Special Olympics Sports Skills Program

POWERLIFTING

Special Olympics

POWERLIFTING COACHING GUIDE

Acknowledgements

The Special Olympics movement is profoundly grateful for the support of the Annenberg Foundation which has underwritten the production of this guide and resource, supporting our global goals for coaches' excellence.

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Special Olympics would also like to thank the professionals, volunteers, coaches and athletes who helped in the production of the *Powerlifting Coaching Guide*. They have helped fulfill the mission of Special Olympics: to provide year-round sports training and athletic competition in a variety of Olympic-type sports for people 8 years of age and older with intellectual disabilities, giving them continuing opportunities to develop physical fitness, demonstrate courage, experience joy and participate in a sharing of gifts, skills and friendship with their families, other Special Olympics athletes and the community.

Special Olympics welcomes your ideas and comments for future revisions of this guide. We apologize if, for any reason, an acknowledgement has been inadvertently omitted.

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Special Thanks To the Following for All of Your Help and Support

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Paul Whichard, Special Olympics, Inc.

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Introduction

This online guide is intended to provide Special Olympics coaches with comprehensive guidance for developing a Powerlifting Training and Competition Season and Teaching Powerlifting Skills. An understanding of effective powerlifting training processes, schedules, activities, facilities and equipment, will provide the Special Olympics Powerlifting coach with the foundation for developing successful powerlifting athletes. With the addition of an understanding of how to train the Special Olympics athletes to develop skills in each of the three powerlifts, as well as how to correct faults in performance of a lift, the powerlifting coach will be better prepared to guide the athlete toward successful competition in the squat, benchpress and deadlift.

While this resource provides a great background to effective coaching, it is important that the Special Olympics powerlifting coach learn from NGB (United States Powerlifting – USAPL) officials and coaches about the sport and apply that learning in the context of Special Olympics powerlifting. By applying an informed, positive and goal oriented approach to training in Special Olympics powerlifting, athletes will demonstrate great improvement in strength, confidence and the reward of continuing to exceed expectation in their sport.

POWERLIFTING COACHING GUIDE

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Goals

Realistic yet challenging goals for each athlete are important to the motivation of the athlete both at training and during competition. Goals establish and drive the action of both training and competition plans. Sport confidence in athletes helps to make participation fun and is critical to the athlete's motivation. Please see the Principles of Coaching section for additional information and exercises on goal setting.

Goal Setting and Motivation

Developing Self-Confidence through Goal Setting

Accomplishing goals at practice through repetition in settings similar to the competition environment will instill confidence. Setting goals is a joint effort between athletes and coaches. In goal setting, goals must be:

1. Structured as short-term, intermediate and long-term
2. Viewed as stepping stones to success
3. Accepted by the athlete
4. Varied in difficulty — from easily attainable to challenging
5. Measurable
6. Used to establish the athlete's training and competition plan.

Athletes with or without an intellectual disability may be more motivated by accomplishing short-term goals than long-term goals; however, do not be afraid to challenge athletes. Include athletes in setting their personal goals. For example, ask the athlete, "Can you skate a clean routine today? Let's see if you skated a clean routine at the last practice. What is your personal best? What do you think you can do?" Awareness of why the athlete is participating is also important when setting goals. There are participation factors that may influence motivation and goal setting:

- Age appropriateness
- Ability level
- Readiness level
- Athlete performance
- Family influence
- Peer influence
- Athlete preference

Performance Goals versus Outcome Goals

Effective goals focus on performance, not outcome. Performance is what the athlete controls. Outcomes are frequently controlled by others. An athlete may have an outstanding performance and not win a contest because other athletes have performed even better. Conversely, an athlete may perform poorly and still win if all other athletes perform at a lower level. If an athlete's goal is to perform a certain skill or to skate a clean program, the athlete has greater control in achieving this goal than winning. However, the athlete has even greater control of achieving a goal if the goal is to skate using the correct form, through the entire routine. This performance goal ultimately gives the athlete more control over his/her performance.

Motivation through Goal Setting

Goal setting has proved to be one of the most simple and effective motivational devices developed for sport within the past three decades. While the concept is not new, today the techniques for effective goal setting have been refined and clarified. Motivation is all about having needs and striving to have those needs met. How can you enhance an athlete's motivation?

1. Provide more time and attention to an athlete when he/she is having difficulty learning a skill.
2. Reward small gains of achievement in skill level.
3. Develop other measures of achievement outside of winning.
4. Show your athletes that they are important to you.
5. Show your athletes that you are proud of them and excited about what they are doing.
6. Fill your athletes with self-worth.

Goals give direction. They tell us what needs to be accomplished. They increase effort, persistence and the quality of performance. Establishing goals also requires that the athlete and coach determine techniques for how to achieve those goals.

Measurable and Specific

Effective goals are very specific and measurable. Goals stated in the form of "I want to be the best that I can be!" or "I want to improve my performance!" are vague and difficult to measure. It is positive sounding but difficult, if not impossible, to assess whether they have been reached. Measurable goals must establish a baseline of performance recorded during the past one or two weeks for them to be realistic.

Difficult, but Realistic

Effective goals are perceived as challenging, not threatening. A challenging goal is one perceived as difficult but attainable within a reasonable amount of time and with a reasonable amount of effort or ability. A threatening goal is one perceived as being beyond one's current capacity. Realistic implies that judgment is involved. Goals based upon a baseline of performance recorded during the past one or two weeks are likely to be realistic.

Long- versus Short-Term Goals

Both long- and short-term goals provide direction, but short-term goals appear to have the greatest motivational effects. Short-term goals are more readily attainable and are stepping stones to more distant long-term goals. Unrealistic short-term goals are easier to recognize than unrealistic long-term goals. Unrealistic goals can then be modified before valuable practice time has been lost.

Positive versus Negative Goal Setting

Positive goals direct what to do rather than what not to do. Negative goals direct our attention to the errors we wish to avoid or eliminate. Positive goals require coaches and athletes to decide how they will reach those specific goals. Once the goal is decided, the athlete and coach must determine specific strategies and techniques that allow the goal to be successfully attained.

Set Priorities

Effective goals are limited in number and meaningful to the athlete. Setting a limited number of goals requires that athletes and coaches decide what is important and fundamental for continued development. Establishing a few carefully selected goals also allows athletes and coaches to keep accurate records without becoming overwhelmed with record keeping.

Mutual Goal Setting

Goal setting becomes an effective motivational device when athletes are committed to achieving those goals. When goals are imposed or established without significant input from the athletes, motivation is unlikely to be enhanced.

Set Specific Time Lines

Target dates provide urgency to an athlete's efforts. Specific target dates tend to eliminate wishful thinking and clarify what goals are realistic and which are not. Timelines are especially valuable in high-risk sports where fear often promotes procrastination in learning new skills.

Formal versus Informal Goal Setting

Some coaches and athletes think that goals must be set in formal meetings outside of practice and require long periods of thoughtful evaluation before they are decided upon. Goals are literally progressions, which coaches have been using for years but now express in measurable performance terms rather than as vague, generalized outcomes.

Goal Setting Domains

When asked to set goals, athletes typically focus on the learning of new skills or performances in competitions. A major role of the coach is to broaden the athlete's perception of those areas, and goal setting can be an effective tool. Goals can be set to enhance fitness, improve attendance, increase intensity, promote sportsmanship, develop team spirit, find more free time or establish consistency.

Goal Setting

Setting goals is a joint effort between the athlete and coach. Following are the main features of goal setting:

Short-Term Objective

- Given demonstration and practice, the athlete will warm up properly before lifting.
- Given demonstration and practice, the athlete will successfully perform basic lifting skills.
- Given standard or modified rules for competition, the athlete will adhere to those rules while participating in powerlifting competition.
- While competing, the athlete will exhibit sportsmanship at all times.
- While competing, the athlete will demonstrate courtesy, safety and adherence to the rules at all times.

Long-Term Goal

The athlete will acquire powerlifting skills, appropriate social behavior and functional knowledge of rules to participate successfully in powerlifting competition.

Planning a Powerlifting Training & Competition Season

There will be many different skills to teach athletes during the course of a season. A season-long training plan will help coaches present skills in a systematic and effective way. The sessions in the plan below are organized in a twice-a-week format.

Sample Training Plan

A powerlifting training program can extend through-out the entire year. The athlete can compete in Special Olympics competitions at the sub-program level before advancing to the program level. If desirable, an athlete may also choose to compete in an open competition.

It is important that the athlete use a system that provides for maximum gain and success throughout the training year. During the training cycle of 8-12 weeks, Periodization allows for accomplishing this goal. Periodization refers to the change in the total number of repetitions (volume) and the amount of weight used to increase either muscle size, strength, or power. Periodization also refers to the frequency of training.

- Early in the training cycle, the athlete should train more for muscle development or size (8 to 15 repetitions and lighter weight). This increase in muscle size provides the foundation for the strength and power training to follow.
- Later in the training cycle, the athlete should train more for strength (4 to 7 repetitions and medium weight).
- The athlete finally trains for power (1 to 3 repetitions and heavy weight) as he or she prepares for competition. Power training should only be used to peak for competitions and for no more than four weeks.

An example of Periodization follows with top sets illustrated below:

		Meet										
Week		1	2	3	4	5	6	7	8	9	10	11
Heavy	(Sets)	1	3	3	1	3	3	3	3	2	1	3
Day	(Reps)	10 *	10	10	5	5	5	5	3	3 **	3 ***	1
Weight:	(pounds)	160	165	170	220	225	230	235	255	260	240	300
(Option 1)	(Kilos)	73 *	75	77	100	103	105	107	116	118 **	109 ***	136
Weight:	(pounds)	225	235	245	295	305	315	325	345	355	330	400
(Option 2)	(Kilos)	103	107	112	135	139	144	148	157	162	150	182
Light	(Sets)	3	3	3	3	3	3	3	3	3	3	0
Day****	(Reps)	10	10	10	8	8	8	8	6	6	6	0

** 55% of goal weight (third attempt)*

*** 96% (including the repetitions) of goal weight (third attempt)*

**** 90% (including the repetitions) of goal weight (third attempt)*

***** Top set(s) should be one set of 80% of heavy day top sets for 8 to 10 repetitions*

The chart above incorporates an 11-week training cycle and illustrates the sets and repetitions along with the highest set for the heavy day for each training week. Note that other warm-up and workload sets are provided in pounds below. Additionally, in the chart, sets and repetitions are included for the light day. Weights lifted for the light day can be estimated by using 80 percent of that week's heavy day as the top set and the warm-up and load progression chart below to estimate warm-ups and other workload sets. Some athletes may respond better to only one top set while others may respond better to three top sets.

NOTE: Off-season powerlifting training should use repetitions and sets similar to weeks one through seven. This training should be repeated until 11 weeks prior to the main competition. A two-day-a-week routine may be best during high intensity sport activity. This would combine days of the four-day routine and drop some exercises.

If an athlete competes in a second competition in less than the full **11** weeks, encourage the athlete to take a week or two off. Start back on the chart with the appropriate number of sets and repetitions based on number of weeks remaining.

Options 1 and 2 (above/previous) provide for different amounts of weight increase each week (5 lbs./2.5 kg vs. 10 lbs./5 kg). Generally, the more weight lifted, the more the athlete can increase his/her top set per week. Goals for competition (third attempt) should be set by using the single repetition maximum established prior to the competition cycle. Each goal should be increased by 3 percent, 5 percent, or even 10 percent over the athlete's previous best.

The above pattern of Periodization can be repeated after at least a one-week layoff of training following the competition. The number of cycles of this pattern is determined by the number of competitions during a year. Entering too many competitions within the year may result in injury or burnout.

