

# SHOT PUT

**NMTCCCA PRESENTATION JANUARY 24, 2020**



# PRESENTATION GOALS

- Encourage comparative analysis
- Watch the best in the world. Learn from them. INCLUDING THEIR COMPETITIVE FIRE!
- Compare, emulate, mirror, imitate, copy the best technically and their training, as well as competitive preparation
- Kovacs, Crouser, Walsh, Ewen, Ealey – several to watch – USA 2020!!!
- Confidence is all about being precise technically – notice did not say perfect – but rather precise.
- Mix glide and spin! Save time – two techniques into one (discus and spin shot). Only real difference?
- ETUDE – movement have fun. Motor development.



<https://www.youtube.com/watch?v=L-l6tHeseDY>

# COMPARATIVE ANALYSIS

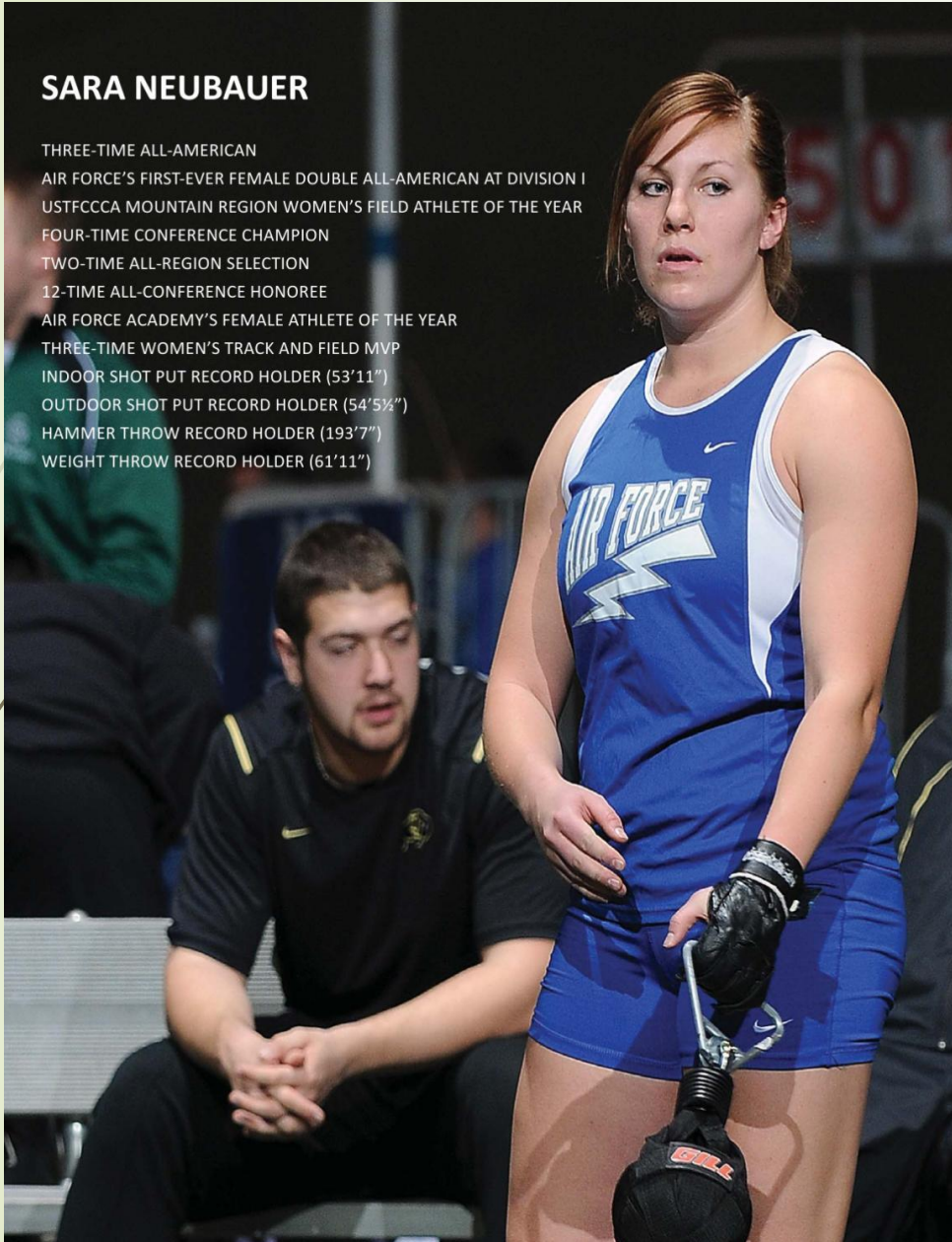


- Comparative analysis works. Mac Wilkins & Wolfgang Schmidt (Frank Morris).
- Film-video from comparable angle.
- Purchased personal Eumig camera and two projectors in 1979. Film-video-VHS, etc
- Set up in 3'x 8' space – UO coat rack.
- Wait a week for film development.
- Compared T&F NEWS (Ora McMurry) films.
- Technology at your fingertips. Take advantage of it. How many coaches watch video with their throwers on regular basis? Share video?
- DARTFISH, etc! Quantify the movement. Do you need it?



## SARA NEUBAUER

THREE-TIME ALL-AMERICAN  
AIR FORCE'S FIRST-EVER FEMALE DOUBLE ALL-AMERICAN AT DIVISION I  
USTFCCCA MOUNTAIN REGION WOMEN'S FIELD ATHLETE OF THE YEAR  
FOUR-TIME CONFERENCE CHAMPION  
TWO-TIME ALL-REGION SELECTION  
12-TIME ALL-CONFERENCE HONOREE  
AIR FORCE ACADEMY'S FEMALE ATHLETE OF THE YEAR  
THREE-TIME WOMEN'S TRACK AND FIELD MVP  
INDOOR SHOT PUT RECORD HOLDER (53'11")  
OUTDOOR SHOT PUT RECORD HOLDER (54'5½")  
HAMMER THROW RECORD HOLDER (193'7")  
