A 6-stage model for teaching the (squat) snatch in strength and conditioning

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Rationale

Many coaches do not utilise the snatch despite the documented performance benefits of training weightlifting movements for sport specific performance (Hori et al., 2005; Hori et al., 2008). This may be due to restricted understanding of the lift's demands or the ability to coach it effectively. The receiving position for the power snatch and starting position for the hang power snatch require less technical ability, flexibility and mobility than the snatch. Subsequently the power snatch is often favoured over addressing the biomechanical limitations of the athlete. Such limitations prevent the benefits of the snatch from being fully utilised.

Despite a growing body of evidence highlighting the benefits of regular resistance training for youth athletes, misconceptions surrounding the safety of such techniques persist. These myths may have discouraged coaches from using resistance training in their conditioning programmes. The Youth Physical Development Model suggests that flexibility and mobility development are crucial during middle childhood (5-11 years) (Lloyd and Oliver, 2012). Furthermore, athletes can experience reduced flexibility and mobility post peak height velocity (PHV). Therefore it is suggested that snatch exercises should be included in an athlete's development programme pre and post PHV to maintain mobility. It is plausible that the selection of exercises requiring full range of motion of the hips, knees and ankles may counteract the reduction in muscular flexibility and therefore joint mobility typically observed during this stage of maturation.

Given the potential benefits of the snatch for youth, whilst acknowledging its limited use and high technical demands, a technical model for teaching snatch to groups of athletes will be presented. This 6 stage model can be used separately, as independent exercises, or combined and used as technical progressions to teach the full lift. This model is considered unique in comparison to alternative models as it teaches the squat snatch in only 6 stages. Other models, albeit of a clean derivative, use 6 stages to teach the power clean from the hang (Duba et al., 2007).

The Model

The 6-stage model that is presented (see Table 1) adopts a top down approach as previously utilised in other technical models (Waller et al., 2009).

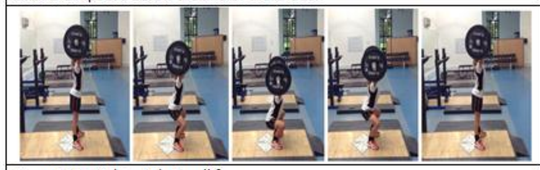
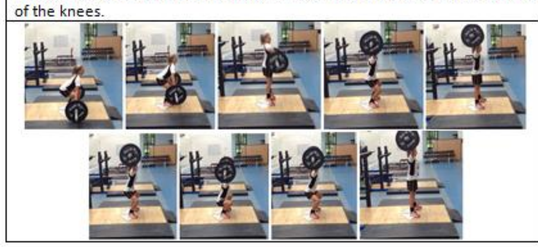
Stage 1: Overhead Squat The bar is locked overhead at arm's length with a wide grip and squatted until the hips are below the line of the knees.	Stage 2: Hang Power Snatch The bar is pulled in one continuous movement from just above the knee and received at arm's length above the head in a quarter squat position.
	
Stage 3: Partial Snatch Deadlift The bar is pulled from the floor, stopping at the knee and returned to the floor momentarily before repeating the action.	Stage 4: Power Snatch The bar is pulled from the floor in one continuous movement and received at arm's length above the head in a quarter squat position.
	
Stage 5: Power Snatch into Overhead Squat The power snatch is completed. The bar is then locked overhead at arm's length and squatted, in a controlled manner, until the hips are below the line of the knees.	Stage 6: (Squat) Snatch The bar is pulled from the floor in one continuous movement and received at arm's length above the head in the full squat position.
	

Table 1: 6-stage model for teaching the (squat) snatch

Key Technical Points

Providing an athlete can maintain the correct posture and has no biomechanical issues at each phase of the model, there is no reason why each stage needs to be mastered before progressing to the next. However, there are key technical points that should be mastered (see 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 snatch, the model can be used as a warm up for any snatch related exercise.

Stage of Model	Key Technical Points
Stage 1: Overhead Squat	Can squat to hips lower than knees with heels in contact and bar within base of support
Stage 2: Hang Power Snatch	Can maintain a neutral pelvis position and flat back with the bar just above knee height
Stage 3: Partial Snatch Deadlift	Can maintain start position with a flat back and neutral pelvis, with hips rising at the same time as shoulders
Stage 4: Power Snatch	Can pull the bar to arm's length overhead maintaining back position and bar within base of support
Stage 5: Power Snatch into Overhead Squat	Can pull the bar to arm's length overhead and squat, under control, to hips lower than knees with heels in contact
Stage 6: (Squat) Snatch	Teaching model complete

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

Additional Technical Exercises

Once the technical model has been taught over a number of sessions and the snatch has been mastered to a reasonable degree of technical proficiency, other exercises can be used to help correct further technical flaws that will likely be evident (see Table 3).

Exercise	Technical description	When to use exercise	Benefits of inclusion
Drop Snatch	With a snatch grip and the bar on the back of the neck, rapidly drop under the bar at into a squat snatch	• When athlete doesn't drop with speed into a snatch • If an athlete continuously receives the bar in a power snatch as opposed to snatch	• Emphasise the speed of dropping under the bar during a snatch • Improves confidence of dropping under the bar at speed while maintaining control
Waist Snatch	Start from the waist and rapidly shrug the bar while simultaneously dropping under the bar into a squat snatch	• Not dropping quickly into a squat snatch • Poor shoulder shrug and maximal upward extension	• Helps with coordinating the pull and dropping under the bar into the receiving position • Emphasise the speed of dropping under the bar during a snatch
Hang Snatch Pulls	The bar is pulled in an explosive manner from the hang position just above the knee to maximal upward extension	• Poor acceleration during 2nd pull • Spinal flexion is observed during 2nd pull • Bar is swung out from body during 2nd pull	• Develops a strong starting position from the hang • Develops an explosive 2nd pull • Coordinates hip drive into maximal upward extension
Snatch Pulls	The bar is lifted in one movement from the floor into maximal upward extension	• Not finishing the second pull • Not coordinating hip drive and shoulder shrug • Poor acceleration from 1st to 2nd pull	• Explosion from 1st to 2nd pull • Coordination of hip drive and maximum upward extension • Develops a strong position from the floor

Table 3: Supplementary exercises to correct and further develop technique

Conclusion

The purpose of this article was to share a 6-stage model for teaching the snatch. The model presented provides coaches with a simplified sequence for teaching the snatch. This model has been used successfully with 11-18 year old athletes with diverse training backgrounds and lifting history. The model should be progressed relatively quickly and time does not need to be spent perfecting each individual stage, providing the key technical points of each stage are mastered. Strength and conditioning professionals can successfully coach the snatch using this model to enhance an athlete's ability to develop power or speed-strength. Once mastered, the 6-stage model can be utilised as a functional challenge to an athlete's motor ability as part of a warm up routine.

References

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