Sample Practice Session

A variety of workouts is effective. The following are two suggested weekly workout schedules: The warm-up and load progression chart illustrates a recommended weight progression sequence for each of the primary lifts.

- Generally, the heavier the weight, the more warm-up sets are required.
- It is important for athletes to not perform too many warm-up sets as this may fatigue the athlete before he or she reaches the top set or sets.
- With lighter weights, the athlete may use multiple sets of the same weight for top sets.
- As the athlete becomes more advanced, the weight progression is more like the sequence in the warm-up and load progression chart with the last three sets being the workload sets and the highest workload sets using not more than the goal weight set for that workout.
- It is important that a record is kept of all workouts so that the athletes' training can be planned and documented. The weight training record chart tracks the athletes' development as they progress through increasing workloads in their training. It is recommended that the chart be filled out in pencil so that changes can be made to the chart if necessary to the goal weight set for that workout.

Warm-up and Load Progression Chart (expressed in pounds. For kilos multiply pounds by 2.2)

Warm-up (lb)			Workload			Warm-up (lb)			Workload		
75	85	95	105	115	125		135	225	275	325	355	375
75	90	105	115	125	135		135	225	275	335	365	385
85	95	110	125	135	145		135	225	315	345	375	395
85	105	115	135	145	155		135	225	315	355	385	405
95	110	125	140	155	165		135	225	315	365	395	415
95	115	130	145	160	175		135	225	315	375	405	425
95	125	140	155	170	185		135	225	315	385	415	435
95	135	150	165	180	195		135	225	315	385	415	445
135	145	160	175	190	205		135	225	315	385	425	455
135	155	170	185	200	215		135	225	315	405	435	465
135	155	180	195	210	225		135	225	315	405	445	475
135	155	185	195	215	235	135	225	315	365	425	455	485
135	155	185	205	225	245	135	225	315	365	435	465	495
135	155	185	215	235	255	135	225	315	365	445	475	505
135	155	185	225	245	265	135	225	315	405	455	485	515
135	155	195	235	255	275	135	225	315	405	465	495	525
135	185	225	245	265	285	135	225	315	405	465	505	535
135	185	225	255	275	295	135	225	315	405	475	515	545
135	185	225	265	285	305	135	225	315	405	485	525	555
135	185	225	275	295	315	135	225	315	405	485	525	565
135	185	245	285	305	325	135	225	315	405	495	535	575
135	225	255	295	315	335	135	225	315	405	495	545	585
135	225	255	305	325	345	135	225	315	405	495	555	595
135	225	275	315	335	355	135	225	315	405	495	565	605
135	225	275	325	345	365							

Adapted from Pauletto (1986)

Weight Training Record Chart

Name_____

Starting Date_____

Exercise	Wt	R	Wt	R	Wt	R	Wt	R	Wt	R	Wt	R	Wt	R	Wt	R	Wt	R	Wt	R	Wt	R	Wt	R

Key: Wt. = Weight R = Repetitions

In-Season Planning

The number of athletes training in a single session will dictate the length of the session. As in competition the time between each athlete's sets should allow adequate time for recovery but not too much time so that the athlete cools down. Also, as indicated in the chart below, adequate warm-up and stretching time must be accounted for in each athlete's training schedule.

Body's Response to Weight Training

The athlete should experience an increase in strength, power, or size from training with weights. However, overtraining and even injury can occur if the athlete attempts to lift too much weight too fast. Therefore, it is important for the coach to understand the principles of weight training while effectively planning the athlete's training cycle.

As shown in the stress adaptation curve below, the body responds to weight training (stress) as it does to any hard activity. The figure shows the response to weight training as a wave. The body and muscles first hit a slump and become weaker. If training has not been too light or too heavy, the body and muscles adapt to the stress and become stronger and/or bigger.

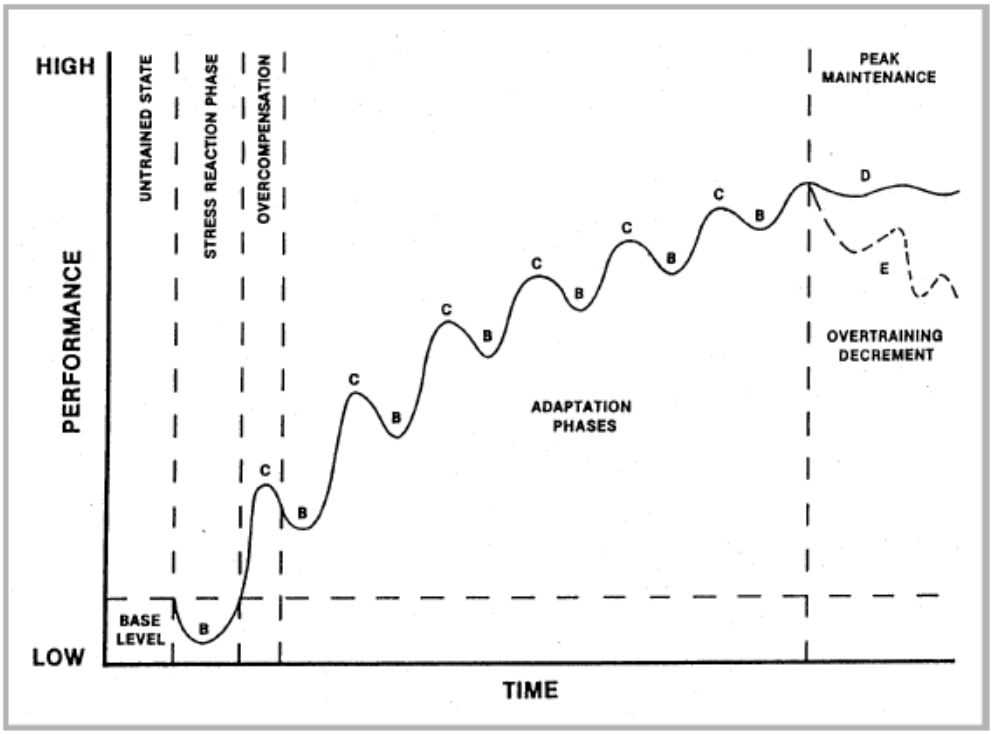
- Generally, the body adapts to higher repetitions of eight to 15 by increasing muscle size with some increase in strength.
- Repetitions of four to seven tend to build strength with some increase in muscle size.
- Repetitions of one to three tend to produce power and strength gains with very little increase in muscle size.
- Each of these objectives has a place in an athlete's training. Trying to achieve all of these at the same time will often cause overtraining.
- Periodization is a way to effectively mix these objectives over time.

Training with an Adequate Workload

The athlete should periodically increase the weight lifted so that muscle adaptation and thus muscle strength, power, or size occurs. This should not be at the expense of poor form, overtraining, or possible injury.

- A good rule of thumb is to be able to increase the weight of top sets (heaviest sets) at least 2.5 kg to 5 kg on each lift each week.
- The most effective strength training weight ranges from about 80 percent to 95 percent or 96 percent of the next competition's training goal.
- A training period or cycle should begin with the lower weight and increase to a higher weight as the athlete is closer to competition.
- When setting goals for a training cycle, it is important to realize that athletes may make increases in some lifts from 20 percent to 38 percent when the athlete is learning the lifts.
- After an athlete has trained for six months to a year he or she may only be able to increase from 3 percent to 10 percent over the previous goal. It is best to be conservative when setting goals.

Stress Adaptation Curve



An individual can maintain a basic level of physiological balance (homeostasis) with daily activity. Training results in an acute decrement in performance during the stress reaction phase (B). However, the body adapts by overcompensating, elevating levels of performance (C).

Performance improvements are dramatic in the early training stages, with more modest increases as training continues. Proper training techniques and planning allow athletes to maintain performances within 2 percent of their personal best over extended periods of the competitive cycle (D).

Excessive training volumes and/or intensities with insufficient rest or unloading will cause a decrement in performance known as overtraining (E).

Adapted from H. Selye's *The Stress of Life.*

Essential Components of Planning a Powerlifting Training Session

Each training session needs to contain the same essential elements. The amount of time spent on each element will depend on the goal of the training session, the time of season the session is in and the amount of time available for a particular session. The following elements need to be included in an athlete's daily training program. Please refer to the noted sections in each area for more in-depth information and guidance on these topics.

- ❑ Warm-ups
- ❑ Previously taught skills
- ❑ New skills
- ❑ Competition experience
- ❑ Feedback on performance

The final step in planning a training session is designing what the athlete is actually going to do. Remember: when creating a training session using the key components, the progression through the session allows for a gradual buildup of physical activity.

1. Easy to difficult
2. Slow to fast
3. Known to unknown
4. General to specific
5. Start to finish

To maximize learning for athletes several factors can contribute to a successful training session:

- A well thought-out and written training plan is the foundation for a good training session and athlete success.
- A distraction-free environment may be necessary, especially in the early stages of instruction, to allow athletes to focus on the training objectives.
- An empty room can serve as an excellent facility for teaching simple non weight exercises and warm-up activities.
- As athletes obtain the required basic skills over the first two training sessions, the session can be moved to the weight room.
- Small group instruction is recommended to better individualize instruction and lower the chance of injury.
- If a small group is not possible, then group size should be small at least until the basic concepts can be learned as much as possible.
- Adequate time must be given to for each athlete to warm up, complete all sets and repetitions and cool down according to his or her training plan. Rushing the training session may reduce the learning opportunity for the athlete as well as the overall experience.

Overtraining

After four to six weeks of steady hard lifting, an athlete could experience extreme soreness or loss of energy. If this condition extends beyond 48 hours, after a heavy workout, overtraining may have occurred. Should overtraining be experienced, a short active rest phase should be considered as well as to reduce competition expectations and lower weights and or the number of sets and repetitions. A complete rest week should be included at least every 12 to 15 weeks.

Training to a Weight Class

Powerlifting competitions provide for athletes to complete against other athletes of similar bodyweight. Special Olympics powerlifting weight classes are found here. In competition where there are not enough athletes of each weight class to create a division, athletes from different weight classes may be combined. The Wilks Formula "equalizes" athletes of different body weight classes. To use the Wilks Formula, find the athletes body weight coefficient number from the list and multiply this number by the individual lift or total. Placing is determined by the highest resulting score. The Wilks Formula can found at the IPF Web site.

Principles of Effective Training Sessions

Keep all athletes active	Athletes need to be active listeners
Create clear, concise goals	Learning improves when athletes know what is expected of them
Give clear, concise instructions	Demonstrate – increase accuracy of instruction
Record progress	You and your athletes chart progress together
Give positive feedback	Emphasize and reward things the athlete is doing well
Provide variety	Use a variety of supplemental exercises
Encourage enjoyment	Training and competition is fun – help keep it this way for you and your athletes
Create progressions	Learning is increased when information progresses from: • Known to unknown – discovering new things successfully • Simple to complex – seeing that "I" can do it • General to specific – this is why I am working so hard
Plan maximum use of resources	Use what you have and improvise for equipment that you do not have – think creatively
Allow for individual differences	Different athletes, different learning rates, different capacities

Tips for Conducting Successful Training Sessions

- ❑ Assign assistant coaches their roles and responsibilities in accordance to your training plan.
- ❑ When possible, have all equipment and stations prepared before the athletes arrive.
- ❑ Introduce and acknowledge coaches and athletes.
- ❑ Review intended program with everyone. Keep athletes informed of changes in schedule or activities.
- ❑ Alter the plan according to the facility and in order to accommodate the needs of the athletes.
- ❑ Keep drills and activities brief so athletes do not get bored. Keep everyone busy with an activity even if it is rest.
- ❑ Devote the end of the practice to a group activity that can incorporate challenge and fun, always giving the athletes something to look forward to at the end of practice.
- ❑ If an activity is going well, it is often useful to encourage the success of that activity, then progress into another activity.
- ❑ Summarize the session and announce arrangements for next session.

