



HOCKEY STRENGTH AND CONDITIONING.COM

"Weightroom Design" Round Table with:

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How much equipment do I need for proper administration/application of the program?

DN: I have assumed a team of 22 or 23 players in all my answers. I like having my weight room set up with 6 rack/platform combinations. I have 1 utility bench and 2 barbells with each rack. My dumbbells go up to 100lbs. by 2.5 pound increments. I also have 1 TRX on each rack.

SS: It depends on how many players you have to train. If it is just 1 team of 18-26 players or so, in an ideal world, I would want to have 4 self-contained power racks with Olympic lifting platforms attached. I would want enough bars and free weights for the rack and bars and weights for the Olympic platforms. Dumbbells or the adjustable dumbbells would be sufficient along with an adjustable bench for each power rack. 4 or so adjustable cable columns, plyo boxes, 4 slideboards, 12 or so stationary bikes, foam rollers, stability balls, mini bands, agility ladders, sleds

KN: This really depends on your situation with regards to things like: average training group size (e.g. 1-on-1 vs small group vs whole team), average athlete age, average athlete training age, etc. It's possible to develop programs with minimal equipment (e.g. a TRX, set of ValSlides, PowerBlock Dumbbells, and a medicine ball), but if you're training in a group setting, it's ideal to be better equipped. You'll have to consider how to organize athletes into smaller groups to flow through the training session smoothly with the equipment you have. For example, if you have 8 athletes in a group, but only two sets of PowerBlock dumbbells and two TRX stations, you'd probably have to set-up mini-stations and divide your group of 8 into two groups of 4, such that one group is doing something like:

A1) DB Reverse Lunge

A2) Front Plank March



- A3) DB Chest Press
- A4) 1-Leg Glute Bridge

And the other is doing something like:

- B1) Suspended Row
- B2) Feet-Elevated Side Plank
- B3) ValSlide Hamstring Curl
- B4) Lying Knee-to-Knee Mobilization

And then have them switch. You could also divide each group of 4 into two smaller groups of 2 and have two people start at "A1" and two start at "A3" and do the same for the B's. Again, it all depends on what you have available and what is in the best interest of the athletes.

MP: If you work with a team of 20 to 25 athletes I am a firm believer that you should plan to have equipment and equipment stations that can service 3 to 4 athletes at a time. This ratio can not only help the planning of work and rest intervals, but it can also help manage your weightroom schedule in a college or private setting. In these environments you need to be able to handle a large volume of athletes in 'back to back" time intervals. That being said, 5 or 6 platform/rack combinations with pull-up bar function, TRX attachment, weight and bar storage, and technique boxes for Olympic lifting teaching is where to start your list because they will take up a large chunk of weightroom space and service a high volume of athletes at one time. From there your dumbbell area should have 5 or 6 adjustable benches with multiple pairs of dumbbells that range from 5lbs to 120lbs. For your younger athletes having dumbbell weight at increments of 2.5lbs will help to progress strength gains slowly rather than having to make large jumps in weight. Large jumps in weight will compromise technique. You can get away with weighted magnet attachments if you can't afford the numerous pairs of Dumbbells. Also keep in mind that your 2.5lb increments can be purchased from 5lb to 65lb and then go in 5lb increments from 70lb to 120lb. Other items for purchase are plyo boxes at multiple heights, various weighted med balls that can be thrown against a cinder block wall, mini bands used for walking patterns and pelvic work, 5 slideboards, 12 to 14 stationary bikes (preferably airdynes), 3 to 5 cable columns or Keiser wall mounted units, and finally foam rollers for tissue prep work.

I think the other members of the roundtable would agree that with an open checkbook the purchase of equipment that is multi function and that can be utilized by a large amount of athletes at one time is easy. In many cases you will have a limited budget and that is where your programming creativity and budget management can be utilized. You need to choose equipment that will service your large group of athletes in a timely fashion, meet your physical development goals, and be durable.



How much warm up and conditioning space do I need to have in or adjacent to the facility?

DN: Our weight room has an area 12ft. x 70ft. of open space. I consider this to be very minimal and wish I had more.

SS: I would want a good amount of turf space in or next to my facility. This is something that I think hockey needs to look at and plan for in the future. Ideally 30 yards in length and 20 yards or so in width. Warm ups, plyo's, sled work, and conditioning can all take place on this area.

KN: This will depend on what you're warming up to do. Mobility/Activation work doesn't take much space, but movement prep stuff like shuffles, cariocas, back pedaling, etc. will require more. In general, you can probably get away with as little as 15' x 45', but something more along the lines of 20' x 90' would be ideal.

MP: Whether it be "field" turf, Mondo flooring, or a 5 lane track type surface I would prefer my warm-up area to be 10yards wide by 40yards long. It sounds like a lot of space and that space can take away from your weightroom floor, but consider the multi-use function of this movement area. You have a warm-up location that you can easily transition into your speed work and sled work elements at the opposite end of the "track" so to speak. This space provides the ability for a new group of athletes to begin their warm-up routine and not engage in a struggle for space with the previous training group.