WEIGHT THROW RECORD HOLDER (61'11")



## MULTI TALENTED THROWERS

- 2011 AFA Media Guide – Missing one slightly important detail on Neubauer – 2007 USATF Jr National Shot Put Champion
- Question would we have been better off narrowing the focus to one or a couple events and emphasizing national level more?
- Paige Blackburn – 135'+ HS – 174'+ college discus – 186'/62' HAM/WT – 171'+ JAV - 200'+ WCAP Discus (2016 OT)
- HS – Seeking college scholarships! Narrow focus on events? Make throwing challenging, but above all make it fun. Look forward to each and every day.
- Encourage to try all throwing events (other events & sports), uplift them even when they struggle, build up their self-esteem.
- Bill McChesney, "Never lost sight...." Of what?

# STANDING THROW



- **SIT-SHIFT-TWIST** (not to be said five times fast) - straight back, legs bend ~90 degrees, shift weight, twist and focus back. Elbow up, left non-throwing arm relax back and sets throwing angle.
- **HEEL-TOE** - Can drop shot ~one foot back of right foot in center!
- **Quick Pivots** – left heel down right knee around and to concrete - slight compression. Focus back, left arm out. Feel the stretch on core!
- Where to focus? Spin? Glide?
- Multiple reverses – no implement! Add cone, softball, other.



# GLIDE OBSERVATIONS

## SET UP

- Short or long – FOCUS (Drop shot)
- 10 degree pre- turn RT FT out of back
- 10 degree torque upper body back of ring
- Multiple ways to start – T & Gather, start down, unseating, stay back, focus.



## DRIVE ACROSS

- Keep left foot close to ground - Rub surface of ring if needed. Drive out - not up.
- Off right heel – WHY? Horizontal projection?
- HEEL-TOE POSITION – push off/turn foot.
- COSSACK DRILL! Knee to chest! Turn FT!



