

Building a Hockey Strength Program

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Simple Guidelines

- The only “bad” program is one that does not change
- The success of the program depends on constant change
 - Daily, Weekly, Monthly, and Yearly
- New stimuli must be given to the athlete at various times during the year
 - This is not to be mistaken for simply returning to previous stimuli
 - You must come up with new ways of stimulating and stressing your athletes in order to spur change for the better
- Use everything that is available

Key Factors For Successful Programming

- **High Volume**
- **High Intensity**
- **High Frequency**
- **Some Overtraining**
- **Always High Expectations**

Organizing Training

- Training session and days
 - A single workout or practice session
 - For most, this is the same as the training day
 - For advanced athletes, several sessions may comprise a day
- Training week
 - A series of several training days together – Train 5 to 6 Days
- Training month
 - A series of several training weeks
 - Often organized towards a common goal
 - i.e. Work Capacity, Speed, Strength
- Training year
 - A collection of training months with different or similar goals that work towards the overall performance goal for the year

Weekly Lifting Sessions

- **3 days a week**
 - Total body workouts each day
 - Includes upper and lower body
 - Extra days includes other sports
- **4 day split**
 - 2 days of lower body, 2 days of upper body
 - Wednesday - extra day – other sports
- **5 days a week**
 - 3 days of lower body, 2 days of upper body
 - Saturday includes other sports

Weekly Lifting Sessions

- **It is helpful to vary training loads from day to day and week to week**
- **Rule of 60 % for In-Season**
 - **The number of reps used during the in-season should be about 60 % of the number of reps used on the out-of-season workout**

Organizing Weekly Training

- Working Various Motor Task

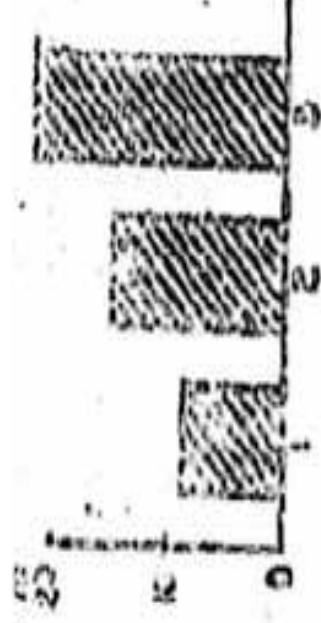
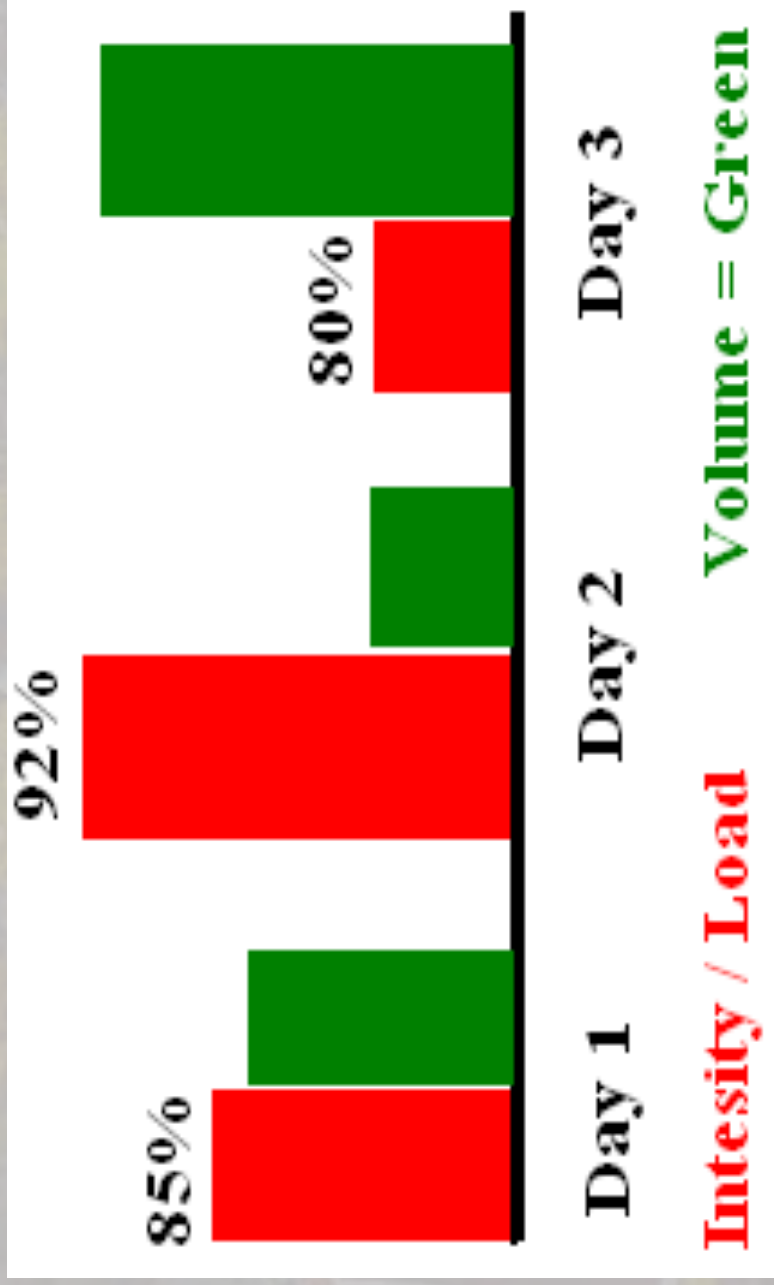