How do I decide where to put/set-up the equipment?

DN: I like having my racks and platforms lined up side by side. This allows me to see the entire team all at once. This set up requires a rectangular weight room. Allow a minimum of 10ft. wide for each rack/platform.

SS: Whatever makes my general workout template flow better and makes sense for the space provided.



KN: You'll want to arrange the equipment based on how you want your athletes to flow through the program. Depending on how you design your programs, you'll want to have areas for warming up, speed work, plyos, med ball throws, resistance training, and conditioning. Within each of those categories, you'll want to make sure that athletes have adequate space to safely perform the exercises. Visibility is another important key. As a coach, you want to set-up your facility so that you can see every area that an athlete may be performing an exercise at once. If your facility has multiple rooms, try to cluster the equipment based on how you design the program, so you don't have athletes training in multiple rooms where you can't keep an eye on them.

MP: First consider how your program is formatted and if you can plan the organization of the room to match the program design. An example would be to begin your warm-up in a section of the room which is opposite to where the strength training will occur and polar opposite from where your cool-down activities like stretches will take place. This way here, you are not overlapping and disrupting the flow of training groups behind you. It's almost like an assembly line. Second, consider the safety aspect of equipment location. Squat racks along fixed wall space, strength equipment with at least 3feet of separation between each piece, plyometric areas with clear and stable landing surfaces, and if you are doing shuttle runs or acceleration work, make sure to have an adequate area to slow down. The third consideration is sight lines. As a coach you need to be able to see the entire room even if you are in your office. You should not only have a visual of who is training, but you should see when they walk in and out of your facility.

Do I need slideboards?

DN: Yes. I use slideboards nearly every session.

SS: Yes, I think I do need slideboards if I am designing an off-season program for a hockey player or team. I haven't trained a hockey player during an off-season without one. In-season, you could get by without one. I am truly convinced that conditioning on a slideboard is imperative.

KN: Slideboards offer a lot of versatility and are a great tool if you have space/money for them, but they aren't an absolute requirement. Any exercise that you can do on a slideboard (reverse lunges, push-up with 1-arm reach, bodysaw, hamstring curls, etc.)



you can do using ValSlides, which are much smaller and more mobile. The exception, naturally, is with actually slideboarding. In this case, the only times when this may be a limitation are during the latter phases of the off-season or when reconditioning an injured athlete, and there are other ways to train these qualities (e.g. relatively short-distance shuttle runs that necessitate a lot of direction changes).

MP: I think the use of the slideboard goes far beyond the lateral movement component and its common use during metabolic conditioning. For a piece of equipment to be truly valuable it needs to have multiple functions and at the same time save space. Like Kevin mentioned earlier a slideboard can be used for lunging patterns, push-up variations, core stability // anti-rotation movements, and hip extension movements. I believe for the money it is a cost effective and very productive tool.

How many square feet should I have per trainee?

DN: 150 square feet is minimal. Obviously, more would be better.

SS: Not sure, but I would say from 75-200 square feet. The more the better.

KN: I'm sure there is a more objective answer to this question in the NSCA text, but I think it's difficult to answer this without consideration to your environment. Space requirements will depend on the equipment and the size of the groups being trained. There are absolute space requirements for certain pieces of equipment and auxiliary space requirements based on how many athletes may be at a given station. When in doubt, err on the side of extra space. Safety is a top priority.

MP: I am also not sure on the NSCA or ACSM guidelines on allotted training space per athlete. We know that all pieces of equipment should be stationed 3 feet away from a neighboring piece of equipment. In regards to individual athletes, the rule that should hold true is that the surrounding area of the working athlete should be free of any obstructions that could risk his or her safety. Clearance from existing pieces of equipment and other athletes training should be explained by the performance coach at all times and in all situations.



Should I equip my weightroom with kettlebells or dumbbells?

DN: Both. Though if I have to choose I would choose dumbbells.

SS: I would go with dumbbells first. In my program, although we now use both, I really can't imagine us not needing dumbbells. Kettle bells, only a few exercises that we do that we couldn't use dumbbells instead.

KN: I'd go dumbbells first, kettlebells if you have extra money. The majority of exercises you can do with kettlebells, you can do with dumbbells as well. Dumbbells tend to come in smaller weight increments, which allows for easier load progressions, and lend themselves to a lot of exercises that kettlebells would make more uncomfortable for the athlete (e.g. chest press variations). I like that kettlebells have thicker grips, and the off-center load distribution has certain benefits though so they're a great tool if you can afford them.

MP: If cost is not a problem then I believe you should have both. If cost is an issue, start with having multiple pairs of Dumbbells and then slowly purchase kettlebells over time. Kettlebells offer a unique element to core training and I think purchasing light one's to start is a wise investment.