# WHICH TECHNIQUE?

**WHICH IS SUPERIOR TECHNICALLY – GLIDE OR ROTATION-SPIN TECHNIQUE? AND WHY?**

**Glide technique – two types. Long short (Al Feuerbach) and short long (Ulf Timmerman)**

**Feuerbach clinic – emphasized concentrating on right knee center of the ring to the ground as it rotates.**

**Brian Oldfield, “Shot is not a put it’s a pull.” (Like discus slinging – just much closer to vertical axis)**

**Spin – like discus sprint or rotational technique.**





# GLIDE or SPIN

- Glide elements help spin (Crouser). Spin elements help glide, as well as the discus (Beasley – 46'+ to 53'+). Kill two birds with one stone. QB – **TEST** - medicine ball throws! HI REPS
- Preference (personal) – spin of course – not even close. Does thrower demonstrate aptitude for the discus? If so, likely a spin technician. Demonstrate multi-sport athleticism? Likely a spinner.
- JD Teach 64'+ HS thrower – Illinois!



## MEDICINE BALL or SHOT

- **Set position** – SIT-SHIFT-TWIST. Back straight and focus. Quick pivot!
- **SHUFFLE to throw**. Maintain heel-toe. Keep feet apart? Focus! Tendency to open up three ways- RT FT - UPPER BODY & STANDING UP. Maintain set and torqued position. DO NOT untorque. STOP-open-hold-stretch! NR-DR-R\*
- **BOUND to throw**. Concentration as above. NR-DR-R\*
- **POWELL** – Hold MB with elbows up.
- **BOUND to Powell**. Concentration as above. On last bound change to horizontal not vertical impulse. NR-DR-R\*
- **Cross-steps to Powell** – Concentration as above. Can you hold and feel stretch?
- OFF ROAD into field – SAFETY FIRST!



# WHY IS SPIN TECHNIQUE SUPERIOR?



- Greater distance/path to accelerate through the ring. Adding precious feet to small 7' diameter.
- If  $F = MA$  is it not wise to maximize acceleration?
- Driving straight on – not running backwards.
- Compare sprint position out of the back of ring or out of the blocks to glide! Which looks more powerful.
- Adds rotational momentum to the right foot pivot in the center of the ring. Not only foot, but hip & entire body.
- Save time – one technique for two events
- Switch in 2018 helped make Chase Ealey world class
- Unfortunately, some athletes just never seem to get comfortable with the spin. Fouling too much, etc! Heidi Mann – Univ of Florida HEP! #2 NCAA HEP SP!

# RELEASE



## BASIC MECHANICS

- **MED BALL** – against wall/partner – elbow up. Double-single MB. Chin back – see release (like Ryan Crouser photo).
- **FLICK & CATCH** – Holding shot - elbow up – thumb down. BE SAFE – don't drop on foot!
- **Non-throwing arm** – OUT! Touch coach or partners hand (young throwers bring it in too soon). Stretch across chest. Bench press angle. 45 & 90 degrees – why? Ulna & radius like pieces of rebar – efficient not dissipated energy!
- **BLOCKING FIST** – blocking dummy - turn the doorknob.
- **ISOLATE HIP MED BALL** – Viskari exercise.
- **ADD ON!** BLOCK, FIST, CHIN, HIP, RELEASE and REVERSE –MED BALL against wall. NR-DR-R\*
- MANY EFFICIENT **PRECISE** REPETITION! Establish movement under less stress! Carry over to more explosive and competition throws. Save TIME!

\*NR – Nonreverse. DR – Delayed reverse. R- Reverse.