Figure 20: Increase in power in the vertical jump in place after 6 weeks of training with various weights: 1) 50% of maximum. 2) 90% of maximum and 3) combination of 90% and 50% of maximum.

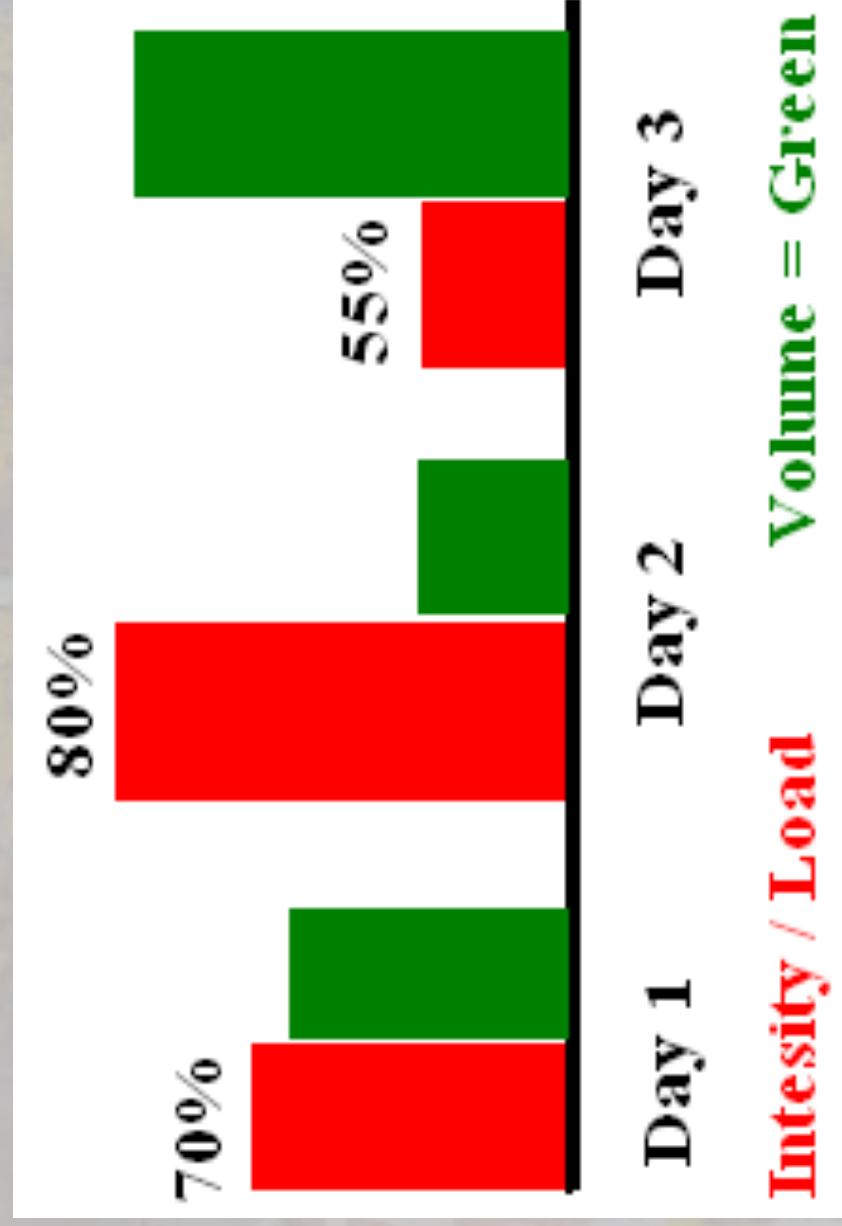
High Force at Low Velocity

>80% Loading for Undulating Weekly Model



High Force at High Velocity

<80% Loading for Undulating Weekly Model



Organizing Monthly Training

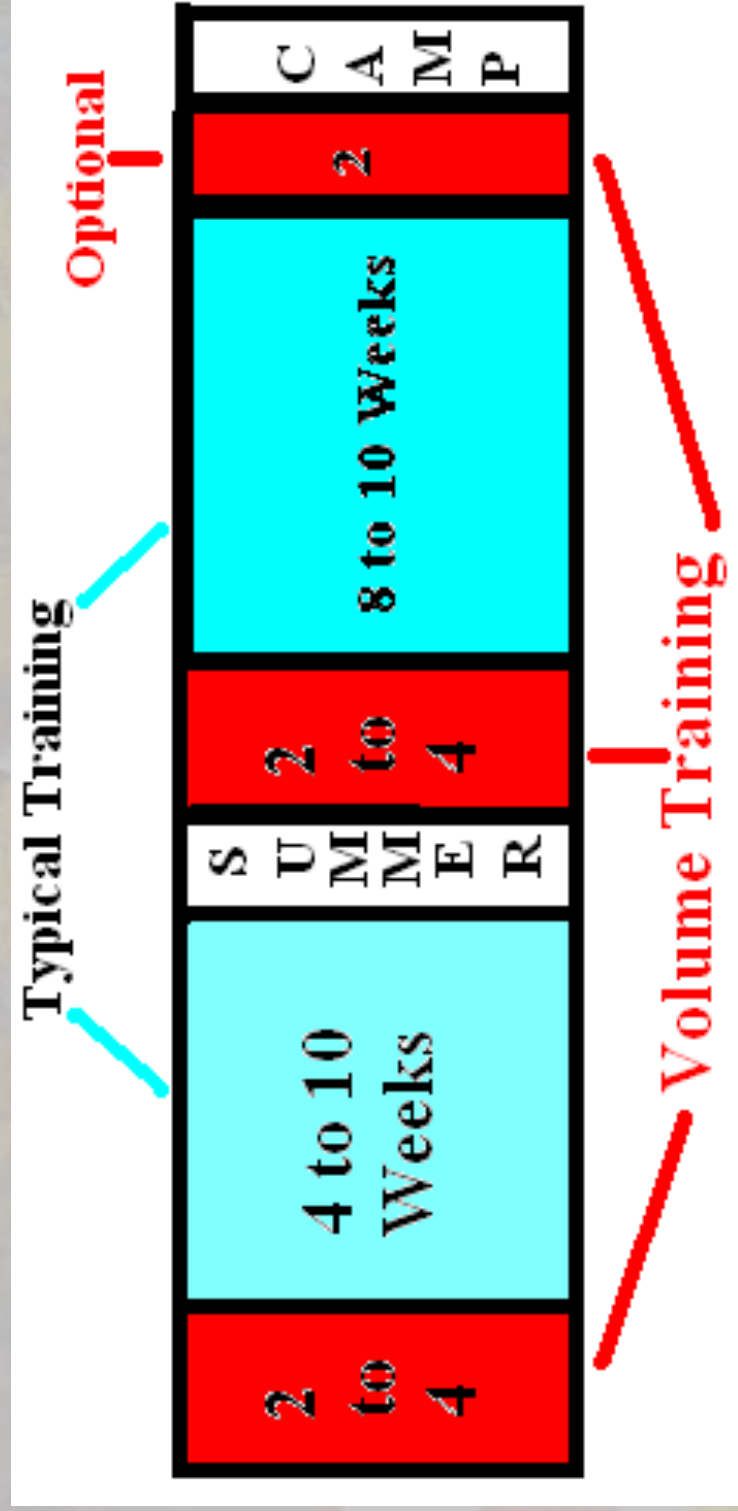
- Combining four weeks of training towards one goal (such as improving strength or increasing speed) is convenient and effective
- Basic Design
 - 3-6 weeks hard training
 - 1 week lighter training (download week)
 - 50-60%
 - Allows for effective training and a recovery week before the next month of training
 - During the light week, the athlete's bodies can catch up to the training, rebuild, and adapt to a higher state