Tips for Conducting Safe Training Sessions

Though the risks can be few, coaches have a responsibility to ensure that athletes know, understand and appreciate the risks of powerlifting. The safety and well-being of athletes are the coaches' primary concerns. Powerlifting is not a dangerous sport, but accidents do occur when coaches forget to take safety precautions. It is the head coach's responsibility to minimize the occurrence of injuries by providing safe conditions.

- ❑ At the first practice, establish clear rules for behavior and enforce them:
  - Keep your hands to yourself.
  - Listen to the coaches.
  - Ask the coach before you leave the gym.
- ❑ Make sure athletes bring water to every practice, especially in hotter environments.
- ❑ Check your first aid kit; restock supplies as necessary.
- ❑ Ensure that the coach has a copy of current medical form for each athlete.
- ❑ Train all athletes and coaches on emergency procedures.
- ❑ Walk the training area before each practice or competition to check for any unsafe conditions. Remove anything that an athlete might run into (such as chairs or boxes) or slip on (such as clothing, clipboards or spills).
- ❑ Ensure that equipment is as safe as possible.
- ❑ Review your first aid and emergency procedures. Have someone who is trained in first aid and CPR during training and competition.
- ❑ Warm up and stretch properly at the beginning and/or end of each practice or competition to prevent muscle injuries.
- ❑ Train to improve the general fitness level of your players. Physically fit players are less likely to get injured. Make your practices active.
- ❑ Encourage all your athletes to wear correct equipment to training and competition.

Weight Room Safety

Without a doubt, one of the most important considerations for operating a weight training facility is that of **safety!** A key element to a successful strength and conditioning program is the safe use and care of equipment. Not only the health and welfare of the athlete are at stake, but also the legal liabilities of those operating the facility. It is the responsibility of the strength and conditioning coach and weight room administrators to ensure that the following guidelines are enforced.

Cleanliness

Cleanliness is an important factor that is overlooked in many weight rooms. All weights are to be put away! This includes dumbbells that are often left for "someone else to put away." Weights are to be returned after each exercise, not after the entire workout is completed. Tripping over scattered weights can be a serious hazard in the weight room. Jackets, gym bags, and other clothing belong in the locker room. They are not to be draped over the squat rack, tossed onto a nearby bench, or piled in a heap in the corner. Use chalk sparingly, and clean up any chalk from the floor and equipment after every workout.

Conduct

The first and most important rule is appropriate conduct! The weight room is not a playground! Someone could be seriously injured or expensive equipment could be broken. This rule cannot be stressed enough. It is also important to respect the rights of others using or owning the facility. Casual observers (friends, etc.) can be a distraction in the weight room. They often get in the way of other athletes, especially during busy times.

Safety Responsibilities Equipment/Facility Care Responsibilities

Maintenance of the equipment is a never-ending job. Here is a safety checklist to help maintain the facility:

- Regularly lubricate the equipment with a light-weight oil or silicone lubricant to add to its life. If oil is used on lifting bars, make sure to wipe off any excess. Weights may slip off despite have a collar in place.
- Check for potentially loose nuts and bolts, broken welds, worn pulleys, and frayed cables daily and repair as needed.
- Check wall or floor-mounted equipment for stability and tighten regularly.
- Replace broken barbell plates and weight stack plates. Welding broken plates may increase the weight of the plate, and the welds do not always hold.
- Replace worn or torn covers or padding. (Most fabric stores carry heavy vinyl materials and high-density foam padding.) The cover and padding can be cut to fit the bench and fastened in place with a staple-gun.
- Check Olympic bars for loose end pieces constantly and keep tight. This also must be done with dumbbells that are bolted together. If these come apart, serious injury can occur.
- Check platforms and flooring that may have been damaged from regular pounding for they could collapse. Underlying support boards and surface materials should be replaced as needed.
- Use mild soap and water to clean padded areas with which the athletes come in contact regularly. This helps to keep the equipment clean and to prevent bacterial growth.

Responsibilities of the Lifting Athlete

Each power lifting coach should make sure that all athletes know the rules and responsibilities for lifting and spotting. Each athlete should be aware of the following:

- Know the proper use of all the equipment and how to adjust the equipment correctly.
- Dress properly, including wearing a shirt, sweat pants or tight-fitting stretch shorts, and shoes.
- Wear a lifting belt when squatting or dead lifting.
- Always use spotters for squatting, bench pressing. And other lifts where injury could occur without a spotter. The old adage “better safe than sorry. Applies here.
- Always use collars when plates are on the bar.
- Use safety equipment when available, especially when no spotter is available. (For example, these include step-down squat racks, safety racks for squatting and benching, etc.)
- Use proper lifting form. This will help prevent injuries.
- Know the limits. No one should try to lift beyond his or her capabilities, a common problem with beginning athletes.
- Stay with the bar on a missed lift. Do not let go of the bar and walk off, leaving the spotters hanging on. Finish the lift and stay with the bar until it is safety back in the racks.
- Do not drop weights (dumbbells and machine weight stacks included)! Remember, if you can lift it, you can set it down. If you have a problem with the lift, get a spotter. This may be especially important with dumbbell exercises. Dropped weights can cause injury to athletes and spotters, damage floors, and even damage the weights.

Responsibilities of the Coach/Spotter

The coach should train athletes to be constantly aware of potential problems. The athletes must be able to use the equipment and the weight room in a proper way to promote personal safety. It is the coach's responsibility to instruct and supervise athletes for proper spotting techniques and methods. The athlete depends on his spotter for safety. Therefore, it is very important that the spotters know what they are doing. Some of the items listed below are the responsibility of the coach as well as the spotter:

- Grip the bar with the "thumbs around" grip, thus locking the bar safely in the palms of the hands during the bench press. Without a safety grip, the bar could slide out of the lifter's hands and cause serious injury.
- Load the barbell properly. The correct weight is loaded when end of the bar are equally loaded, the plates are pushed all the way onto the bar, and collars are used, especially with heavy weight. A good rule of thumb is to put the hollow sides of the plates toward the middle of the bar, assuring an even distribution of weight across the bar.
- Insert pins completely when using machines with weight stacks.
- Do not have the athlete work out next to a mirror. It doesn't take much of a tap with a weight to break a mirror.
- Allow athletes to lift without distraction.
- Report problems with the equipment immediately to the weight room supervisor.
- BE ALERT! No daydreaming is allowed. Keep your mind on the task at hand.
- Be sure there are enough spotters. As a spotter, if you are not sure that you can handle a missed lift by yourself, then get more help.
- Know how many repetitions the athlete will attempt.
- Determine in advance the signals to be used with the athlete. Often the athlete is barely coherent when he grunts out a call for assistance.
- Help the lifter return the bar to the rack when the athlete has completed a lift or when he signals for assistance in a failed lift. (Use of a lift off by the spotter is up to the individual athlete.)
- Know the proper technique for lifting the bar from the rack.
- Have a solid stance. Be prepared for anything.
- Use two hands to spot or assist, particularly when spotting the bench press. If you are using only one hand or one finger, it is difficult to assist if the athlete suddenly needs help.
- Watch the athlete's form. Be his or her best critic.
- Encourage the athlete. Be a cheerleader.
- If you have just finished a set, allow enough time to catch your breath and regain your energy before trying to spot someone else.
- Know how to spot dumbbell exercises. (It is often best to assist by gently pushing on the athlete's elbows.) If the athlete gives out completely, be ready to grab the dumbbells. Keep the surrounding area clear of dumbbells and other obstructions.
- Do not rest your hand on the bar support when spotting the bench press. If the athlete decides to return the bar to the rack suddenly and without notice, the spotter's fingers may get caught between the bar and the rack.
- Do not allow the athlete to lift more than has been programmed for that athlete's workout. Overloading the athlete beyond his or her capabilities can be dangerous.

Powerlifting Attire

Proper clothing and equipment are important in keeping the athlete warm or cool depending upon the environment or in providing the proper stability or support as needed. A cold weight room can cause the athlete to cool off between sets leading to muscle tears or cramps. Covering the legs with sweat pants and wearing a T-shirt that covers the shoulders are important in these conditions. On the other hand, if the workout environment is hot, shorts and a T-shirt would be more appropriate.

Shirt

A T Shirt of any color or colors must be worn under the lifting suit during the performance of the squat and bench press, but is optional for the men in the deadlift. Women must wear a T Shirt while competing on all lifts. The T Shirt is subject to the following conditions:

- Does not consist of any rubberized or similar stretch material.
- Does not have any pockets, buttons, zippers, collar, or v neck.
- Does not have reinforced seams.
- Is made of cotton or polyester or a mixture of cotton and polyester. Denim is not acceptable.
- It shall not have sleeves which terminate either below the elbow or at the deltoid. Lifters may not push or roll the sleeves of the T-Shirt up to the deltoid. T-Shirts must not be worn inside out.
- Is plain or the official T Shirt of the contest in which the lifter is competing. That which is offensive or likely to bring the sport into disrepute is not allowed.

Support shirts are NOT allowed.

Shorts

During training, sweat pants or tight-fitting stretch shorts may be worn while squatting. Tight-fitting stretch shorts (not sweat pants) can be worn while deadlifting to provide a low friction surface along which the bar is pulled. Shorts made of woven material that does not stretch should not be worn because they might tear.

Briefs

A standard commercial "athletic supporter" or standard commercial briefs (not boxer shorts) of any mixture of cotton, nylon or polyester shall be worn under the lifting suit. Women may also wear a commercial or sports bra. Swimming trunks or any garment consisting of rubberized or similar stretch material except in the waistband, shall not be worn under the lifting costume. Any supportive undergarment is not legal for use in competition.

Lifting Belt

Competitors may wear a belt. If worn, it shall be on the outside of the lifting suit. The belt not only maintains warmth and elasticity in the lower back but also provides support in the torso area to prevent injury to the spine. This belt will give support in the front as well as the back and provide a bridge between the hips and ribs.

Materials and Construction:

- The main body shall be made of leather, vinyl or other similar non-stretch material in one or more laminations which may be glued and/or stitched together.
- It shall not have additional padding, bracing or supports of any material either on the surface or concealed within the laminations of the belt.
- The buckle shall be attached at one end of the belt by means of studs and/or stitching.
- The belt may have a buckle with one or two prongs or "quick release" type ("quick release" referring to lever.)
- A tongue loop shall be attached close to the buckle by means of studs or stitching.
- The name of the lifter, the lifter's nation, state or club may appear on the outside of the belt.

Dimensions:

- Width of belt maximum 10 cm.
- Thickness of belt maximum 13 mm along the main length.
- Inside width of buckle maximum 11 cm.
- Outside width of buckle maximum 13 cm.
- Tongue loop maximum width 5 cm.
- Distance between end of belt and far end of tongue loop maximum 25 cm.

Wraps

Only wraps of one ply commercially woven elastic that is covered with polyester, cotton or a combination of both materials or medical crepe are permitted.

Knee Wraps

Wraps provide elastic rebound and limited protection to the knees. Knee wraps can assist an athlete to lift more weight. However, they may actually weaken the athlete's knees by preventing certain muscles and attachments from experiencing fully the natural stress from all angles at the joint when squatting, on a regular training basis. Very tight wraps left on for too long can cause tissue damage.