# SPIN PROGRESSIONS



## WHOLE-PART or PART-WHOLE

### MOTOR DEVELOPMENT

- **Oerters** – Balance and spacing- weight on left foot, knees apart, heel off ground, push like skateboard – 90-180-270-360
- **Mirror** – Balance – progressions – repetitions. Heel off ground! No shift!
- **Powell** – 1) Oerter 90 – 2) Step to center and 3) Mirror X-ing body – 4) Quick pivot focal points. Full movement together.
- **WALL DRILL** (cantilevered) to set up the sprint position. Or off pole, rope, etc.
- **HIP CATCH DRILL!** Advanced!
- Full movement across ring! Bring parts together into the whole.



# SPRINT POSITION

- ESTABLISH SPRINT POSITION.
- Mac Wilkins' design - roughed up back of UO ring when it was poured.
- Ray Burton poured acid on rough surface.
- Sprint technique – even John Powell projected his hip across the ring some.
- More thrower projects hip across ring – more problematic footing becomes for left foot drive. Meet @CSU – heavy rain during DEC. Had DEC discus thrower put BB shoe on his LT FT.





# FULL THROWS

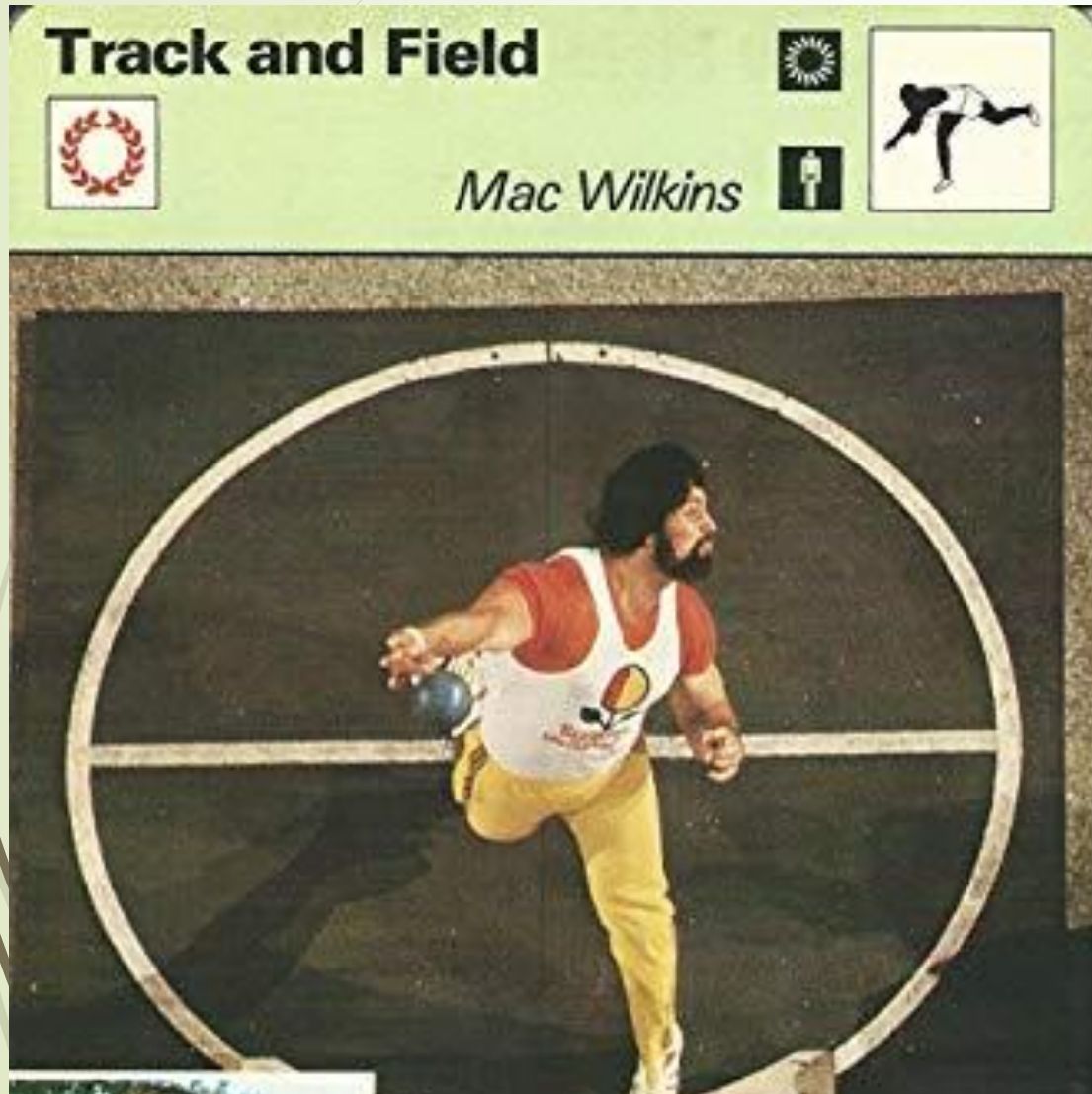
- ▶ <https://www.youtube.com/watch?v=pWm9C2SVCUo>



