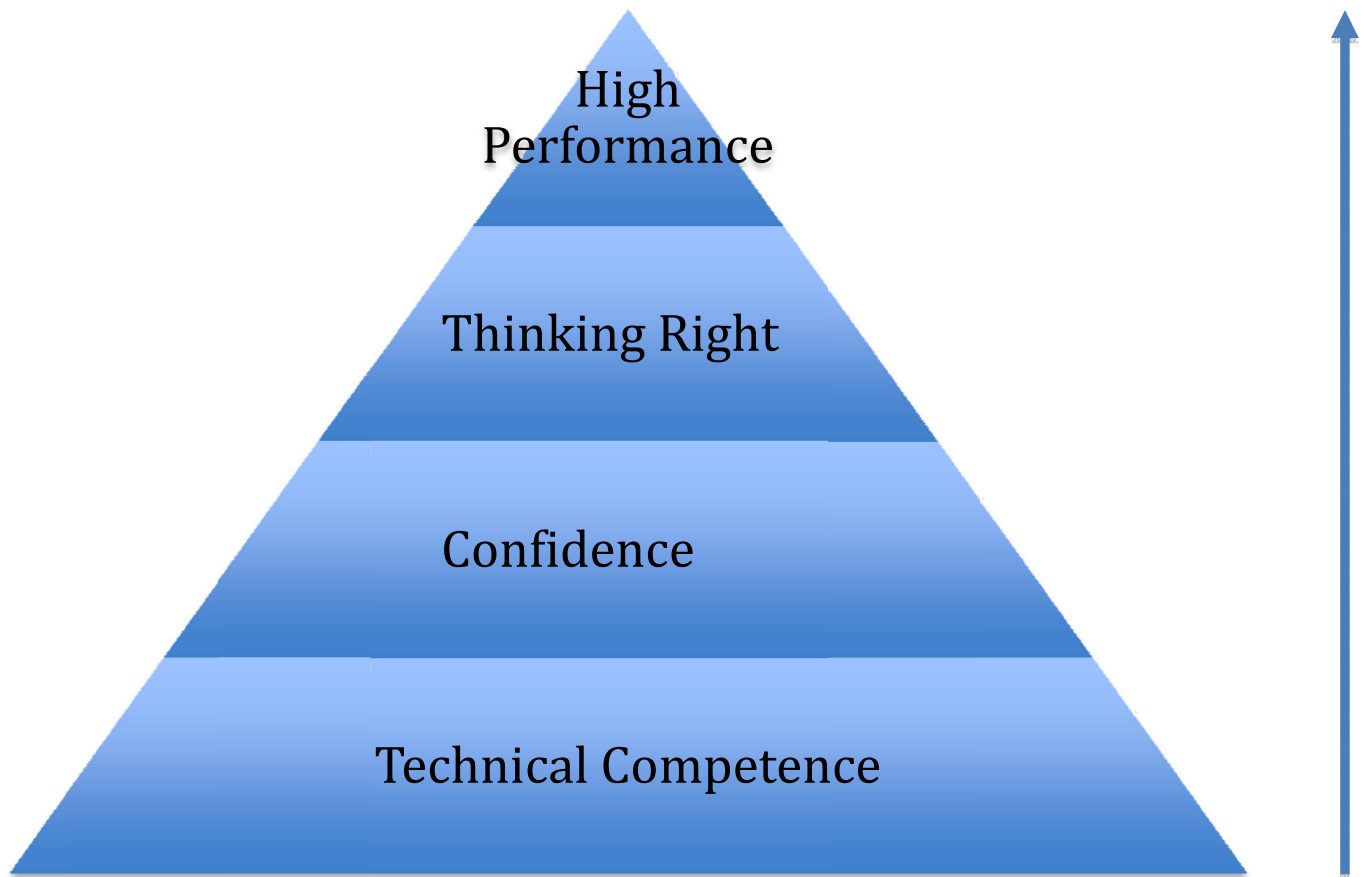
**"...in the hole":** Focus begins to narrow as cues are reviewed. Choosing to focus on ONE cue.

**"...on Deck":** See and FEEL the PERFECT throw delivered CONFIDENTLY!

**"...up" :** Go time! ONE go CUE – TRUST IT!!! And...deliver the throw!!

Cook's Concentration Model allows the athlete to stay focused on PROCESS. The focus on process will permit the thrower to have Transitional Control between throws, thereby increasing the probabilities of achieving OPTIMAL arousal levels. A process where Optimal Arousal levels are not only achieved but, created and monitored (controlled) internally by the athlete.

4. The Law of Competitive Averages
  - a. Average per throw
    - i. Opener
    - ii. Third
    - iii. Fourth
    - iv. Final Throw
  - b. Seek new plateaus verses the next “big” throw!
    - i. More time spent on a plateau the more opportunity that the next BIG throw will arrive!
    - ii. And...the thrower WILL BE ready for the BIG Throw



The long term development of High Level Competence in the Rotational Shot put begins with Technique but, can not stop there. True competitive competence will embody much more than physical and technical development. Competitive competence must include a daily systematic approach to training, which includes an unwavering mindset on “Thinking Right”.