- Wraps not exceeding 2 m in length and 8 cm in width may be used. A knee wrap shall not extend beyond 15 cm above and 15 cm below the centre of the knee joint and shall not exceed a total covering width of 30 cm. Alternatively; an elasticized knee cap supporter not exceeding 30 cm in length may be worn. Knee sleeves 30 cm in length are also legal and the medical/surgical sleeve is also an option. A combination of the two is strictly forbidden.
- Neoprene may be "synthetic" rubber but is only acceptable in the knee sleeve.
- Wraps shall not be in contact with the socks or lifting suit.
- Wraps shall not be used elsewhere on the body.

Wrist Wraps

Wrist wraps may be worn at any time when training with relatively heavy weights during any of the lifts.

- Wrists wraps shall not exceed 1 m. in length and 8 cm in width. Any sleeves and Velcro patches/tabs for securing must be incorporated within the one meter length. A loop may be attached as an aid to securing. The loop shall not be over the thumb or fingers during the actual lift.
- Standard commercial sweat bands may be worn, not exceeding 12 cm in width. A combination of wrist wraps and sweat bands is not allowed.
- A wrist covering shall not extend beyond 10 cm above and 2 cm below the center of the wrist joint, and shall not exceed a covering width of 12 cm.

WATCH VIDEO

Socks

Socks shall be worn.

- They may be of any color or colors and may have manufacturer's logos.
- They shall not be of such length on the leg that they come into contact with the knee wraps or knee cap supporter.
- Full length leg stockings, tights or hose are strictly forbidden.
- Shin length socks must be worn to cover and protect the shins while performing the deadlift.
- Light protective guards between sock and shin may be worn.

Shoes

Shoes or boots shall be worn. A stable shoe with a very low or no heel is generally best for the deadlift, while a shoe with a solid heel and sole is generally more effective in the squat because of the concern for balance and stability. It is important that running shoes or shoes with foam rubber soles not be used since they lack stability.

- Shoes shall be taken to include only Sports Shoes / Sports Boots; W/L, P/L Boots or Deadlift Slippers. The above is referring to indoor sports e.g. wrestling/basketball. Hiking boots do not fall into this category.
- No part of the underside shall be higher than 5 cm.
- The underside must be uniform on both sides.
- Loose inner soles that are not part of the manufactured shoe shall be limited to one centimeter thickness.

Lifting Suits

The athlete should not wear a restrictive lifting suit at every workout for the same reasons indicated above for knee wraps. For a more detailed description please see the IPF Technical Rules book which can be found at http://www.powerlifting-ipf.com

Powerlifting Equipment

An adequate training facility is necessary for safe and effective training of Special Olympics powerlifters. The facility should have enough space and equipment to accommodate athletes and coaches. It is important that the facility be capable of separating powerlifting from other forms of exercise. Effective powerlifting training requires a wide variety of resistance equipment including machines with pulleys, cams, levers, cylinders, and free weights or barbells is available at many weightlifting facilities or for purchase. All serve a purpose and can produce some degree of muscle strength and size. Free weights are more effective and are recommended. Free weights allow for the natural change in speed and work done by a particular set of muscles. Additionally, free weight movement demands multi-plane control exerted by secondary muscles that provide control, balance, and assistance to the prime movers, which do most of the work.

Platform

All lifts shall be carried out on a platform measuring between 2.5 m x 2.5 m minimum and 4.0 m x 4.0 m maximum. It must not exceed 10 cm in height from the surrounding stage or floor. The surface of the platform must be flat, firm and level and covered with a material of non-slip smooth carpet (i.e. free from irregularities and projections). Rubber matting or similar sheeting materials are not permitted.

Bars and Discs

For all powerlifting contests organized under the rules of the IPF, only disc barbells are permitted. The bar shall not be changed during the competition unless it is bent or damaged in some way as determined by the Technical Committee, Jury or Referees.

The bar shall be straight and well knurled and grooved and shall conform to the following dimensions:

- Total overall length not to exceed 2.2 m.
- Distance between the collar faces is not to exceed 1.32 m or be less than 1.31 m.
- Diameter of the bar is not to exceed 29 mm or be less than 28 mm.
- Weight of the bar and collars are to be 25 kg.
- Diameter of the sleeve not to exceed 52 mm or be less than 50 mm.
- There shall be a diameter machined marking or the bar taped so as to measure 81 cm between marking or tape.

Discs shall conform as follows:

- All discs used in competition must weigh within 0.25 percent or 10 grams of their face value.
- The whole size in the middle of the disc must not exceed 53 mm or be less than 52 mm.
- Discs must be within the following range: 1.25 kg, 2.5 kg, 5 kg, 10 kg, 15 kg, 20 kg, 25 kg, and 50 kg.
- For record purposes, lighter discs may be used to achieve a weight of at least 0.5 kg more than the existing record.
- Discs weighing 20 kg and over must not exceed 6 cm in thickness. Discs weighing 15 kg and under must not exceed 3 cm in thickness. Rubber discs do not have to conform to the stated thickness.
- Discs must conform to the following color code : 10kg and under - any color, 15kg - yellow, 20kg - blue, 25kg - red, 50kg - green.
- All discs must be clearly marked with their weight and loaded in the sequence of heavier discs innermost with the smaller discs in descending weight arranged so that the referees can read the weight on each disc.
- The first and heaviest discs loaded on the bar must be loaded face in; with the rest of the discs loaded face out.
- The diameter of the largest discs shall not be more than 45 cm.
- Rubber or rubber covered discs are acceptable provided there is a minimum of 10 cm from the outside of the collars to the end of the bar, for spotter grip outside of the discs.

Collars

Shall always be used and must weigh 2.5 kg each.

Squat Racks

The squat racks shall be designed to adjust from a minimum height of 1.00 m in the lowest position to extend to a height of at least 1.70 m in 5 cm increments. All hydraulic racks must be capable of being secured at the required height by means of pins.

Bench

The bench shall conform to the following dimensions:

- Length – not less than 1.22 m and shall be flat and level.
- Width – not less than 29 cm and not exceeding 32 cm.
- Height – not less than 42 cm and not exceeding 45 cm measured from the floor to the top of the padded surface of the bench without it being depressed or compacted. The height of the uprights, which must be adjustable, shall be a minimum of 75 cm to a maximum of 110 cm measured from the floor to the bar rest position.
- Minimum width between insides of bar rests shall be 1.10 m.
- The head of the bench shall extend 22 cm beyond the center of the uprights with a tolerance of 5 cm either way.

Combined Squat and Bench Racks

An alternative to separate squat and bench racks is the combination squat and bench rack. This rack provides an efficiency of spaces as well as to include the required bench safety racks.

The amount of equipment required is dependent on the number of athletes training in a facility. The following is a list of essential equipment for effective powerlifting training.

- Power bench (heavy duty) 1 - 3
- Squat rack, stair step rack, or power rack 1 - 3
- Platform (plywood and rubber) 1 - 3
- Weight rack or holder 4 - 8
- Freestanding adjustable incline bench 1

Weight Needs

- 1 to 5 athletes - good Olympic bar and at least 230 kg of weight
- 5 to 10 athletes - 2 bars and at least 365 kg
- 10 to 15 athletes - 3 bars and at least 546 kg
- Above needs may be slightly less with additional equipment
- Set of locking collars for each bar

The following is a list of equipment and machinery that are not essential to a powerlifting program. However, this equipment provides an opportunity for variety in the powerlifting regimen. The equipment works primary and synergistic muscle groups and can improve athlete performance.

- Leg press machine 1
- Pull down / Low pull machine 1
- Dumbbells from 2.5 to 27.5 kilograms 1
- Leg extension machine 1
- Leg curl machine 1
- Easy curl bars 1 to 3

POWERLIFTING COACHING GUIDE

Teaching Powerlifting Skills

Table of Contents

Teaching Skills

When teaching powerlifting skills to Special Olympics athletes, increased emphasis should be given to the following:

- Teaching for transfer
- Conditions that will produce the most retention
- The type of teaching cues employed
- The nature of the learning environment

It is extremely important for the coach to determine to what extent the athlete is able to transfer from one task to the next. If he or she can only learn specifics, then each new task will require a review of basic information to achieve success. This must be recognized to avoid negative results. With the athlete who can generalize concepts and principles, this review may not prove necessary. The importance of recognizing each athlete's learning potential cannot be overstressed. Progress and results will vary greatly from one athlete to another.

An emphasis must be placed, particularly during the initial stages of instruction, on the acquisition of effective work methods and habits. These will often determine the ultimate success or failure of the task. Due to some athletes' lower level of retention; they must be constantly reminded of materials and concepts presented through review. It cannot be taken for granted that all of the instruction will be retained from week to week.

Repetition is essential for the Special Olympics athlete to learn each of the powerlifts. Repeat correct form as often as possible. Break up the lifting into separate movements if necessary. Remember walking is a pretty complex series of movements and much more difficult than squatting, deadlifting, or benchpressing. Your athletes learned to walk with repetition, and they can learn to lift correctly with repetition. Make sure to use no weight or very light weight when teaching correct form.

It may be necessary to develop a base level of muscle tone and strength in athletes who are deficient in these areas. This may require use of machines to develop muscle tone and strength before moving on to the more complex exercises with free weights. Never hurry the athlete toward competition. It may take four to five months of progressive training before the athlete is ready for competition.

- Visual information and physical prompting and assistance are more effective than excessive verbal cues when coaching Special Olympics athletes.
- Too many words may confuse athletes over a short period of time and bore them during longer explanations. However, an athlete who is having difficulty with a specific motor task often can benefit greatly from a well-time, succinct verbal cue.
- When training your athletes, develop very simple verbal and appropriate tactile (touching) cues. Develop a series of tactile and verbal cues that can be used to get the athlete "set" for the lift. Examples include touching the chin in the squat and deadlift to keep the head up along with pulling back gently on the belt to keep the hips back. When instructing an athlete in the deadlift, an effective way to prevent the athlete from rounding the bar is to place one hand on the shoulder and pull back while pushing in with the other hand on the lower back. To get the athlete to put the bar at the correct location on the chest in the bench press, touch the place on the chest where the athlete should place the bar. During training sessions, you may be effective using the verbal cue "stop" when the bar is at chest and again when the athlete's arms are at full extension so the athlete will learn to wait for the referee's signals ("press" and "rack" at these two positions).
- Training videos have also proven effective in teaching powerlifting skills. Video offers clear, visual information without an excess of lengthy verbal explanations. If video is used, the coach should align the Special Olympics athlete with the screen so that the athlete can see the image and mimic the powerlifting positions of the model athlete being displayed on the video screen.

- When presenting concepts, it is best to go from simpler tasks to the more complex. It is for this reason that lead-up activities are vital prior to teaching the more difficult exercise movements. More will be achieved when a training session is broken up into a number of partial tasks rather than when the complete task is practiced over and over. An example is teaching each part of the competitive lift with its separate command, one step at a time. The bench press involves the three commands of "start," "press" and "rack" so each would be covered separately before moving on to working the complete lift with each command.

Warming Up and Stretching

The correct sequence of preparation for exercise is warming up, stretching, exercising, stretching, and cooling down. The importance of warming up prior to exercise cannot be stressed enough.

- From a physiological aspect, warm-up prepares the muscles, nervous system, tendons, ligaments, and cardiovascular system by raising the body temperature.
- From a psychological aspect, warm-up helps prepare the athlete mentally by beginning the concentration necessary to complete the exercise routine or weight training workout.
- Further, warm-up reduces injury, since warm muscles and their connectors are more flexible and easily stretched.

The three types of warm-up are *passive*, *general*, and *specific*.

