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In The Eye of the Storm: The Hatch System

To see the Hatch System in action is a unique experience in this day and age. There are no computers, no flat screens, no electronic tablets, no sheets floating around, and no workouts of the day written on a board. There is only Coach Hatch and his composition notebook and some of the more serious lifters with notebooks of their own. It is very much an oral tradition likely related to Coach Hatch’s Native American roots. At almost 75 years of age, standing six feet six inches tall, and carrying a large wooden dowel rod, Coach Hatch walks up and down the aisle of platforms “staying in the eye of the storm,” a phrase he uses to describe his active coaching style.

Gayle Hatch is a legendary weightlifting coach who still actively coaches in Baton Rouge, Louisiana. He was born in Oklahoma and moved to Louisiana with his family as a young boy. He grew up on a cattle ranch and was no stranger to hard labor. He credits his father with instilling discipline and values in him at an early age. He was obsessed with becoming an athlete but his father always made sure he finished his chores before he touched a ball. His Native American grandmother gave him a book about Jim Thorpe which inspired him to become a multi-sport athlete. In high school he excelled in football, basketball, and track. He set a state playoff record by averaging 35.5 points and 22.5 rebounds per game throughout the playoffs, and 37 points and 24 rebounds in the state semi-final game. Both double-double records have stood for 58years, and are still the best in Louisiana high school basketball. He went on to play basketball at Northwestern State University of Louisiana where some of his records still stand today.

As a young man he was tall and rangy. He began to strength train in high school (in the mid-1950s) under Alvin Roy who then had a private gym near downtown Baton Rouge. Teaching athletes to lift weights was something few coaches were doing at that time, but Roy studied the Russians and Bulgarians and understood the value of using the Olympic lifts to develop explosive power. Hatch credits much of his personal athletic success to the advantage this type of strength training gave him. Alvin Roy eventually went on to become the NFL’s first strength coach with the San Diego Chargers. In 1979, Roy sold his gym and Hatch carried on his legacy as the head weightlifting coach and gym manager. Since then, Hatch has continued to train competitive weightlifters and athletes seeking to improve their performance.

The Hatch Legacy

With his career spanning five decades and being in the same town as the LSU Tigers, nearly every strength coach to come through Louisiana has studied under Coach Hatch at some point in their development. Some are former weightlifters; others are coaches looking to improve their knowledge of the Olympic lifts, and some make the pilgrimage from across the country and beyond. His protégés are some of the winningest and most successful strength coaches in the collegiate and pro ranks. Hatch has produced two Olympian weightlifters, several World Team weightlifters, and has trained numerous world class athletes from various sports. Among countless honors and achievements, he was named Head Coach of the 2004 U.S. Olympic Weightlifting Team.

The Hatch Ten for Explosive Sports

To train in the Hatch System all you really need is a barbell and a set of bumper plates. It is a method of training ground-based explosive sports with the Olympic lifts and their derivatives. In the Hatch System there are very few easy exercises and once technique is proficient there are very few light exercises, and frankly that is why it works. All the exercises are very demanding of proprioception, stability, speed of movement, and functional flexibility. Every exercise serves multiple purposes and nothing is a waste of time.

Power Clean: The power clean is taught using the holistic method – the lift is learned in its entirety rather than in parts but can be taught in parts if deemed more beneficial to a particular athlete.

Snatch: Athletes are also taught this lift holistically, and they are taught to receive the bar in a deep squat.

Split Jerk: Jerks mostly utilize the momentum generated by the triple extension of the lower body to lift the bar overhead – not the strength of the shoulders and arms. The shoulders benefit greatly from stabilizing the bar overhead and are spared by not having to strictly press the bar from the starting position. In the Hatch System, the lead foot always remains the same.

Back Squat: The back squat is taught with a high-bar technique. The stance is slightly wider than the hips, the bar rests high on the trapezius but below the cervical vertebra, the torso is upright, and the eyes are level. It is considered by Hatch to be the “king of exercises” and his lifters are known to have exceptional leg strength.