What can I add to the facility design to improve the level of safety for all the athletes training there?

DN: All mirrors should be 2 feet above the floor. Also, ceilings should be at least 12 feet high. Drinking fountains in the room are a big plus.

SS: More space so athletes can freely move around the room without walking into equipment. Also a rubberized floor to combat large amounts of sweat. We have a Mondo floor in our arena facility.

KN: More space and better visibility. These things have already been discussed above, but you want to ensure there is adequate space for your athletes to perform their exercises without concern of bumping into other equipment or athletes. Visibility will help you closely monitor exercise technique, which will also ensure safety. It's also imperative that, whether stated or simply understood, the athletes abide by an appropriate code of conduct within the weight room. This is a potential problem with



larger groups of younger athletes, but most athletes that are HS Juniors or older possess the maturity to conduct themselves in this type of environment.

MP: In this day and age MRSA is a major concern for fitness facilities, office environments, and hospitals. Your staff has an obligation to keep the facility and its equipment sanitary, especially if you are working with a high volume of athletes.

In the last 10 to 15 years or so flooring has evolved into a major component of your facility. Its major functions are the safety it provides to your joints when training on it, especially with jumping activities and its ability to stay clean and repel germs. Having a purified water source available for drinking in your facility is very important to combat heat related illness and dehydration. It is also the first step in beginning to teach young athletes about what is required to living a healthy lifestyle, good clean water! If a Stereo system is too loud athletes do not hear coaching cues and that will compromise the safety of the athletes and those training around him or her. As the strength coach you should have the control of the stereo, especially if you are training a young group of athletes. Music can be a motivating tool as long as it does not become a major distraction. Because the athletes operate the equipment you furnish the facility with, it becomes our responsibility as strength professionals to constantly check or have a service professional come in to service equipment. Those pieces of equipment that are expensive and have numerous moving parts like pulley systems, treadmills, bikes, and other common pieces of cardio equipment may have to be checked more frequently.

What non-equipment considerations should you be aware of when designing your own training space? I.E. Ceiling height, Lighting, Outlets for treadmills, flooring, etc.....

DN: I prefer to have rubber flooring around the weights and turf in the warm up area. In your electrical plans allow for dedicated circuits for your treadmills because they will draw fairly high amperage. We have 3 skylights in our weight room. This makes it much brighter. If you can have your room at ground level add an overhead door.

SS: Mirrors- making sure they are off the floor enough in case of plates being rested against the wall. Make sure that outlets have enough power for cardio equipment such as high speed treadmills. Stereo- Making sure that there is the capability of using an iPod. Also, making sure that the volume control to the stereo is near the actual stereo and not on the wall across the room (speaking from experience here)

KN: Once you have an idea of how much space you'll need, it's ideal to put together a layout of where you're going to put equipment. If you're going to throw med balls, you



need a brick/cinderblock wall, and these usually require special considerations with regards to how to set a foundation below the surface level of the floor. If you're going to do overhead lifts, you need to make sure the ceiling is high enough for the tallest athlete you may have at your facility (think NBA player). If you're going to have electrical equipment, you need to know where to put outlets. You'll also need to consider how you're going to set up your sound system (e.g. where to put the central unit, speakers, wiring, etc.). This may seem obvious, but you also need to consider where you want your athletes to enter your facility. For example, I wouldn't recommend having athletes walk right in and immediately encounter people throwing medicine balls. You'll have to build in a front desk/waiting area and your office space if you choose to have an office. Keep these things in mind when calculating total space requirements.

MP: I think ceiling height, electrical outlet locations, natural lighting, doorway width, sink space for nutritional needs, and having a solid cinder block wall available to throw med balls off of are all over looked. Ceiling height should be consistent throughout the facility and at least 12 feet. 12 feet allows for your racks to clear any ventilation and sprinkler system, but also gives you enough clearance when doing overhead lifts and pull-ups. Electrical outlets should be readily available at all areas of the facility just be sure that your cardio equipment has dedicated circuits to service the higher voltage requirements. Anytime you can have windows or skylights which provide natural lighting to your facility it is a plus. It is more motivating to train in an open floor plan than a dungeon. This may sound foolish but if you can design your facility to have extra wide doorways or double doors then go for it! It is 10 times easier to move equipment in and out of the facility when you don't have to negotiate a tight turn or low door-jam. If you have a wet area or counter space where athletes will be making post-workout shakes, be sure to provide a deep sink and a high faucet for cleaning blenders and cups. It will cut down on the mess and keep your dishware more sanitary. One of the best functions of a medicine ball is being able to throw it when training for force production. You cannot get the same training benefit throwing a medicine ball to a partner because you will slow down. If you do not hold back and your partner tries to catch the ball then they are risking a wrist or hand injury. A solid cinderblock type wall can be constructed fairly cheap and become a useful tool in your training arsenal.