- ***Passive*** warm-up increases the body temperature by external means. For example, a warm shower or heat lamp are passive warm-ups.
- ***General*** warm-up occurs when the athlete perform s major muscle group movements not associated with the activity about to be done. For example, jogging and rope jumping are two common forms of general warm-up.
- ***Specific*** warm-up mimics the specific event to be done and is most important for the actual event: for example, doing squats or bench presses with no weight or a stick or with light resistance.

Flexibility is the ability to move a joint through the full range of movement it is designed to do. Hold stretches from 10 to 20 seconds, repeating as necessary. Do not bounce while stretching. The stretching exercises illustrated here are safe, easy, and increase flexibility.

Partner stretching is a fun way for athletes to work through what is sometimes the most tedious part of the workout. Variations of the stretches can be done with other athletes or a coach with excellent results. As with the individual stretching, it is important that the athlete (or coach) does not bounce when stretching. Caution should be used, and the athletes should not stretch beyond their limits.

Training for Muscle Balance

For every push exercise, a pull exercise should be performed. Balance of opposite muscle groups will help prevent injuries in short-term as well as long-term training. Training for balance will also prevent the over work of one group of muscles or the wear on joints that occurs from the lack of balanced muscle training.

- For balanced shoulders (one of the areas of the body most vulnerable to injury), make sure bent rows or low pulls are done regularly to balance the push exercises such as the bench press and incline bench press.
- Leg curls and stiff-legged deadlifts should be done to balance the work done with the front of the thighs from squatting.
- Crunches and bent leg sit-ups should be performed to balance the work done with the lower back from squats and deadlifts.

High Risk Exercises

Some weight training exercises may have a relatively high degree of risk or hazard and should only be done with extreme care or not at all.

- Dips or behind-the-neck presses place a high degree of stress on the shoulder joint and should be avoided.
- Behind-the-neck press places the neck and shoulders in a vulnerable positions.
- Bench squats place a high amount of stress on the spine and should also be avoided.
- Negatives and overloads place a lot of stress on the athletes ’joints, ligaments, and muscles and should not be done. These exercises are generally overrated when considering the risks and long-term problems they can create.

Stretching

Flexibility is critical to an athlete's optimal performance in both training and competition. Flexibility is achieved through stretching. Stretching follows an easy aerobic jog at the start of a training session or competition.

Begin with an easy stretch to the point of tension, and hold this position for 15-30 seconds until the pull lessens. When the tension eases, slowly move further into the stretch until tension is again felt. Hold this new position for an additional 15 seconds. Each stretch should be repeated 4-5 times on each side of the body.

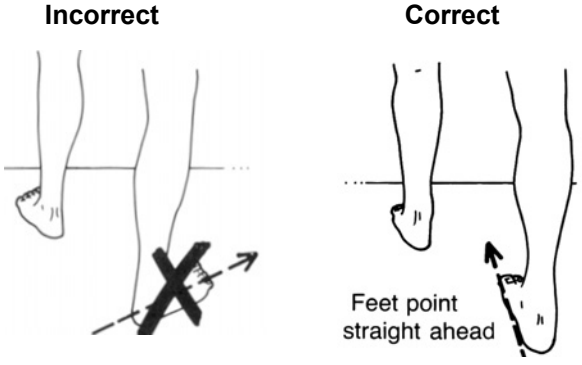
It is also important to continue to breathe while stretching. As you lean into the stretch, exhale. Once the stretching point is reached, keep inhaling and exhaling while holding the stretch. Stretching should be a part of everyone's daily life. Regular, daily stretching has been demonstrated to have the following effects:

- Increase the length of the muscle-tendon unit
- Increase joint range of motion
- Reduce muscle tension
- Develop body awareness
- Promote increased circulation
- Make you feel good

Some athletes, like those with Down Syndrome, may have low muscle tone that makes them appear more flexible. Be careful not to allow these athletes to stretch beyond a normal, safe range. Several stretches are dangerous to perform for all athletes, and should never be part of a safe stretching program. These unsafe stretches include the following:

- Neck Backward Bending
- Trunk Backward Bending
- Spinal Roll

Stretching is effective only if the stretch is performed accurately. Athletes need to focus on correct body positioning and alignment. Take the calf stretch, for example. Many athletes do not keep the feet forward, in the direction that they are running.



This Coaching Guide will focus on some basic stretches for major muscle groups and will start at the top of the body and work our way to the legs and feet.

Upper Body

Chest Stretch

- Raise arms at sides of body
- Pull hands back as far as possible for 20 seconds
- Feel the stretch in the chest
- Repeat

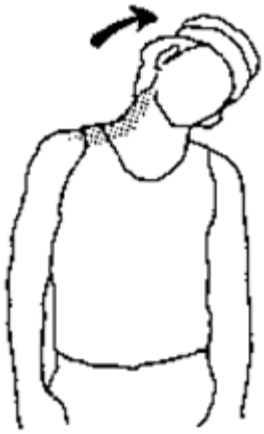
Side Stretch

- Keep knees slightly flexed
- Stand or sit with arms overhead
- Hold elbow with hand of opposite arm
- Pull elbow behind head gently as you slowly lean to side until mild stretch is felt
- Hold 10 to 15 seconds
- Repeat on other side

Arm Circles

- Swing arms forward in large circles
- Repeat going forward and backward

Neck Stretch



- Roll the neck from shoulder to shoulder with chin touching body at all times
- Do not perform full circles as they may hyperextend the neck
- Tell athlete to roll neck to right, center and left; never have the athlete roll neck backward

Shoulder Stretch

- Sit on floor with left leg straight out in front
- Bend right leg, cross right foot over, place outside left knee
- Bend left elbow and rest it outside right knee
- Place right hand behind hips on floor
- Turn head over right shoulder; rotate upper body right
- Hold 10 to 15 seconds
- Repeat on other side
- Breathe slowly

Lower Body

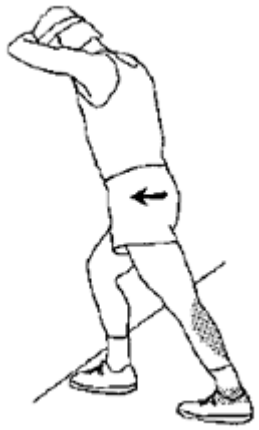
Standing Quad Stretch

- Stand with foot flat on ground
- Bend knee toward buttock while grasping ankle with hand
- Pull foot directly toward buttock
- Do not twist knee
- Stretch can be done standing alone or balancing with partner, fence and/or wall
- If pain is felt in knees during stretch and foot is pointing out to the side, point foot back to relieve stress

Forward Bend

- Stand, arms outstretched overhead
- Slowly bend at waist
- Bring hands to ankle or level without strain

Calf Stretch



- Bend forward leg slightly
- Bend ankle of back leg
- Athlete may also stand facing a wall/fence
- Bend both knees to ease strain

Low Back & Glutes

Side Straddle Stretch

- Stand with feet flat on the ground
- Lean body to one side, bending knee slightly
- Keep opposite leg straight
- Repeat with other leg

Hurdle Stretch

- Sit on floor, legs straight out at sides
- Bend left leg in at knee
- Slowly bend forward from hips toward foot of straight leg until you feel slight stretch
- Do not dip head forward at start of stretch
- Hold this developmental stretch 10 to 20 seconds
- Repeat on other side
- Position foot of straight leg upright, ankles and toes relaxed
- Use a towel if you cannot easily reach your feet

Hip Stretch

- Lie on floor, legs straight
- Bend left knee, extend left arm straight out from side
- Use right hand to pull knee across body
- Turn head toward left arm
- Keep shoulders flat on floor, feet and ankles relaxed
- Hold for 10 to 20 seconds
- Stretch both sides

Stretching - Quick Reference Guidelines

Start Relaxed

Do not begin until athletes are relaxed and muscles are warm

Be Systematic

Start at the top of body and work your way down

Progress from General to Specific

Start general, then move into event-specific exercises

Easy Stretching before Developmental

Make slow, progressive stretches

Do not bounce or jerk to stretch farther

Use Variety

Make it fun

Use different exercises to work the same muscles

Breathe Naturally

Do not hold your breath

Stay calm and relaxed

Allow for Individual Differences

Athletes start and progress at different levels

Stretch Regularly

Always include time for warm-up and cool-down

Stretch at home

Cool-Down

The cool-down is as important as the warm-up; however, it is often ignored. Stopping an activity abruptly may cause pooling of the blood and slow the removal of waste products in the athlete's body. It may also cause cramps, soreness and other problems for Special Olympics athletes. The cool-down gradually reduces the body temperature and heart rate and speeds the recovery process before the next training session or competitive experience. The cool-down is also a good time for the coach and athlete to talk about the session or competition. Note that cool-down is also a good time to do stretching. Muscles are warm and receptive to stretching movements.

Activity	Purpose	Time (minimum)
Slow aerobic jog	Lowers body temperature Gradually lowers heart rate	5 minutes
Light stretching	Removes waste from muscles	5 minutes

Basic Skills

Proper form is critical to receive maximum benefit from each primary and secondary exercise and to improve efficiency of lifts. Good form and technique are essential for preventing injuries. Because of particular body type or physical limitations, form may vary to a degree between athletes.

All lifts should be done slowly with the athlete under control through the entire range of motion. Rapid lifts should be limited and should only be done by advanced athletes approaching competition. This type of training should not be done at the expense of proper form or whenever pain or discomfort is felt by the athlete.

Squat

This is probably the most difficult of the three power-lifts for Special Olympics athletes to master. However, with patience and repetition, most athletes can perform this lift. This exercise contributes to the overall strength of the athlete more than any other exercise. Even if the athlete is not going to compete in the lift, the squat should be included in training because of its many benefits. It is often beneficial to have the athlete develop a base level of muscle tone through the use of easier-to-learn exercises (leg press, leg extension, and leg curl) prior to squatting. When the athlete has developed this base, it is important to work on the form with no weight before actually squatting with the Olympic bar and plates, no matter how light. Repetition is the key here! Find the proper stance for the athlete through trying both the narrow and wide stances. Because of the relative inflexibility at the calf and Achilles tendon, many athletes will not be able to squat with any degree of control with less than a shoulder-width stance. Use a wider stance with toes out, buttocks and knees back to allow the lower leg to be vertical with the ground, chest high, back straight, and chin up. This is easier for the athlete to learn and is more mechanically efficient.

As a way to teach the squat, instruct the athletes to start with hands straight ahead to improve balance. Also, the use of a mirror in front of the athlete while learning to squat can be beneficial.

The powerlifting athlete should train for the squat the same way the athlete would compete in a squat competition. The signal “squat” at the beginning of the lift and “rack” at the completion of the lift allow the athlete to become completely familiar with the signals of the movement.

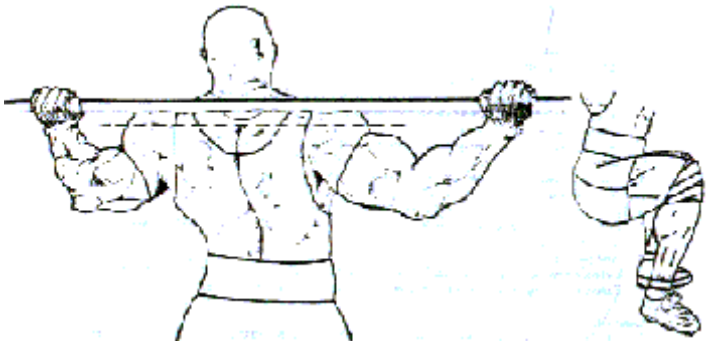
The following describes a competition format; athletes should be trained accordingly.