Front Squat: The front squat adds variety to training the lower body as well as improving the receiving position of the clean. It is taught with the same foot stance as the back squat. The bar rests high on the chest above the collarbone and the humerus stays parallel to the floor throughout the lift. The bar is held with an open grip to maintain the level position of the humerus.

Clean Pull: These are performed at heavy percentages in the Hatch System and typically in sets of 5 reps. This exercise emphasizes triple extension against a load that is slightly heavier than an athlete would be able to clean.

Snatch Pull: These are also performed at heavy percentages in the Hatch System and typically in sets of 5 reps. This exercise emphasizes triple extension against a load that is slightly heavier than an athlete would be able to snatch.

3 & 3’s: One set consists of three behind-the-neck snatch grip presses followed by three overhead squats. If the load is heavy enough, the athlete is allowed to power press the bar to an overhead position. Many coaches shy away from behind-the-neck pressing but when done properly with appropriate loads, and with athletes who do not have shoulder impingement, it is an excellent tool for strengthening the posterior shoulder. The overhead squat is the most beneficial portion of this exercise and is known to many people as the first test of the Functional Movement Screen, the “deep squat movement pattern.” It also improves technique in the snatch by strengthening the receiving position.

Bench Press (not in weightlifters program): This is not over-emphasized in the Hatch System, but it is a valuable exercise for improving anterior upper body strength.

Incline Bench Press (not in weightlifters program): This is also not over-emphasized in the Hatch System, but it is a valuable exercise for improving anterior upper body strength.

Hatch Assistant Exercises

Behind-the-Neck Split Jerk: This exercise adds variety to the jerk and involves the posterior stabilizers of the shoulder to a greater degree than regular split jerks. With behind-the-neck jerks the humerus is in the frontal plane versus the sagittal plane in regular split jerks.

Power Snatch: This version of the snatch emphasizes the pull. Because the athlete receives the bar in a higher position they have to be able to pull the bar to a greater height than in the regular snatch. It is also easier to do than the full snatch for athletes who have flexibility issues. For this reason an athlete may need to learn how to power snatch before learning full snatch.

3-Position Snatch: 1st position - hang snatch from upper thigh, 2nd position - hang snatch from below the knee, 3rd position - power snatch from the floor. Adds variety to the snatch and improves technique of the jump-shrug and transition between the first and second pulls.

3-Position Clean: 1st position - hang clean from upper thigh, 2nd position - hang clean from below the knee, 3rd position - power clean from the floor. Adds variety to the power clean and improves technique of the jump-shrug and transition between the first and second pulls.

Step-Ups: This exercise develops unilateral leg strength and stability. In the Hatch System these are performed at heavy percentages on reinforced boxes. This is also very similar to the second test of the Functional Movement Screen, the “hurdle step movement pattern.”

Single-Leg Squat (Split Squat): This exercise also develops unilateral leg strength and stability. It is performed in a lunge stance with the back leg elevated 6” on two stacked plates. This is similar to the third test of the Functional Movement Screen, the “lunge movement pattern.”

Power Shrugs in Rack: This is used to improve the strength and power of the trapezius for the jump-shrug in the snatch and clean.

Bent Over Row: This is a barbell exercise for improving posterior upper body strength.

Romanian Deadlift: RDLs are used to develop posterior chain strength, improve the hip hinge action, and increase hamstring flexibility. This exercise should be performed with the back straight, the legs straight but not locked, and the bar close to the legs throughout the lift. The bar is lowered past the knees to the point where hamstring flexibility limits the range of motion. The athlete may stand on a small box to avoid contacting the floor with the plates at the bottom of the range of motion.

Good-Mornings: This is also used to develop posterior chain strength, improve the hip hinge action, and increase hamstring flexibility. The body position and movement are very similar to the Romanian deadlift except the bar is placed on the trapezius as in the back squat.

Glute-Ham Raise: This exercise is also used to develop posterior chain strength.

DB Press (simultaneous or alternating, bench press or shoulder press): These exercises are used to develop unilateral chest and shoulder strength and stability.