Organizing Yearly Training

- Several months of training towards a specific goal makes training more effective
 - What do you athletes need?
 - Speed?
 - Strength?
 - Work capacity?
- Goal would be to apply more stress over a long period of time
- The type of stress that you want to apply in the beginning is volume based

Organizing Yearly Training

- Off-Season Training Plan-
- Volume Plan



Organizing The Training Session

- Start with a dynamic warm-up
- Perform the most valuable exercises or those that require coordination first
- Three keys to follow
 - Do main sport exercises before assistance exercises
 - Dynamic, power-type drills before slow exercises
 - Cleans before squats
 - Exercise larger muscle groups before smaller ones

Training Session Example:

Lifting day

- 1) Complete a proper dynamic warm prior to any activity
- 2) Choose from a list of [Dynamic Warm Ups](#) or from the [dynamic warm-up builder](#)
- 3) Choose a type of [Agility Drill](#)
- 4) Complete a [Strength Program](#) , [Adaptability Program](#), [Super Endurance Workout](#) or [build your own](#).
- 5) Choose a [Hockey specific Prehab](#) workout
- 6) Complete a [Core Training Session](#) and/or a Stretching Workout
- 7) Speed or Conditioning Training – [Coaching Tool](#)

Training Session Example:

Off day or conditioning

- 1) Complete a proper dynamic warm prior to any activity
- 2) Choose from a list of **Dynamic Warm Ups**
- 3) Choose an **Agility Drill** to complete
- 4) Complete a **Game Speed Conditioning Plan or General Conditioning**
- 5) Complete a **Core Training Session** and/or a **Stretching Workout**

Training Day: Getting Started

- **Dynamic Warm Up**
 - **Most effective way of preparing for training, practice and competition**
- **What it does**
 - **Increase blood flow**
 - **Increase body and muscular temperature**
 - **Improve kinesthetic awareness – moving the arms and legs across the midline**
 - **Injury prevention – superior to static stretching**

Different Types of Warm Ups

- Dynamic Running – First
- Dynamic Walking – Second
- Dynamic Still – Third
- Various types of warm ups provided on

XLATHLETE.com

Cone Agility Drills

- Develop speed and ability to change direction
- [Examples](#)
- Helpful coaching points
- Do your drills in a competitive atmosphere
 - Run the drills fast and accurately
 - Take as few steps as possible
 - Stay low – keep your center of gravity (hips) low to allow for effective and easy changes in direction
- [Single Leg Isometric Deadlift](#)