- ▶ Asked Mac Wilkins question many years ago. What advances technically did he see in spin shot/discus? Answer - Shifting over in the ring to begin throw!
- ▶ Crouser and Walsh today! Trying to create a longer path for shot – gain distance to add momentum.
- ▶ Set up wind – RELAX – low tension! Shift body weight right and keep RT FT flat on ground. Slight forward bend in waist, slight push RT FT, lower COG, LT knee to concrete, slightly project LT hip out. RT leg works in unison with LT leg drive across ring (like sprinter driving out of the blocks!). RT hip & RT elbow project slightly up across ring – establish angle of the throw.
- ▶ Center touchdown RT foot – RT toes point to back of the ring – GM points toward field. LT FT passes RT. **Notice** - more ring used in spin than glide – narrower base to throw out of with the spin.
- ▶ Winning OR throw by Crouser, RT FT appeared to pivot farther/faster in center of ring (RT heel kicks out) than his 2<sup>nd</sup> best mark (just my empirical observation). What does this mean?

# CONSIDER the BLOCK

➤ <https://www.youtube.com/watch?v=BaxOmkx9OOA>



- Torque in center of the ring like Adam Nelson, Crouser & Walsh.
- Similar to sit-shift-twist, but narrower base for the spin than glide.
- Important to establish drive across the ring, including active RT leg – linear and rotational velocity. Focus forward – pull left leg through.
- LT foot touchdown front of ring. Focus back, LT arm out – DRILL torque at angle of throw and stays in the same plane.
- LT heel down, RT knee around, slight loading/compression & lift. Mechanics work from the ground up. LT arm – block pattern 45-90 (opposite bench press). Use blocking dummy to reinforce proper movement. Make a fist! Lt arm adds to stretch reflex – like full mast of a ship or bending a cross vertically and horizontally.
- RT heel kicks out - LT leg straightens - increasing speed of core – internal-external obliques then chest and arm strike. See shot out of corner of eye to keep power into throw.



**MAGGIE EWEN**  
**NON-REVERSE(?) - SPIN COLLEGE/CLUB**  
**54' 8" HS – 63' 10 ¾" @ASU**



# CONSIDER the REVERSE



- NR-DR-R\*
- \*NR – Non-reverse! Do not switch feet. Need a strong back for this technique. Allows greater hip speed, especially for women – wider hips. Not as difficult to time up, but does not allow thrower to follow the shot fully. Eliminates tendency to foul throws. Excellent cue – back as long as possible – out as long as possible.
- \*DR – Delayed reverse! Leads up to reversing. Forcing those prone to non-reverse to finish the throw and eventually reverse. Gives thrower feeling extension out over the board with throwing arm (chasing the shot).
- Multiple reverses initiated by RT FT pivot, et al
- \*R – Reverse! Set up by speed across the ring transferred to HIP-CHEST-SHOULDER chasing the shot out into the sector. Recommend reversing like Crouser with back of RT heel hitting the toe board. He executes this more when his RT foot pivot is stronger. Decrease potential to foul.