Variety of Core Work: These exercises are done to supplement the core work already involved in the major lifts of the Hatch System. Every exercise in the Hatch system already places a high demand on the core, especially snatches, split jerks, 3&3’s (overhead squat), and front and back squat. For this reason it may be possible to spend less time training the core with isolated exercises.

What is not found in the Hatch System? Neither high pulls nor traditional deadlift. High pulls may encourage poor habits to develop in the snatch and the clean. If an athlete begins to rely on the biceps to pull (noted by bent elbows) instead of the trapezius, this may interfere with proper technique needed to snatch or clean heavy loads. Clean pulls and snatch pulls are preferred over the traditional deadlift for their explosive nature and athletic movement are typically done in sets of five reps at 7.5kgs heavier than the clean and the snatch.

Explosive Nature of the Hatch System

Five of the Hatch 10 exercises demand an athlete to accelerate explosively with the bar: cleans, clean pulls, snatches, snatch pulls, and split jerks. Four of the assistant exercises are explosive as well: behind-the-neck jerks, 3-position cleans, 3-position snatches, and power snatches. These exercises are essential for increasing the power of the triple extension needed for athletic movements such as jumping and running.

Microcycle, Mesocycle, Macrocycle

A microcycle (one week) consists of any variation of the Hatch 10 and the Hatch assistant exercises. This may be a three-day or four-day routine depending on what works best with an athlete’s practice schedule. Each day is a full-body routine with a balance of pressing and pulling movements. Below is a brief example of the exercise selection for intermediate level athletes in a three-day strength program.

Monday

Wednesday

Friday

Snatch

Split Jerk

Snatch

Clean & Jerk

Power Snatch

Clean & Jerk

Front Squat

Power Clean

Back Squat

Snatch Pull

Step-Ups

Clean Pull

Overhead Squat (3&3’s)

Romanian Deadlift

Overhead Press

Bench Press

Incline Press

Dumbbell Bench Press

Abdominal Exercises

Back Extension

Abdominal Exercises

The Hatch System for competitive weightlifters is a five-day program consisting of eight sessions. Monday, Tuesday, Wednesday and Friday are heavy loading days. Of those days, Monday, Wednesday, and Friday consist of two sessions each, an A and B session separated by a 30-minute break. Thursday is a lighter loading day consisting of one session. Friday is the heaviest loading day, known to Hatch lifters as “Brutal Friday.”

A mesocycle typically consists of three loading weeks followed by a fourth unloading week. Alternately lifters may do two loading weeks followed by one unloading week. Hatch competitive weightlifters total on the last day of the unloading week within a mesocycle and adjust percentages for the upcoming mesocycle accordingly. For regular explosive sport athletes it is not practical to total or max every three or four weeks and maxing may not be appropriate for beginners. Hatch recommends beginners use benchmarks instead of maxes for at least the first 60 days of their program but recommends testing at any point thereafter once technique is proficient.

A macrocycle consists of several mesocycles so that weightlifters progress in intensity (percentages) to peak at their most important meets. Conversely, explosive sports progress until limited by constraints of in-season practice and playing schedules. Ideally an athlete would also peak at the most important part of his or her season, but this may not be feasible due to the length of playing seasons, the frequency of competitions, and hourly limitations of NCAA sports.

Generally the first mesocycle will consist of sets of four reps for explosive exercises and sets of six reps for strength exercises in the 65% - 80% range. The second mesocycle will typically consist of sets of three reps for explosive exercises and sets of five reps for strength exercises in the 70% - 90% range. The peaking mesocycle will typically consist of sets of two or less reps for explosive exercises and four or less reps for strength exercises in the 80% - 100% range. This pattern is adjusted and repeated throughout the year to form the macrocycle.

In the Hatch System the total number of repetitions at or above 75% of the lifter’s maximum used for the year is between 18,000 and 21,000. Fifty-five percent of the lifter’s annual reps are in the 75% to 87.5% range. Forty percent of the lifter’s reps are in the 90% to 95% range and the remaining five percent of the annual reps are in excess of 95%.