Ladder Drills

- Common misconception: ladder drills train speed
 - Ladder drills do not make an athlete faster
 - There is not enough intensity and force to stimulate changes in neuromuscular velocity output
- What they do:
 - Learn skill or pattern – stay in good position.
 - Develop footwork awareness
 - Train the body to quickly adapt to uncertain or unknown situations (throw/catch balls simultaneously)
 - Include math problems to challenge the brain

Prehab Exercise

- 2 sets of 2 to 3 Exercises Paired
- Examples
 - Balance Single Leg Squat (knees, quads, ACL)
 - Piston Squat – With Band (knees, quads, ACL)
 - TKF (quads, prevention of tendonitis)
 - 4 Way Ankle Kicks (hips, glutes, groin)
 - 3 Way Ham Press (hamstrings)
 - Cuban Press Figure 8 (rotator cuff)

Sports Specific Prehab

- Groin
- Pool Workouts
- Shoulder Circuits
- Knee Prehab
- YWTL Circuit

Core Training

- An important aspect of training often left out
 - Rotational Movements for stabilization in running
- Developing the ability to absorb and resist force with the core musculature
 - When making contact with an opponent, the core must quickly tighten and absorb force, or the body will crumble
- Ways of training the core to absorb force
 - Oscillatory Box Push Up and Clap Push Ups

Guidelines with Percentages and Reps

- **55% - 74% - Reps of 5 to 3 – With Variables**
- **75 % - 4 to 2 – Out-of-season – In-season**
- **80 % - 4 to 1 – Out-of-season – In-season**
- **85 % - 3 to 1 – Out-of-season – In-season**
- **92 % - 2 to 1 – Out-of-season – In-season**
- **Rule Number One (Speed/ Quality)**
- **Cluster Training-Set of 3 Reps (1+1+1) 10 Sec**

Off Season Building Of Athletes

- **Play other sports!**
 - Improve ability to see plays develop and make plays
 - Improve running and jumping abilities
 - Improve hand-eye coordination
 - Condition the athletes
- **Examples**
 - Basketball, [Russian Basketball](#), Tennis, Racquetball, Volleyball, Table Tennis, Soccer, Trash Ball, Football

Human Performance:

Current Practices

- **Two ways to get better**
 - **Increase strength**
 - **Increase speed**
- **Rate of Force Development**
 - **A very important factor in explosive sports**
 - **The ability to develop force quickly**
 - **The development of maximum strength takes time**
 - **This is often much more time than the athlete has**

Specific Conditioning

- Metabolic Game Speed Conditioning – [Preview](#)
 - Decrease injuries
 - Very specific to speed sports
- Interval Training – Key to increasing fitness levels
 - Intensity is key
 - Use speed or conditioning
- Try to match conditioning with training

Important Coaching Concepts

- **Stop over coaching in the weight room**
- **Sound technique**
- **Keep it simple and on point**
- **Weight room experiment**
 - **Using a power measuring device (Tendo)**
 - **Loss of speed and force output happen when too many coaching cues are given**

Plyometrics

- **An excellent way to improve explosiveness and reactive strength**
- **Trains two qualities in the neuromuscular system**
 - **Makes the stretch-reflex more effective (creates a more powerful contraction) and inhibits the Golgi Tendon Organ reflex, which can limit explosive performance**
 - **Trains the elastic properties of muscles and tendons to properly prepare the athlete for explosive sport performance**

Plyometrics

- **Often overdosed in training**
 - This is because plyometric exercise is not fatiguing in the traditional sense (such as distance running) but primarily in a neural sense
 - The muscles and nerves can easily become overtrained and performance can suffer
- It is best to do only a few jumps per plyometric session and only include plyometrics during the most appropriate time of year (near peaking for example)

Plyometrics

- Best to perform plyometrics early in a workout when fresh
- Here are some examples of basic plyometrics
 - [Plyometrics](#)

Loading Methods

Use Various Methods on Day 1- Sub Max
Triphasic, Clustering, Contrast, Complex, Bands ,
Chains, Weight Releasers, Tendo Training , Bio-
Feedback.