# THE ONE DRILL



- 1991 NCAA Indoor – The one drill that always seemed a little dorky to me, but was the one drill Art Venegas (anyone know that name?) really liked. And he was dead serious.
- Yet, lots of repetition that coordinates various elements at the same time, add on as thrower works each part. NO SHOT or MB NEEDED!
- Drive up straight on – feet slightly pigeon-toed.
- Legs in unison – maintain slight pigeon-toed.
- Add LEFT ARM – angle of throw – doorknob/fist.
- Add RT HIP – again in unison.
- Add CHEST UP.
- Add CHIN UP.
- Add REVERSE – chase shot & see it-corner eye.
- REPEAT – Turn around – go back the other way.
- SAVE TIME by not walking in-between.

# CHASE EALEY

**47'3" HS/JAV 129' – 57' <sup>3</sup>/<sub>4</sub>" OSU/ JAV 152'6" – 64' 2"**

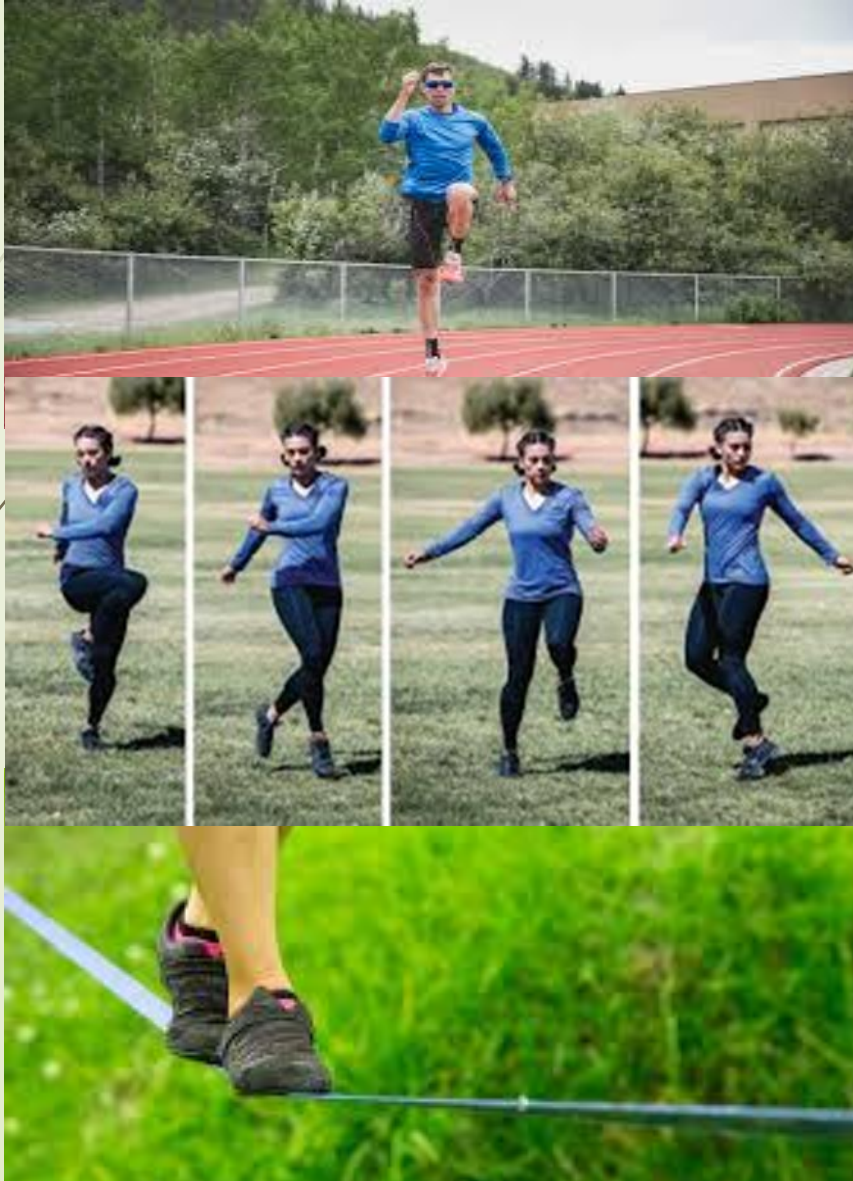
<https://www.youtube.com/watch?v=Mg-WqzPliBA>