Method of Teaching a Lifter

Hatch starts by teaching a beginner the back squat because it is the fundamental position for weightlifting and it is the most essential strength building exercise. The front squat is taught next because it develops strength and balance in the receiving position for the clean. The sequence for teaching the clean is as follows: the full movement of the clean pull from the floor is taught, followed by the power clean, and then the squat clean (full clean). The split jerk is taught next using a stick or light bar only. Once the lifter has learned the proper foot work for the split jerk, the full clean and jerk is taught. The sequence for teaching the snatch is similar to the clean: first the snatch pull from the floor is taught, then the power snatch, followed by the overhead squat, then the squat snatch (full snatch).

The lifts are considered learned when the lifter has the timing and movement correct. The method of teaching the clean and the snatch from the floor is considered a holistic method. An athlete learns the classical lifts as a whole movement starting from the floor rather than in parts starting from the top or a hang position. Hatch uses the holistic method the vast majority of the time but will switch the sequence of teaching if a beginner has problems with this method.

Common Problems

If an athlete is unable to learn the Hatch Ten, start with modified or simpler derivatives of these lifts. The two common problems with learning these lifts are either from a lack of flexibility or a lack of proprioception. If the problem is a lack of flexibility, keep the loads on the lighter side and experiment with modifying the range of motion, the stance, or the grip on the bar. For instance, if an athlete does not have the flexibility to properly pull from the floor, raise the ends of the bar under plates or blocks and gradually start closer to the floor as flexibility improves. If an athlete does not have the flexibility to appropriately grip the bar for front squat, take a wider grip or even grip straps attached to the bar. If an athlete lacks shoulder flexibility, try teaching overhead squat before snatch. If an athlete has poor wrist flexibility, try teaching jerks from behind the neck rather than in front of the neck. Derivatives of the classical lifts such as hang cleans or hang snatches may also be useful for athletes lacking mobility. If the problem is a lack of proprioception, try teaching the lifts in segments, and be patient with lighter loads until technique is satisfactory. For an athlete lacking coordination, a hang snatch is much less daunting to learn than a full snatch.

How to Apply the Hatch System

The Hatch System for weightlifters is a very intense five-day program with two sessions on three of the days. It is not feasible to demand this high of volume of sport athletes – keep in mind weightlifting is a sport in itself. Furthermore a NCAA strength coach is limited to eight or fewer hours per week of strength and conditioning training. Hatch suggests a more appropriate application of his system may be a three-day or four-day lifting program of 60 – 90 minutes per day. This allows the athlete adequate time to recover between sessions and allows the strength coach time to conduct speed, agility, and conditioning activities.

The Hatch System does not exclude other philosophies. There is plenty of room for incorporating plyometrics, functional training, sports specific training, corrective exercises, and even some techniques of powerlifting with the bench press. Plyometric exercises go hand in hand with the explosive training of the Hatch System and allow the athlete to train without external load and with maximal speed of contraction. For any ground-based explosive sport it is necessary to teach athletes how to jump and land correctly. This will not only improve performance but will also help prevent injuries. Depending on the demands of the sport, a coach may want to train an athlete rotationally and/or laterally. Cable machines, medicine balls and various kinds of elastic bands are excellent tools for creating exercises that do not rely on gravitational resistance and can be used to train athletes in multiple planes of movement. Some athletes may have a need for corrective exercises to address dysfunctional movements or deficits and imbalances in strength. While specific exercises may be prescribed to correct these types of

problems, the exercises of Hatch System provide excellent opportunities for identifying and correcting dysfunctional movement and imbalanced strength. Furthermore, a coach may want to make aspects of his or her program reflect specifics of the athlete’s sport. These exercises make great auxiliary exercises in the Hatch System.

