

Ice Hockey Off-Ice Training

Squirt – no formal off-ice training

Pee Wee – Developmentally dependant. Non-technical training focused (games play).

Bantam – Well-planned, but low intensity off-ice training with emphasis on technical / physical development

Midget - Well-planned, but moderate to high intensity off-ice training

Junior - Mandatory, well-planned moderate to high intensity off-ice training

Off-Ice / Dry-land Training

If choice between time away from training or dry land training with non-specific goals – **CHOOSE THE TIME OFF! DO NO HARM!**

When?

- Off-Season – for long-term progression and development of many components.
- Pre-Season – do not attempt to gain fitness in less than 8-week window.
- In-Season – work on components that on-ice creates, that off-ice cannot address or to delay fitness peak (neuromuscular peak).

Where?

- Utilize outdoors during summer if possible.
- Any outdoor site can be utilized as long as it is a flat, safe environment.
- In summer months be very concerned regarding severe weather. Know and practice 30 second 'Flash-to-Bang' and follow free web services.
- Indoor areas must follow national safety standards. www.nasca-lift.org

How?

- Begin with a well-thought through plan. Set objectives and goals and a progression to get to goals in a time-realistic manner.
- Dry Land training (as with on-ice training) without specific goals to improve performance is a waste of both your time and your athlete's valuable non-ice time. Coach only what you know well. Many things have been learned about fitness in the last 5-7 years.
- Previous experience as an athlete DOES NOT COUNT!!! If you do not know, do not do. Knowing a piece of training equipment does not mean you know the development that the item is able to provide – Think: "Hammer"

Hockey from a Functional View

Most activity is under 30 seconds of duration and at high speed Motion requires total body movement

Extension = Flexion
Exposure to contact

Total Fitness Strategy

- Develop as the body allows Maintain diligence to developmental stages. Don't try to develop what the body systems cannot handle.
 - Age Specific
 - S.A.I.D.
 - Overload
 - Nerve to muscle
 - Core to extremity
- History - Design Dry Land to address Injury Trends – Needs Assessment if no previous records exist.
- Testing
- Periodization as a fitness concept

Fitness **MUST** follow this pattern

Flexibility

Balance - muscular and COG

Stability - core then extremities

Energy System Efficiency

Strength

Speed

Power

Power training / plyometrics before the foundation is complete increases risk of injury – excessive stress on tissues before they are ready (hip flexors and groins in ice hockey players)

Work to Recovery Ratios

0-30 seconds: 1 to 3 progress to 1:2

45-90seconds: 1:2 progress to 1:1.5

180 seconds and up: 1:1

Neurological Development

- Muscle only does what the nerves tell them to!
- Quality of motion
- Speed of motion

Train for Stability

- Force is transferred more efficiently when that joint is stable.
- Summation of Forces applies when no force is dissipated.

Plateaus are inevitable – Periodization (see USA Hockey Coaching Manuals

- Manipulate plateaus to your benefit
- Many components to peak for superior play –need time to train all
- Difficult to set / achieve year-long goals
- Cannot maintain fitness peak for more than 3 weeks and no more than 2 peaks each calendar year.

Ice Hockey Off-Ice Training

The Components of Fitness

1. Aerobic Capacity
2. Anaerobic Capacity
 - HEP (ATC-CPK)
 - PY-LA
3. Flexibility
 - Dynamic
 - Static
4. Orthopædic Fitness
 - Integrity
 - Stability
5. Muscular Function
 - Endurance
 - Strength
 - Power
6. Sensory
 - Visual
 - Auditory
7. Speed
 - Reaction
 - First Step
 - 2-3 Stride
 - Change of Direction (Deceleration)
8. Body Composition

Testing

At least twice per year (goal: 3/year)

At least 3 months between testing

No more than 7 months between testing

- Prior to Pre-season
- After mid-season break
- Immediately after end of season

Importance of Regular Testing

Do you know where you are?

Allows for accurate goal setting

Motivational factor

Plateau prevention

Most Misunderstood Fitness Component? Flexibility

The following are flexibility MYTHS

Increased flexibility decreases injury rates

Stretches should always be performed before participation

Stretches should be held for a 10 count

Flexibility is based in the muscle belly

Increased flexibility has no performance benefits

Static Flexibility

Disadvantage

- Little definitive pre-game benefit
- Decreased power output for 90-120 minutes after performing
 - 4-6 months for initial gains

Advantage

- Base development
- Removes waste products
- Aids in recovery

Key Points

- 17-second hold, usually 30-60 seconds
- Immediately upon awakening
- Post-activity

Dynamic Flexibility

Disadvantage

- Can cause soft tissue damage if baseline is not present

Advantage

- Aids in removing waste products
- Can develop substantial flexibility gains
- Training can be very sports-specific

Key Points

- Controlled motion in functional pattern

Utilization of Flexibility during a training session

1. General warm-up (off-ice)
2. Dynamic flexibility (off-ice)
3. Sport-specific warm-up
4. Individual skill work
5. Dynamic motions to address movement skills
6. PRACTICE
7. General warm-down (off-ice)
8. General static flexibility (off-ice)

What is the Warm-Up?

General to sport-specific

Static to dynamic

Warms deep muscle tissue (Core=102° F)

Triggers hypothalamus to start sweat response

Warms joint fluids, lubricants and synovial fluids

Increases respiratory rate

Elevates heart rate and therefore volume of blood flow

Increases rate of nerve firing and therefore speed

What is the Warm-Down?

Begin within 5 to 10 minutes after the end of a training bout or match

Dynamic to Static

Consume 6% glucose beverages during warm-down

High complex carbohydrate meal within 2 hours after the end to aid with recovery.