- The lifter shall face the front of the platform. The bar shall be held horizontally across the shoulders, hands and fingers gripping the bar, and the top of the bar not more than the thickness of the bar below the outer edge of the shoulders. The diagram below indicates the legal position of the bar across the shoulders. The hands may be positioned anywhere on the bar inside and or in contact with the inner collars.
- After removing the bar from the racks, (the lifter may be aided in removal of the bar from the racks by the spotter / loaders) the lifter must move backwards to establish the starting position.
- When the lifter is motionless, erect (erect to mean not leaning forward from the waist more than an angle of 15 degrees) with knees locked, and the bar properly positioned the Chief Referee will give the signal to begin the lift. The signal shall consist of a downward movement of the arm and the audible command “Squat”. Before receiving the signal to “squat” the lifter may make any position adjustments within the rules, without penalty. For reasons of safety the lifter will be requested to “Replace” the bar, together with a backward movement of the arm, if after a period of five seconds he is not in the correct position to begin the lift. The Chief Referee will then convey the reason why the signal was not given.
- Upon receiving the Chief Referee’s signal the lifter must bend the knees and lower the body until the top surface of the legs at the hip joint is lower than the top of the knees. Only one decent attempt is allowed. The attempt is deemed to have commenced when the lifters knees have unlocked. The bar may move from its starting position downwards on the lifters back the thickness / diameter of the bar during the performance of the lift.
- The lifter must recover at will to an upright position with the knees locked. Double bouncing at the bottom of the squat attempt or any downward movement is not permitted.
- When the lifter is motionless (in the apparent final position) the Chief Referee will give the signal to rack the bar.

The signal to rack the bar will consist of a backward motion of the arm and the audible command "Rack."

- The lifter must then return the bar to the racks. For reasons of safety the lifter may request the aid of the spotter/loaders in returning the bar to, and replacing it in the racks. The lifter must stay with the bar during this process.

The diagrams below indicate the legal bar position and required depth in the squat:



The coach's use of touch control and holding the athlete by the belt and shoulder can be effective in getting him or her into proper position and form. This should only be done in the early stages of learning the lift. If the athlete becomes dependent on a touch control or assistance, this will affect his or her performance in competition where touch and assistance are not allowed.

Although not necessary, an athlete may wear a belt and wraps while squatting. Make sure the athlete does not bounce at the bottom of the movement.

When doing repetitions, the use of the "squat" command is appropriate at each repetition. However, the "rack" command is used only after the completion of the last repetition. The athlete should pause between every two repetitions so as to master the technique of the squat lift.

The spotter should stand behind the athlete. No assistance should be given to the athlete by the spotter unless it is for the purpose of teaching the technique or helping an athlete who cannot complete the lift. Always encourage your athlete to complete the lift.

Facing the Bar

Getting Under the Bar

In Position

Slightly Below Parallel Position

Fully Erect Position

Rack

WATCH VIDEO

Skill Progression – Squat

Your Athlete Can:	Never	Sometimes	Often
Approach the bar and set themselves evenly, under the bar.	☐	☐	☐
Safely remove the bar from the rack, without assistance.	☐	☐	☐
Achieve the proper start position.	☐	☐	☐
Understand and execute the Squat Command.	☐	☐	☐
Achieve proper depth.	☐	☐	☐
Recover at will and assume the finishing position.	☐	☐	☐
Understand and execute the Rack Command.	☐	☐	☐
Totals			

NOTE: Medical Restriction: An athlete with Down Syndrome who has been diagnosed with Atlanto-Axial Instability may not participate in the back squat lift in powerlifting.

Coaching Tips

- ❑ Always emphasize proper form and technique.
- ❑ Always encourage and support your athlete through the lift.
- ❑ Instill the proper sequence of commands.
- ❑ Maximize your athletes' potential.
- ❑ Always consider that bad form may be the result of too much weight!

Faults & Fixes Chart – Squat

Error	Correction
Athlete does not listen or execute the commands	Consistently remind the athlete of the commands Provide verbal prompts Verbal praise for success WATCH VIDEO 1
Athlete does not achieve proper depth	Demonstrate/adjust form/technique Give your athlete verbal Prompt "lower" Consider Flexibility and/or Foot Position Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success WATCH VIDEO 2 WATCH VIDEO 3 WATCH VIDEO 4
Athlete has foot movement after squat command has been given	Demonstrate/adjust form/technique Give your athlete verbal prompts Repetition of correct form/technique Verbal praise for success
Athlete does not ascend with weight	Demonstrate/adjust form/technique Repetition of correct form/technique Verbal prompt "up" Reduce weight Verbal praise for success
Athlete leans too far forward in ascent	Demonstrate/adjust form/technique Repetition of correct form/technique Have the athlete perform lift with no weights Verbal prompt "head up or shoulders back" Reduce weight Verbal praise for success WATCH VIDEO 5

WATCH VIDEO 6

Bench Press

The following describes a competition format; athletes should be trained accordingly.

- The lifter must lie on his back with head, shoulders and buttocks in contact with the bench surface. The feet must be flat on the floor (as flat as the shape of the shoe will allow). His hands and fingers must grip the bar positioned in the rack stands with a thumbs around grip. This position shall be maintained throughout the lift. To achieve firm footing the lifter may use flat surfaced plates or blocks not exceeding 30 cm in total height to build up the surface of the platform. Blocks in the range of 5 cm, 10 cm, 20 cm, 30 cm, should be made available for foot placement at all international competitions.
- The spacing of the hands shall not exceed 81 cm measured between the forefingers (both forefingers must be within the 81 cm marks and the whole of the forefingers must be in contact with the 81 cm marks if maximum grip is used). If in the case of some old injury or anatomically the lifter is unable to grip the bar equally with both hands he must inform the referees prior to lift-off for each attempt and if necessary the bar will be marked accordingly. The use of the reverse grip is forbidden.

- After removing the bar from the racks, with or without the help of the spotter/loaders, the lifter shall wait with elbows locked for the Chief Referee's signal.
- The signal shall be given as soon as the lifter is motionless and the bar properly positioned. For reasons of safety the lifter will be requested to "Re-place" the bar, together with a backward movement of the arm, if after a period of five seconds he is not in the correct position to begin the lift. The Chief Referee will then convey the reason why the signal was not given.

- The signal to begin the attempt shall consist of a downward movement of the arm together with the audible command "Start."
- After receiving the signal, the lifter must lower the bar to the chest (the chest, for the purpose of the rule, finishes at the base of the sternum/breastbone), hold it motionless on the chest, after which the Chief referee will signal the audible command "Press."
- The lifter must then return the bar to arms length with no excessive/immoderate uneven extension of the arms.
- When held motionless in this position the audible command "Rack" shall be given together with a backward motion of the arm.

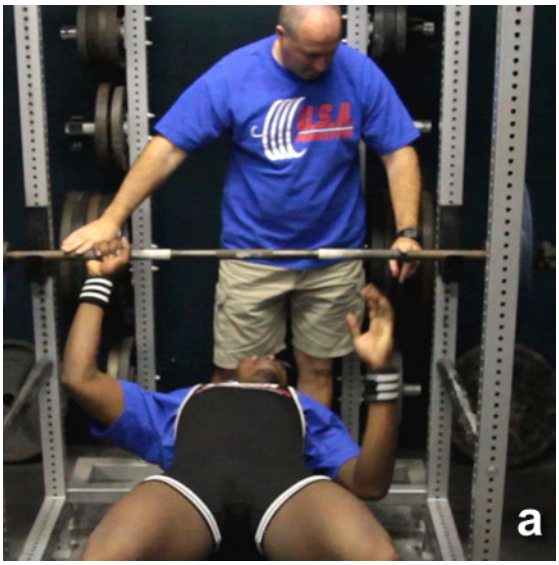
Any change in the elected lifting position during the lift proper (i.e. any raising movement of the head, shoulders, or buttocks, from the bench, or movement of the feet on the floor/blocks/plates or lateral movement of hands on the bar) will result in a no-lift.

If, anatomically, the arms cannot be fully extended, the lifter must declare this at weigh-ins prior to competition. The maximum allowable is 15 degrees out of true.

As with the squat, the athlete should learn to perform the bench press with little or no initial resistance. A stick can be used to simulate the bar while the athlete performs a high number of repetitions. For the athlete to learn where the bar should rest, the coach may touch the athlete's chest at the sternum to illustrate where the athlete should bring the bar down.

Additionally, the coach may place a hand at the point where the bar will be locked out to give the athlete a target for completing the lift.

Placement of Athlete's Hands



Placement of Athlete's Head

Coach Hands Off to Athlete

"Start"

Bar Motionless at Chest

"Press"

"Rack"

WATCH VIDEO 1

WATCH VIDEO 2

Skill Progression – Bench Press

Your Athlete Can:	Never	Sometimes	Often
Properly position themselves on the bench, without assistance.	☐	☐	☐
Evenly set their hands on the bar, without assistance.	☐	☐	☐
Achieve the proper start position.	☐	☐	☐
Understand and execute the Start Command.	☐	☐	☐
Achieve the proper press position.	☐	☐	☐
Understand and execute the Press Command.	☐	☐	☐
Achieve the proper finish position.	☐	☐	☐
Understand and execute the Rack Command.	☐	☐	☐
Totals			

Coaching Tips

- ❑ Always emphasize proper form and technique.
- ❑ Always encourage and support your athlete through the lift.
- ❑ Instill the proper sequence of commands.
- ❑ Maximize your athletes' potential.
- ❑ Always consider that bad form may be the result of too much weight!

Faults & Fixes Chart – Bench Press

Error	Correction
Athlete does not listen or execute the commands	Consistently remind the athlete of the commands Provide verbal prompts Verbal praise for success
Athlete does not achieve proper start position	Consider Foot and/or Body Position Demonstrate/adjust form/technique Give your athlete verbal Prompt "hold it" or "hold it high" while holding bar in place until they can hold it in the locked out position  Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success
Athlete does not hold bar at chest for press command	Demonstrate/adjust form/technique Give your athlete verbal Prompt "hold it" while holding bar in place until they can hold for the "press" command Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success
Athlete raises their head or buttocks	Demonstrate/adjust form/technique Give your athlete verbal prompt "butt down" Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success   

Error	Correction
Athlete does not push weight to full extension upon receiving the press command	Demonstrate/adjust form/technique Give your athlete verbal Prompt "push it" Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success
Athlete does not hold the bar for the signal "rack"	Demonstrate/adjust form/technique Give your athlete verbal Prompt "hold it" while holding bar in place until they can hold for the "rack " command Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success

Deadlift

The following describes a competition format; athletes should be trained accordingly.

- The lifter shall face the front of the platform with the bar laid horizontally in front of the lifter's feet, gripped with an optional grip in both hands and lifted until the lifter is standing erect.
- The lifter will then pull the bar to erect position with no support on the thighs and no downward movement of the bar. Any rising of the bar or any deliberate attempt to do so will count as an attempt. Once the attempt has begun no downward movement is allowed until the lifter reaches the erect position with the knees locked. If the bar settles as the shoulders come back (slightly downward on completion) this should not be reason to disqualify the lift.
- On completion of the lift, the knees shall be locked in a straight position and the shoulders back.
- The Chief Referee's signal shall consist of a downward movement of the arm and the audible command "Down." The signal will not be given until the bar is held motionless and the lifter is in the apparent finished position.