Use Max Effort Method on Day 2

Use Various Methods on Day 3 – High Volume
Triphasic, Body building Methods, Strongman,
Clustering, Contrast, Complex, Bands , Chains,
Weight Releasers, Tendo Training , Bio-Feedback, Trx,
p90x, Cross Fit

Tri-Phasic Undulating Block

Method – Squat Example

Block 1	Block 2	Block 3
Weeks 1 & 2 Eccentric	Weeks 3 & 4 Isometric	Weeks 5 & 6 Concentric
Eccentric	Isometric	Explosive
Squat	Squat	Squat
6:0:0:0	0:3:0:0	0:0:0:0

[Back Squat Ecc](#)

[Back Squat Iso](#)

[Back Squat](#)

French Contrast Training

- E1 Back Squat – 3 to 5 reps
- E2 Hurdle Hop – 3 to 5 Reps
- E3 Squat Jump With Weight 3 to 5 Reps
- E4 Power Step up – 3 to 5 reps
- Example: Back Squat - 6 Week Model
 - 2 weeks **eccentric tempo** in first block
 - 2 weeks **iso-hold** in second block
 - 2 weeks **dynamic action** in third block
- 800m versus 100m
 - Tempo is based on athlete's needs

Clustering

- 3 sets of 3 reps or 3 sets of 1+1+1
- Allows for more quality reps at an intense load
- Usually performed on the high intensity low volume day

[View Full Cluster Article](#)

Complex Training

- The use of plyometrics in between sets of strength training
- 3 sets of 3 reps paired with 3 sets of 3 plyometrics
- Speed load should be under 80 percent

Complex Training

- **Set 1** - 2 Reps Back Squat **p/w** 3 Box Jumps
- **Set 2** - 2 Reps Back Squat **p/w** 3 Box Jumps
- **Set 3** - 2 Reps Back Squat **p/w** 3 Box Jumps

Contrast Training

- Used during heavy loading phases – Drop off around 15 to 20 percent
- Set 1 – 2 reps @ 90%
- Set 2 - 2 reps @ 70%
- Set 3 – 2 reps @ 90%
- Set 4 - 2 reps @ 70%
- Set 5 – 2 reps @ 90%
- Set 6 - 2 reps @ 70%
- Rest 2 min between sets

Restoration and Recovery

- **Post workout recovery is often overlooked when designing programs**
- **It is important to jump start the healing processes of the body**
- **There are three basic types of recovery**
 - **Mechanical (exercises and cool down)**
 - **Biochemical (nutrition)**
 - **Psychological**

Restoration and Recovery

- **Mechanical recovery helps in a few basic ways**
 - **Rid the body of metabolic waste**
 - **Increase circulation to help get nutrients to areas in need of repair**
 - **Help decompress tissues and the spine after loading**

Restoration and Recovery

- Here are a few examples of mechanical recovery
 - Exercises
 - Bike Recovery

Chocolate Milk For Recovery

- 1. Recovery is most important factor in training**
- 2. Get boosters involved in buying process**
- 3. Administration feels very comfortable about milk**
- 4. The cost is as effective as the product**
- 5. Carbohydrate to Protein ratio is idea for post workout recovery**

Nutrition For Recovery

- As training volume increases, food intake needs to increase
- Consume healthy, natural foods
 - Grass fed, free range meats and dairy products
 - In-season fruits and vegetables
 - Healthy fats from oils and mixed nuts
- Stay away from empty calories

Nutrition For Recovery

- Stay hydrated
 - Water is anabolic
 - After training/practice/games replenish with electrolytes
- Lose body fat
 - Don't eat 2-3 hours prior to bed
 - Especially carbs close to bedtime
 - Stay away from sugary drinks and food

Recovery

- Sleep
 - Rest is the best recovery method there is, without enough rest your body can not repair itself.

Questions?

- Thank you for your interest!
- Please feel free to visit:

www.xlathlete.com

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