



Special Olympics

POWERLIFTING COACHING GUIDE

Planning a Powerlifting Training & Competition Season



Table of Contents

Goals.....	3
Goal Setting and Motivation	3
Goal Setting.....	5
Planning a Powerlifting Training & Competition Season	6
Sample Training Plan	6
Sample Practice Session	7
Weight Training Record Chart	9
In-Season Planning.....	10
Stress Adaptation Curve	11
Essential Components of Planning a Powerlifting Training Session	12
Overtraining.....	12
Training to a Weight Class	13
Principles of Effective Training Sessions.....	14
Tips for Conducting Successful Training Sessions	15
Tips for Conducting Safe Training Sessions	16
Weight Room Safety	17
Powerlifting Attire.....	20
Shirt	20
Shorts	21
Briefs	21
Lifting Belt	21
Wraps.....	22
Socks	23
Shoes	23
Lifting Suits	24
Powerlifting Equipment	25
Platform	25
Bars and Discs	25
Collars	26
Squat Racks	27
Bench.....	27
Combined Squat and Bench Racks.....	28
Weight Needs	28



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	485
135	155	185	205	225	245	135	225	315	365	435	495
135	155	185	215	235	255	135	225	315	365	445	505
135	155	185	225	245	265	135	225	315	405	455	515
135	155	195	235	255	275	135	225	315	405	465	525
135	185	225	245	265	285	135	225	315	405	465	535
135	185	225	255	275	295	135	225	315	405	475	545
135	185	225	265	285	305	135	225	315	405	485	525
135	185	225	275	295	315	135	225	315	405	485	565
135	185	245	285	305	325	135	225	315	405	495	535
135	225	255	295	315	335	135	225	315	405	495	545
135	225	255	305	325	345	135	225	315	405	495	555
135	225	275	315	335	355	135	225	315	405	495	565
135	225	275	325	345	365						

Adapted from Pauletto (1986)



Special Olympics Powerlifting Coaching Guide Planning a Powerlifting Training & Competition Season

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.

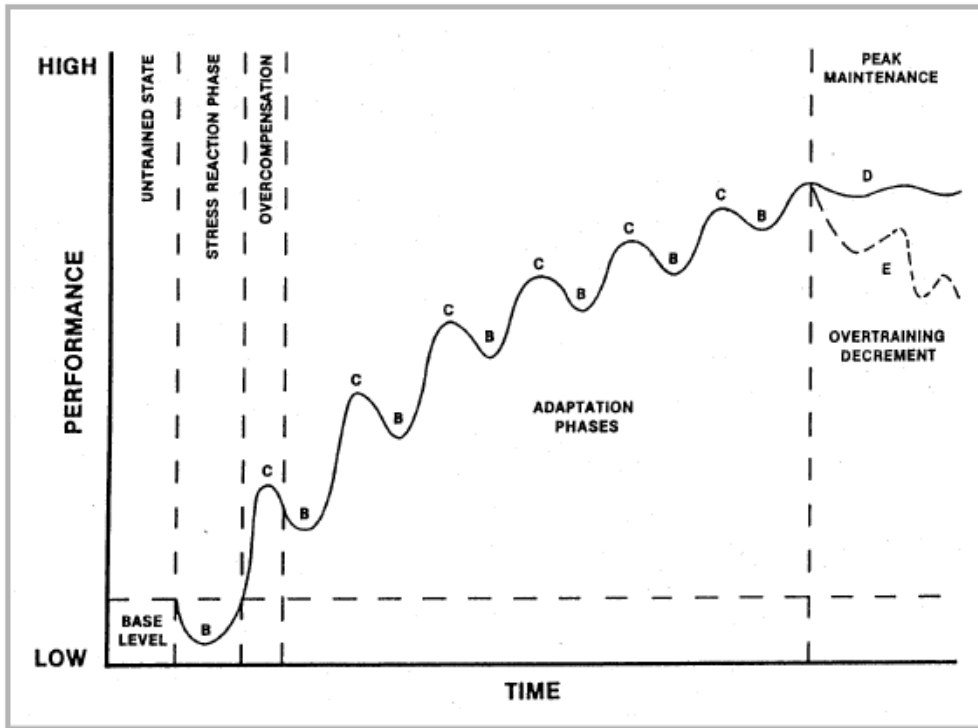
Training with an Adequate Workload

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.

- | |
|--|
| <ul style="list-style-type: none"><input type="checkbox"/> Warm-ups<input type="checkbox"/> Previously taught skills<input type="checkbox"/> New skills<input type="checkbox"/> Competition experience<input type="checkbox"/> 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 compete 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 be 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: <ul style="list-style-type: none"> • 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.



Special Olympics Powerlifting Coaching Guide Planning a Powerlifting Training & Competition Season

- 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:

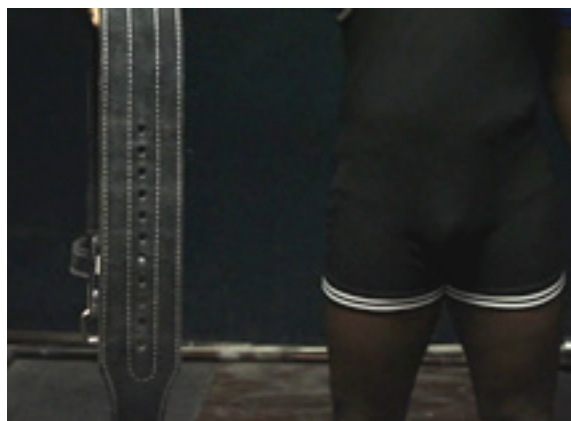
- The main body shall be made of leather, vinyl or other similar non-stretch material in one or more laminations which may be glued and/or stitched together.
- It shall not have additional padding, bracing or supports of any material either on the surface or concealed within the laminations of the belt.
- 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.

- Wrist 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.



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