Correct form should also be practiced in the dead-lift. Using a straight back and pushing with the legs as much as possible will reduce the possibility of injury and provide for greater performance. The athlete should be familiar with the command "down" at the completion of the lift when the torso is erect, shoulders are in line with the torso, and the knees are straight. Also, athletes must not drop or slam the weight to the platform. Either the narrow or wide (sumo) stance may be used. Generally, the narrow stance with hands outside the legs is more appropriate for tall athletes. The sumo stance with hands inside the legs works better for the short athlete who has strong legs. Athletes with wide shoulders and narrow hips generally perform better with a narrow stance. Either stance can be used effectively by keeping the bar against the legs. Baby powder can also be used on the thighs to lubricate the upward movement. It is very important that this lift be done slowly with the head back, without bouncing or hitching the bar up the legs, and without rounding the back. The athlete must be taught to deadlift with head up, buttocks down, and back straight. A stick may be used to simulate a bar while establishing proper technique. During the initial learning stage, the coach should hold the athlete's shoulders back and push down on the back of the athlete's belt to reinforce good form as weight is added.

The coach may stand in front of the athlete to help the athlete position the feet, place the athlete's hands on the bar, and position the head in an upward position. The coach should not assist the athlete with the lift, except during the learning phase or if the athlete is having extreme difficulty maintaining correct form.

Athlete Faces the Bar

Athlete Starts Lift on His Own Time

Athlete Pulls the Weight

Erect Position with Knees Locked, Shoulders Back

Signal "Down"

WATCH VIDEO 1

WATCH VIDEO 2

Skill Progression – Deadlift

Your Athlete Can:	Never	Sometimes	Often
Properly position themselves at the bar, without assistance.	☐	☐	☐
Evenly set their hands on the bar, without assistance.	☐	☐	☐
Understand there is NO Start Command given.	☐	☐	☐
Perform the lift in one continuous motion.	☐	☐	☐
Achieve the proper upright position.	☐	☐	☐
Understand and execute the Down Command.	☐	☐	☐
Totals			

Coaching Tips

- ❑ Always emphasize proper form and technique.
- ❑ Always encourage and support your athlete through the lift.
- ❑ Ensure that your athlete understands when the lift should begin.
- ❑ Instill the proper down command.
- ❑ Maximize your athletes' potential.
- ❑ Always consider that bad form may be the result of too much weight!

Faults & Fixes Chart – Deadlift

Error	Correction
Athlete does not listen or execute the command	Consistently remind the athlete of the command Provide verbal prompts Verbal praise for success
Athlete lifts with too much forward lean and/or buttocks high	Give your athlete verbal cues. ("touch the bar with your legs, butt down, head up") Demonstrate/adjust form/technique Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success 
Athlete supports or "hitches" the weight on the legs	Give your athlete verbal cues ("keep pulling" or "don't stop") Demonstrate/adjust form/technique Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success 
Athlete does not achieve proper finish positions with the shoulders back or taking a step	Give your athlete verbal cues. ("finish it" or "shoulders back") Demonstrate/ adjust form/technique Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success 
Athlete does not maintain control of the bar	Give your athlete verbal cues. ("don't drop it") Demonstrate/adjust form/technique Reduce the weight Have the athlete perform lift with no weights Repetition of correct form/technique Verbal praise for success 

Supplementary Exercises

Perform those exercises that affect the weaker areas of the body and those that stabilize and provide balance, thus limiting the possibility of injury. The most effective supplementary exercises include the following:

Supplementary Exercises	Muscle Groups Affected	Competition Lift Affected
Leg Raises and Crunches	Abdominal	Squat, Deadlift
Barbell Curl	Bicep	Bench Press (stability)
Dumbbell Press	Shoulder, Tricep	Bench Press
Bent Barbell Row	Upper & Lower Back	Deadlift, Bench Press, Squat
Incline Bench Press	Chest, Shoulder	Bench Press
Upright Row	Shoulder, Tricep, Trapezoid	Bench Press, Deadlift
Lat Pulldown	Upper Back	Squat, Bench Press, Deadlift
Close Grip Bench Press	Close Grip Bench Press	Bench Press
Triceps Pushdowns	Tricep	Bench Press
Leg Press	Thigh	Squat, Deadlift
Leg Extensions	Front Thigh	Squat, Deadlift
Leg Curls	Rear Thigh	Squat, Deadlift
Triceps Extension	Tricep	Bench Press
Stiff Leg Deadlift	Lower Back, Thigh, Biceps	Squat, Deadlift
Step Ups	Thigh	Squat, Deadlift

Supplementary exercises should be performed from 2-3 sets of 8-10 repetitions each. It may be effective to change supplementary exercises as frequently as every four to eight weeks to maintain the athlete's enthusiasm and response to training. From the last week to two weeks before competition, all supplementary exercises can be dropped.

The supplementary exercises and how to perform them are shown below.

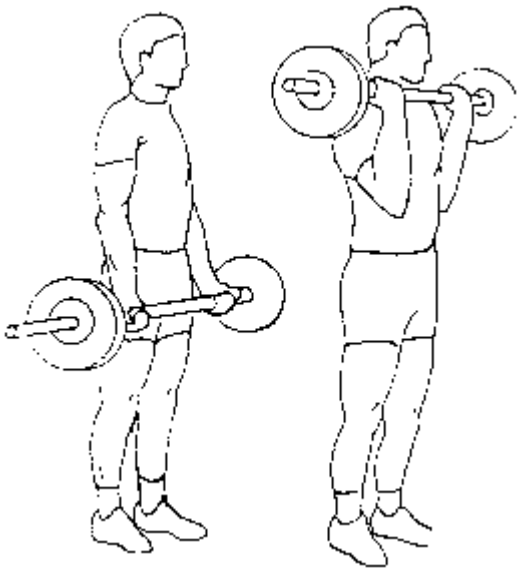
Leg Raises

- From a lying position on the bench with buttocks close to the end of the bench and knees straight, raise legs about 45 degrees and return.

Crunches

- From a lying position with knees bent, bring the chin to the upper chest and bring the shoulders upward.
- Slowly lower the upper body to the starting position and, without bouncing, begin again.

Barbell Curl

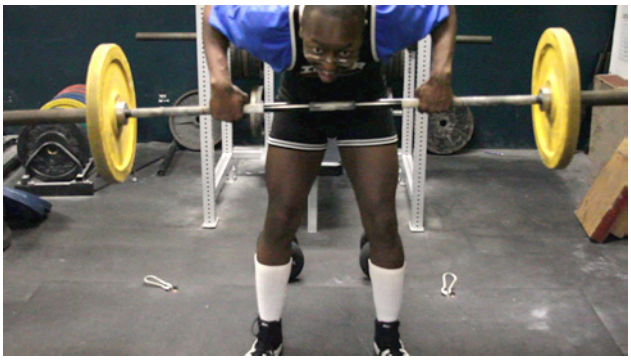


- Stand with feet about shoulder width apart and with a flat back.
- Grasp the barbell with a palms-up grip with the arms fully extended.
- Curl the barbell slowly upward with the elbows stationary until the forearms touch the biceps.
- Slowly return the barbell to the starting post and, without any swinging or body assist, begin again.
- This lift may also be done with dumbbells.

Dumbbell Press

- With dumbbells at shoulder level, and palms facing forward, press the weight overhead until the arms are fully extended.
- Lower the weight to the starting position and begin again.

Bent Barbell Row



- Stand in a bent over position, with back flat, feet shoulder width apart, and knees slightly bent.
- Holding the barbell with an overhand, shoulder width grip, bring the bar slowly to the chest.
- Slowly lower the barbell to the starting position and start again.

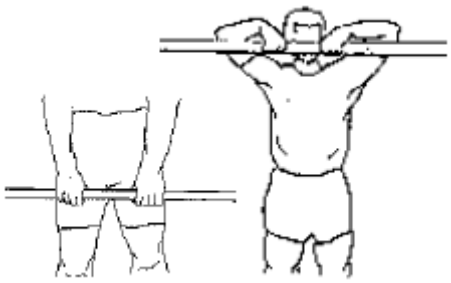
WATCH VIDEO 1

Incline Bench Press

- Lying on the incline press bench, with feet flat on floor and hands on the barbell at about shoulder width, begin the lift with a spotter closely following the bar.
- Slowly take the bar from the rack and bring it to the chest.
- Without a pause or a bounce, push the bar to full extension and start again.

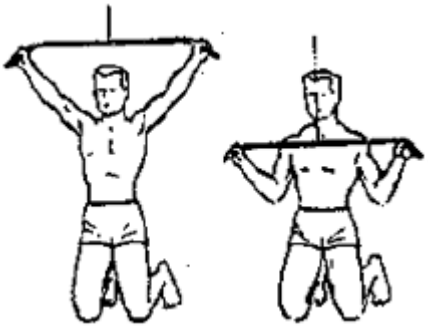
WATCH VIDEO 2

Upright Row



- Stand in an erect position with hands in an overhand grip holding the barbell at slightly less than shoulder width against the thighs.
- Lift the bar upward with a flat back, and without assisting with legs, along the abdomen and chest toward chin.
- Lower the bar slowly and under control and start again.

Lat Pulldown



- From a kneeling or seated position, and leaning slightly back, grasp the lat bar with a wide grip and arms straight and slowly pull the bar to the upper chest.
- Slowly return the bar to the starting position and start again.
- More weight can be used if the legs are held down.

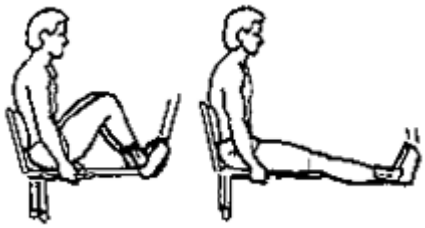
Close Grip Bench Press

- Lying on a flat bench, with feet flat on floor and hands on the barbell at closer than shoulder width, begin the lift with a spotter closely following the bar.
- Slowly take the bar from the rack and bring it to the chest.
- Without a pause or bounce, push the bar to full extension and start again.

Triceps Pushdowns

- Standing with the lat bar or a tricep bar grasped with an overhand grip, slowly press down to full extension, keeping elbows slightly forward and close to the sides.
- Slowly return the bar to starting position and start again.

Leg Press



- In a seated position with feet on press plate(s), slowly press to full extension of the legs.
- Slowly return the weight to starting position and, without bouncing, start again.

Leg Extensions

- In a seated position, slowly extend legs to a straight position.
- Slowly return to the starting position and, without bouncing, start again.

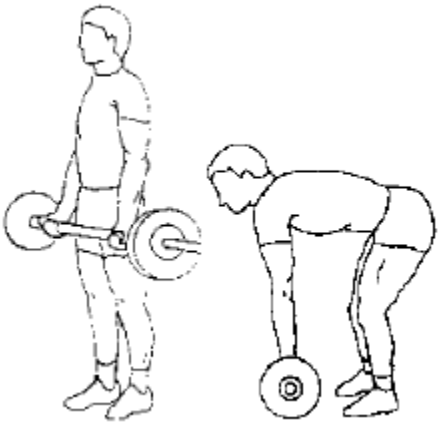
Leg Curls

- In a lying position with the back of the ankle pressing against the padded roller, slowly curl the legs to a contracted position.
- Lower slowly to start position and, without bouncing, start again.

Triceps Extension

- Lying on a flat bench, with feet flat on the floor, arms extended above the face, and hands on the barbell at closer than shoulder width, begin the lift with a spotter closely following the bar.
- Slowly take the bar from the rack or spotter and, keeping the elbows high, lower the bar to a position close to the chin.
- Push the bar to a fully extended position and start again.

Stiff Leg Deadlift



- Stand in an erect position, with back flat, feet shoulder width apart, and knees slightly bent.
- Holding the barbell with an alternating shoulder width grip, slowly lower the bar to just above the floor while keeping the back flat and knees only slightly bent.
- Without bouncing at the lowest point of the lift, and keeping the back flat and knees only slightly bent, return to the starting position and start again.

Step Ups

- From a standing position on the floor, holding dumbbells at side, step onto block or raised platform.
- Return to starting position, alternate feet and begin again.