The benefits associated with the Hatch System are well established and time-tested but not all aspects of this system will be ideal for all sports or all individuals. Some coaches, athletes and medical professionals may fear the negative stereotypes associated with classical lifts like these (i.e. athletes will get injured attempting these lifts or athletes will put on too much muscle if they lift heavy). If a sport coach, athlete or medical professional is hesitant to train in this manner, a strength coach may have to take a modified approach. You have to know your sport coaches and know your athletes to create a system that works best for your athletes’ success. Sometimes this is a gradual process.

LSU Women’s Basketball, The Hatch System and Beyond

Year-round, many of the Hatch Ten and Hatch assistant exercises are staples in our program. All of the Olympic lifts and their derivatives are taught exactly as they are in the Hatch System. The sets and reps are similarly assigned and progressed. In the off-season we do a three-day routine with the whole team on Mondays, Wednesdays, and Fridays plus one day of individual training on Tuesdays. Each of our team workouts are divided into two halves with five segments each and a brief three-minute “halftime”, representative of the collegiate game. The first half of a workout contains our major strength building exercises such as the Hatch Ten and Hatch assistant exercises. Each exercise (or pair of supersetted exercises) represents one the five segments of the first half of the game. The second half of our workout is organized into a 20-minute circuit. The circuit consists of five rounds of four stations; each round through the circuit represents one of the five segments of the second half of the game. Each circuit station is 30 seconds of work with 30 seconds of recovery. In this circuit we do not do traditional lifts. Instead, we do lateral and rotational explosive movements that we would not be able to do with free weights as well as explosive sport-specific exercises, core exercises, conditioning exercises, and light plyometric exercises. This type of program still implements many of the tenants of the Hatch System but also includes supplemental activities that develop explosiveness, agility, and endurance particular to basketball. Below is an example of one week of team workouts in the off-season:

MondayWednesdayFriday1st HalfPower CleanSplit JerkOverhead Squat (3 & 3's)SquatRomanian Deadlift3-Position CleanBench PressStep-UpsFront SquatAssisted Pull-UpsPush-UpsGlute-Ham RaisesLeg Curl on Ball/Wall Sit with Plate Raise Horizontal Pull-Ups/TRX Rear Shoulder FlyPlank Rows/Bench Dips3-Minute Halftime3-Minute Halftime3-Minute Halftime2nd Half5 Rounds of the following stations:5 Rounds of the following stations:5 Rounds of the following stations:2 Hurdles Hops + Box JumpLateral Bounds with BandsLateral Hops Over a BungeeSlide Board with Bounce PassLateral High Knees Over Mini HurdlesDefensive Slides on a BungeeMedicine Ball Side Toss on WallPikes on Stability BallSeated Medicine Ball Skip Pass Sit-UpsTreadmill Sprint, Incline 3.0, 10mphBike Sprint, Level 10, 110rpm10yd Shuttle Run

Each “segment” or exercise and round of the circuit is judged on the basis of effort, execution, and readiness. A “win” or a “loss” is given for each of these ten “game segments.” To win a workout, the team must win four out of five segments in both halves.

It should also be noted that every set of every exercise is performed as a team. Each player loads the bar at her own platform and gets in a ready position for the exercise. The start of each set is signaled by a whistle. Reps are performed on an individual cadence but each set is started as a team. This aspect develops team comradery, a sense of urgency and anticipation, and insures that everyone is working at the same pace.

As for the individual training session held on Tuesdays, we work on each player’s specific goals, imbalances, deficiencies, mobility, and jump training for knee injury prevention. This one-on-one session with each player provides the opportunity to address individual needs without sacrificing the cohesiveness of team workouts. The athlete also benefits greatly from receiving undivided attention on technical activities such as jump training.

In regards to periodization, roughly every fourth week is an unloading week. Usually, unloading weeks coincide with school holidays or will be held on a week that has fewer than three training days. Major lifts will be reduced by 5-10%, easier auxiliary exercises will be prescribed, and the circuit stations will be manipulated to allow longer recovery (40 seconds) and shorter work (20 seconds). As season nears and team practices increase, the three-day weight room routine becomes a 2-day routine and on-court conditioning activities increase.