- Chase Ealey adapted quickly to the spin shot in 2018. Used glide technique in HS (Los Alamos) and college (Oklahoma State). Excellent feeling for spin.
- USATF @Drake University. Ring looks rain soaked. Guessing she moved over to find drier spot out of back of ring. Winning throw and her LTB. Very impressive, especially given the conditions.
- Given direction she was driving across the ring and late touchdown of LT FT amazed that shot did not land outside left side sector. If healthy she will likely be one to beat at 2020 OT in Eugene, OR and possibly even in the new Tokyo Olympic Stadium.
- Several minor things she can tweak and no doubt her coach, Ryan Whiting, is working with her on those technical concepts as we speak. 65'-70' would not surprise me. She proves spin shot is indeed a sprint event!



# WARM-UP CONCEPTS



- SPRINT DRILLS with team. A-Skips, et al.
- Warm up prior to practice/competition – flick and catch. Need some coordination. Don't drop on your toe. Concentrate on keeping thumb down - elbow up.
- Crossover & Carioka – for more advanced throwers, for fun & developing coordination. Helps teach the thrower to remain calm with the upper body. Additionally, teaches importance of linear movement and speed. Use also discus and javelin. Can throw out of.
- Tight rope exercise. **STAY ON 'TRACK' LINE!** Toughest drill in series. RT, LT & alternating. Fun & develops coordination. Powell-hold!
- Alternating tight rope. All of the above. Tremendous warmup. And talk about advanced. Finish each with Powell and then add on – SET THROW ANGLE, LT ARM, HOLD!

# WEIGHTS

**OVERWEIGHTED IMPLEMENTS** – 10-12lb girls. 14-18lb boys.  
Discus 5lb standard weight (duct tape hole other markings)  
Javelin – Ron Johnson – <https://thejavelinman.com/> Knock-  
enballs or other weighted for javelin – be careful!

**UNDERWEIGHTED IMPLEMENTS** – 6-8lb girls. 10-11lb boys.  
**PEAKING** in season, but make sure they **STAY BACK**!

**SPRINTS** – **JUMPS** – 20m-60m – **BOX/HURDLES/STAIRS**

**CORE/BACK** – Med Ball against wall or with partner.

**LEGS** – Primarily squats (front & back) and Olympic lifts.

**BENCH** – Is fine, but secondary to legs, back, core!

**GOALS** - 1-1.25x BW (SN), 1.5-1.75x BW (PC/BP), 2-2.5x BW (SQ) 1982 Elite Throwers Project.

Where is TIME best spent? Roz Rouse vs Petra Felke?





# **PRESENTATION DEDICATED TO LOVING MEMORY OF CAPTAIN DAVID LYON**



<https://www.fca.org/magazine-story/2016/01/13/blessing-in-brokenness>

[https://gazette.com/premium/christmas-sharpens-the-anquish-of-loss-the-joy-of-friendship/article\\_c200d824-2273-11ea-941d-53e89cd548e5.html](https://gazette.com/premium/christmas-sharpens-the-anquish-of-loss-the-joy-of-friendship/article_c200d824-2273-11ea-941d-53e89cd548e5.html) (December 21, 2019)

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# QUESTIONS