Weekly Workout Schedule

A variety of workouts is effective. The following are two suggested weekly workout schedules:

Four-Day Option

Monday	Tuesday	Thursday	Friday
Heavy Squat	Heavy Bench Press	Light Squat	Light Bench Press
Stiff Leg Deadlift (light)	*Close Grip Bench Press	Deadlift	Close Grip Bench Press
Leg Press or Step Ups	Incline Bench Press	Leg Curl	*Upright Rows
Lat Pulldown	Overhead Press (front)	Bent Barbell Row	Barbell Curl
Leg Raises and Crunches	Barbell Curl	*Stiff Leg Deadlift	Tricep Extension
	Leg Raises and Crunches	Leg Raises and Crunches	Leg Raises and Crunches

Three-Day Option

Monday	Wednesday	Friday
Heavy Squat	Deadlifts	Light Squats
Leg Press	*Stiff Leg Deadlift	*Leg Extensions
Leg Curls	Bent Barbell Row	Leg Curls
Light Bench Press	Close Grip Bench Press	Heavy Bench Press
*Lat Pulldowns	*Tricep Extensions	Incline Bench Press
Tricep Pushdowns	Dumbbell Overhead Press	Lat Pulldowns
*Upright Rows	Dumbbell Curls	Seated Rows
Leg Raises and Crunches	Leg Raises and Crunches	Leg Raises and Crunches

Note: Precede all workouts with a full warm-up and stretching session.

**Denotes exercises that can be dropped if:*

1) *athlete is a beginner,*
2) *time is not available to complete entire routine,*
3) *faster recovery is necessary.*

Modifications and Adaptations

The focus of the Powerlifting Coaching Guide is to assist coaches in instructing all athletes to function at their maximum performance level. Realistic goals and objectives should be developed that present a challenge but do not force athletes into experiences loaded with failure. To provide positive experiences means that many athletes will require instructional activities that are adapted to their particular needs. Some examples of activity adaptations include:

Modifications of Activities

Special Olympics athletes are often denied the chance to learn new skills or activities because they are not physically able to perform the skills exactly according to the direction of the instructor or the instructional guide. The instructor may modify the skills involved in an activity so all athletes are able to participate.

Accommodating the Athletes

In competition, it is important that rules not be changed to suit several athletes' special needs. However, there are other ways to accommodate athletes' special needs. For example, the sound of the coach's voice can be used to assist visually impaired athletes.

Encouraging Activity

Coaches can structure lessons so that athletes respond to challenging questions. Such an approach permits athletes with various levels of ability to respond in ways that allow for success. Obviously, variations in response to these questions would be apparent from athlete to athlete depending on the level of ability and severity of impairment.

Changing the Method of Communication

Athletes sometimes require communications systems that are suited to their needs. For example, verbally explaining a task may not match up well with some athletes' information processing systems. Information that is more specific might be provided in other ways. For example, the instructor could simply demonstrate the sport skill. Some athletes may need not only to hear or see a skill but also to read a description of the skill. This need can be met for poor or non-readers through the use of a poster board to which stick figures are attached to show the task sequence for a skill.

Modification of Equipment

Successful participation in Special Olympics may sometimes require equipment that has been modified to suit the athlete's particular needs. Fortunately, special equipment may be available.

The squat rack should have the capability for the racks to support the bar close to the inside bar collars or closer in for athletes that prefer placing hands as wide as possible on the bar. This may be achieved using squat racks that tilt inward and locked in place then returned to the original vertical position after the lifter has completed the lift.

An adjustable bench press safety rack feature is required for all powerlifting competitions. The safety racks are set at the correct height for each lifter, high enough to protect the lifter if the bar is dropped during the lift, but not so high as to allow the athlete to strike the bars during proper execution of the lift.

The bar heights, racks in or out and safety rack heights should all be taken and provided to completion officials prior to the start of competition.

Modified Weight Bench

- Length: Shall be 2100 mm long overall and be flat and level.
- Width: The main body of the bench shall be 610 mm wide, but for a distance of 705 mm from the head end, the width shall be 305 mm leaving two equal shoulders of 152.50 mm.
- Height: The height shall be not less than 450 mm and not exceeding 500 mm measured from the floor to the top of the padded surface of the bench without it being depressed or compacted.
- Stands: The height of the uprights on both adjustable and non-adjustable benches shall be a minimum of 750 to 770 mm to a maximum of 1000 to 1100 mm measured from the floor to the bar rest position.
- Minimum width between insides of bar rests shall be 1100 mm.

Adaptations

More specific adaptation for associated impairments are listed below:

Visual Impairments

- Assist blind lifters.

Auditory Impairments

- Teacher learns and uses sign language.
- Have coach stand in one place for easy access and reference.

Cross Training in Powerlifting

Cross training is a modern-day term that refers to the substitution of skills other than the skills directly involved in their performance. Cross training came about as a result of injury rehabilitation and is now also used in injury prevention. When athletes sustain injuries in the legs or feet that keep them from training, other activities can be substituted so that athletes can keep up their aerobic and muscular strength.

There is a limited value and crossover to the specific exercise. A reason to "cross train" is to avoid injury and maintain muscular balance during a period of intense sport specific training. One of the keys to success in sport is staying healthy and training over the long haul. Cross training allows athletes to do event specific training workouts with greater enthusiasm and intensity, or less risk of injury.

POWERLIFTING COACHING GUIDE

Powerlifting Rules, Protocol & Etiquette

Table of Contents

Teaching Powerlifting Rules

The best time to teach the rules of powerlifting is during practice. The Official Special Olympics Sports Rules for Powerlifting shall govern all Special Olympics competitions. As an international sports program, Special Olympics has created these rules based upon International Powerlifting Federation (IPF) rules for powerlifting found at http://www.powerlifting-ipf.com/. IPF or National Governing Body (NGB) rules shall be employed except when they are in conflict with the Official Special Olympics Sports Rules for Powerlifting or Article I. In such cases, the Official Special Olympics Sports Rules for Powerlifting shall apply. Please refer to the official Special Olympics Sports Rules, which can be found at www.specialolympics.org for the complete listing of Powerlifting rules as modified and approved by SOI. As a coach, it is your responsibility to know and understand the rules and to teach these rules to your athletes and other coaches.

Protest Procedures

Protest procedures are governed by the rules of competition. The role of the competition management team is to enforce the rules. As a coach, your duty to your athletes is to protest any action or events that occur while your athletes are competing that you think violated the Official Powerlifting Rules. It is extremely important that you do not make protests because you and your athlete did not get your desired outcome. Protests are serious matters that impact a competition's schedule. Only rules violations can be protested. Judgment calls made by officials or divisioning decisions cannot be protested. The protest must site specific violations from the rulebook and a clear definition of why the coach feels the rule was not followed. Check with the competition manager prior to competition to learn the protest procedures for that competition.

There are generally two types of protests: Eligibility and Rules of the Game.

Eligibility

Protests regarding eligibility shall be filed according to the procedures approved by the competition management team.

Powerlifting Protocol & Etiquette

During Practice

Good Powerlifting etiquette and protocol start at practice. Teaching your team good sportsmanship and respect for officials, teammates, opponents and volunteers will carry over to when an actual competition takes place. Your role as coach sets the standard that your team will follow. Always strive to set a good example.

When practicing, make sure your team is following the rules they will expect to have enforced in competition. The better your athletes understand the rules, the better equipped they will be to understand why a given call was made. The coach needs to set a high standard of sportsmanship.

Sportsmanship

"Let me win. But if I cannot win, let me be brave in the attempt."

Good sportsmanship is the coaches' and athletes' commitment to fair play, ethical behavior and integrity. In perception and practice, sportsmanship is defined as those qualities which are characterized by generosity and genuine concern for others. Lead by example. Below we highlight a few focus points and ideas on how to teach and coach sportsmanship to your athletes.

Competitive Effort

- Put forth maximum effort during each event.
- Practice the skills with the same intensity as you would perform them in competition.
- Always finish the competition - Never quit.

Fair Play at All Times

- Always comply with the rules.
- Demonstrate sportsmanship and fair play at all times.
- Respect decisions of the officials at all times.

Expectations of Coaches

1. Always set a good example for participants and fans to follow.
2. Give positive reinforcement of athlete performance.
3. Respect the judgment of officials and abide by rules of the event.
4. Develop and enforce penalties for participants who do not abide by sportsmanship standards, in training and in competition.

Expectations of Athletes

1. Treat teammates with respect.
2. Encourage teammates when they make a mistake.
3. Respect judgment of officials and abide by rules of the event.
4. Cooperate with officials, coaches or directors and fellow participants to conduct a fair contest.
5. Accept seriously the responsibility and privilege of representing Special Olympics.
6. Define winning as doing your personal best.
7. Live up to the high standard of sportsmanship established by your coach.

Remember

- Sportsmanship is an attitude that is shown by the way you and your athletes act on and off the field of play.
- Be positive about competing.
- Respect your opponents and yourself.
- Always stay under control, even if you are feeling mad or angry.

Powerlifting Glossary of Terms

Term	Definition
Adaptation	Body/muscle adjust to increased workload or training stress
Ascent	Raising of the bar in any lift
Commands	Referees instructions prior to, during and after lifts, as per the International Powerlifting Federation Rules
Descent	Lowering the bar in any lift
Erect Position	Standing upright, legs locked
Hitching	Excessive supporting of the bar on the legs during the dead lift, usually as a ratcheting motion up the leg
Leverage	The mechanical advantage or disadvantage applied during the lift by the position of the body part (upper leg, upper arm, lower back) based upon hand placements, foot placement, or joint positioning
Muscle Endurance	Ability of muscle to produce work for a relatively long period of time
Negatives	Exercises that focus most of the energy of the lift toward the extension of the muscle and not the contraction. An example is allowing the lifter to lift the bar in the bench press from extended position to the chest and then have spotter assist to extension. Negatives can result in soreness and injury and should be avoided
Overcompensation	Tendency of body to elevate performance capability as a response to workload or increased training stress
Overload	Workload exceeds that previously experienced
Parallel	The point in the squat where the lifter's hip joint is even with the knee joint. To perform an acceptable lift, the lifter must go lower than parallel
Peaking	Training at 90 percent or higher, usually only in the last three to four weeks prior to competition
Periodization	Change in volume and intensity of workload over time
Power	Strength with speed
Primary Lifts	Squat, bench press, and deadlift or exercises that are basically irreplaceable for their contribution to overall strength development
Primary Muscles	Largest muscles capable of producing the most work in the squat, bench press, and deadlift (thigh, chest, and back muscles) or that contribute to overall strength development (bent row, stiff leg deadlift)
Recuperation	Muscles return to normal state or homeostasis

Term	Definition
Repetitions	Number of consecutive movements in an exercise between rest periods
Secondary Lifts	All supplementary lifts other than the squat, bench press, and deadlift or that directly contribute to overall strength development (bent row, stiff leg deadlifts)
Secondary Muscles	Smaller muscles (sometimes called synergists) that contribute to the work produced by the primary muscles directly or help with balance or control
Sets	Number of times a group of repetitions is performed
Spotting	The process of closely following the movement of the athlete during the lift with hands ready to assist if necessary. Except for during the learning period or for assisting when the athlete appears unable to make the lift, the hands should not be placed upon the bar or the athlete's body
Strength	Ability of muscle to produce force
Top Set	Heaviest set
Wilks Formula	Formulas that use historically based numbers by which different body weights can be reconciled or leveled to compare lifting competition results. A coefficient is calculated based upon the lifter's formula number and the amount of weight lifted. The resulting coefficient score is used to place the lifter. The Wilks Formula has one table for male lifters and one table for female lifters