

A 4-stage technical model for teaching the split jerk to youth athletes

Kevin Watson¹, John McEwan¹, Gareth Walton² and Mark McKenna³.

Address for correspondence:
kevin.watson@glasgowlife.org.uk



¹ Glasgow School of Sport, Glasgow, UK
² Setanta College, Co. Kildare, Ireland
³ University of the West of Scotland, UK

Rationale

It is now becoming common practice within the strength and conditioning community for coaches to include explosive lifts such as snatches, clean and jerks and their derivatives in their programmes for youth athletes (Takano, 2013). The benefits of such exercises have been extensively documented and the associated injury risks are suggested to be low in comparison to most sports provided they are delivered by qualified S&C coaches (Hendrick and Wada, 2008).

The use of overhead explosive lifts, like the split jerk, may not be as commonplace as other explosive lifts such as snatches, cleans, and pulls. Yet the split jerk is an exercise that requires both upper and lower body explosive strength to be executed efficiently; and subsequently it could play a crucial role in transferring the strength developed in traditional static strength training to functional, sports-specific, explosive strength.

Waller et al. (2009) discuss overhead pressing power and strength movements and Takano (2013) presents a learning sequence of press, push press, power jerk and split jerk when teaching overhead lifts. However neither provides a technical model for progressing or teaching these lifts. Therefore the purpose of this article is to present a 4-stage technical model that can be used to teach the split jerk to youth athletes or refine technique in experienced athletes through supplementary derivatives.

The Model

The 4-stage model that is presented adopts a top down or reverse chain approach, as seen in other technical models (Waller et al., 2009), to teaching the split jerk.

<p>Stage 1: Clean grip overhead split squat The bar is locked overhead at arm's length with a (slightly wider than) clean grip. The feet are positioned into the receiving position for a split jerk (feet slightly wider than hip width apart) and the athlete then split squats.</p> 	<p>Stage 2: Jerk Balance The feet are positioned in the receiving position for the jerk with the bar on the shoulders. In the split position (with feet slightly wider than hip width) the athlete presses the bar overhead then returns the bar to the shoulders.</p> 
<p>Stage 3: Drop Jerk The bar starts on the athlete's head, feet slightly wider than hip width and the athlete fully extended on their toes. The athlete then drops into the receiving position for the split jerk, skimming the feet over the floor whilst locking the elbows out, with the bar slightly behind the head.</p> 	<p>Stage 4: Split Jerk Start with the bar on the shoulders, feet slightly wider than hip width. The athlete dips into a ¼ squat and drives the bar overhead whilst splitting the feet. The bar is received slightly behind the head with the elbows locking out in one movement. The rear leg is slightly bent. The athlete recovers by pushing off the front leg, bringing it back to half way before the back leg is brought forward to meet the front leg. The bar is returned, under control, to the shoulders.</p> 

Table 1: 4-stage model for teaching the split jerk

Key Technical Points

Providing an athlete can maintain the correct posture and has no biomechanical issues at each phase of the model, the stage of the model can be progressed. However key technical points should be mastered first (Table 2). This allows an integrated approach to learning. Any postural or biomechanical issues that are highlighted during individual stages can be corrected while the focus continues to be on learning the technique of the remaining stages. Once technical proficiency has been mastered in the split jerk, the supplementary derivatives can be used to refine technique.

Stage of Model	Key technical points to master before moving to next stage of model
Clean grip overhead split squat	Bar can be locked overhead (slightly behind the head) without excessive anterior tilt of the pelvis.
Jerk balance	Bar can be held on the shoulders with the elbows parallel to the floor. The athlete does not have an excessive anterior pelvic tilt in the split position (with the bar on the shoulders or overhead).
Drop jerk	The athlete can skim the feet into the receiving position not jump the feet. The bar can be locked overhead in one movement.
Split jerk	Refining all of the above in one continuous, explosive movement.

Table 2: Key technical points to master before progressing to the next stage of the split jerk model

Additional Technical Exercises

Once the technical model has been taught over a number of sessions and the split jerk has been mastered to an acceptable degree of technical proficiency, other exercises can be used to refine technique (Table 3). All supplementary exercises can also be completed behind the neck. However, full range of motion in the shoulder should be confirmed first with absence of any shoulder impingement. This will alter the position of the drive and will ensure antagonist muscle groups are developed, as well as adding variation to the S&C programmes. Where possible, jerk blocks should be used to increase the quality within training. There is an argument that controlling the weight eccentrically back to the shoulders will add to the training effect. However, the risk of injury through technical errors during this stage of the lift, make jerk blocks desirable in youth athletes.

Exercise	Technical description	When to use exercise	Benefits of inclusion
Jerk Lockouts	Start with the feet in split position and the bar overhead in the power rack. Lock out elbows and recover feet back to start position.	• If athlete doesn't lock elbows fully.	• Encourages a full lock out in one movement. • Encourages engagement of glutes and core.
Jerk Drives	Start with bar on the shoulders with approx. 120% of your max. Drive the bar upward with short explosive dip.	• When drive phase is poor.	• Can overload the drive phase encouraging power development with heavier loads.
Pause Jerk	Start with bar on the shoulders. Using a short dip hold the position for a second or two. Drive the bar into the jerk receiving position.	• If athlete drops elbows on dip. • When drive is poor.	• The pause encourages athlete to maintain elbow position or they will lose the bar. • Removes stretch-shortening cycle from drive phase, requiring rapid RFD.
Power Jerk	Start with the bar on the shoulders. Drive the bar upward then drop quickly skimming your feet apart allowing you to receive the bar overhead in a ¼ squat.	• Poor speed of dropping under the bar. • When jumping into split jerk rather than skimming feet.	• Variation of jerk related exercises in a training programme. • Encourage speed of dropping under the bar.
Squat jerk	Start with the bar on the shoulders. Drive the bar upward then drop quickly skimming your feet apart allowing you to receive the bar overhead in a full squat.	• To improve mobility.	• Improves thoracic and shoulder mobility. • Encourages core and glut activation in receiving position.
Push press	Start with the bar on the shoulders. Drive the bar upward then press the bar to receive the bar overhead (slightly behind head).	• When lacking overhead strength. • When drive phase is poor.	• Encourages strong lock out. • Develops strength for stabilisation in lock out. • Encourages explosive drive.
Split leg kneeling overhead press	Kneel in a split position. Start with dumbbells (or barbell) outside shoulders and press over and slightly behind head. Return to start position under control.	• When athlete has excessive anterior pelvic tilt.	• Teaches the correct path or the bar. • Encourages engagement of glutes and core.

Table 3: Supplementary exercises to correct and further develop technique

Conclusion

The purpose of this article was to share a 4-stage model for teaching the split jerk. The model presented provides coaches with a simple sequence for teaching the split jerk. This model has been used successfully with 11-18 year old athletes with diverse training backgrounds and strength and conditioning history. The model should be progressed relatively quickly (once key points are mastered). Strength and conditioning professionals can adopt the model to enhance an athlete's ability to develop explosive strength as well as using the supplementary derivatives to functionally challenge motor ability and refine split jerk technique in experienced athletes.

References

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