

PROFESSIONAL SKATERS ASSOCIATION

**PSA**


*"Success in competition should be the outcome of quality training, not chance or luck. It should be planned for and thus expected."*

~Anne Pankhurst, USTA Elite Player Development

**Behind & Beyond  
PERIODIZATION**

**2008 Dance Coaches College**  
Colorado Springs, CO  
April 25-26, 2008

**"Bridging the Gaps" between the ART, SCIENCE and BUSINESS of coaching.**



Every successful business has a plan...


...What's mine?

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Those who have built support teams know that it starts with education and requires the ability to identify strengths and weaknesses, secure resources, and build and sustain good business relationships.

Perhaps most importantly, it requires the ability (and willingness) to PLAN.

**Always understand WHY.**



## Periodization is a PLAN...

**TRANSITION or ACTIVE REST** (\*\* 2-4 weeks – Mid January – February)

Purpose: to recover physiologically and psychologically from the in-season competitive phase (reversal of skating related injuries to include muscle fatigue, psychological fatigue, etc.)

Facilities: several times daily, pre-practice warm-up, post practice cool-down (additional ballet classes, etc.)

Artistic Conditioning: initiate cross-training emphasizing physical activity in other sports.

Asana/Conditioning: none

Strength Training: 3 times per week.

Psychosocial: none

Other: skate 2-5 times per week to maintain abilities as desired, review past season.

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**EARLY OFF-SEASON** (\*\* 5 weeks – Mid February – Mid April)

Purpose: to develop strength and aerobic base

Facilities: several times daily, pre-practice warm-up, post practice cool-down (add Artistic Conditioning, continuous activity 70-85% MAX HR, 3-5 times week for 3 Asana/Conditioning, none)

Asana/Conditioning: none

Strength Training: 3 times per week.

Psychosocial: none

Other: set future goals and master calendar, begin to learn new moves, choose final

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**LATE OFF-SEASON** (\*\* 5 weeks – Mid April – Begin Summer Ice)

Purpose: to increase strength, begin power base, power and aerobic conditioning, be

Facilities: several times daily, pre-practice warm-up, post practice cool-down (add Artistic Conditioning, 1-2 times per week at 70-85% MAX HR for 30 minutes, Asana/Conditioning, 2-3 times per week at 85-95% MAX HR, see Interval Training)

Strength Training: 3 times per week.

Psychosocial: 1 time per week.

Other: further develop and improve new moves, begin to set program to music, cool

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**PRE-SEASON** (\*\* 12 weeks – Mid June – Mid September)

Purpose: emphasis on sport specific training, peak levels in skills training, strength,

Facilities: several times daily, pre-practice warm-up, post practice cool-down (add Artistic Conditioning, 1 time per week)

Asana/Conditioning: 1 time per week.

Strength Training: 3 times per week.

Psychosocial: 1 time per week.

Other: continue refine and improve program choreography and additional new ice skills for focus and program performance.

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**IN-SEASON** (\*\* 12-18 weeks – Mid September – U.S. Championships)

Purpose: to maintain strength, power, aerobic, anaerobic conditioning throughout a

Facilities: several times daily, pre-practice warm-up, post practice cool-down (add Artistic Conditioning, none)

Asana/Conditioning: none

Strength Training: 3 times per week.

Psychosocial: 1 time per week.

Other: occasionally refine and improve program choreography and additional new ice skills for focus and program performance.

**Planning sounds boring.**

It becomes complicated, unclear, overwhelming; Too time-consuming, too distracting; It's too much to handle and creates more problems than it solves.

**But at what expense?**


While we're busy being busy, our athletes are at risk of becoming sick, injured and over-trained.


Undefined and/or un-communicated plans can obscure a once-clear vision of **PERFORMANCE**.

Key components of an effective support system are overlooked:

- Education
- Cohesiveness
- Communication
- Relationships

**Periodization is a PLAN...**





## Before we apply what periodization is... ..We have to believe in what it does:

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**...We have to believe in what it does:**

- Education
- Cohesiveness
- Communication
- Relationships

- Cope with Demands
- Know Status
- Be Supported
- Stay Healthier (Longer)
- Reduce Chance of Injury
- Stay Mentally Fresh
- Recover
- Taper
- Perform Better
- Achieve Goals

**Before we apply what periodization is...**



**US FIGURE SKATING**

**Always understand WHY.**

**...believe in what it does...**

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**Principles of Conditioning**

1. **Overload**
2. **Progression**
3. **Adaptation**
4. **Use/Disuse**
5. **Specificity**
6. **Individuality**

— — — PERFORMANCE LEVEL  
 - - - - INTENSITY LEVEL  
 - - - - VOLUME OF TRAINING

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 - - - - INTENSITY LEVEL  
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**Overload:** a greater than normal stress or load on the body is required for training adaptation to take place. The body will adapt to this stimulus. If this stress is removed or decreased there will be a decrease in that particular component of fitness.


**Progression:** there is an optimal level of overload that should be achieved, and an optimal timeframe for this overload to occur. Overload should not be increased too slowly or improvement is unlikely. Overload that is increased too rapidly will result in injury or muscle damage. Exercising above the target zone is counterproductive and can be dangerous. The Principle of Progression also makes us realize the need for proper rest and recovery. Continual stress on the body and constant overload with result in exhaustion and injury.

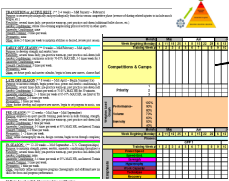
**Adaptation:** through repetition, the body will remember and accommodate certain activities, movements, skills and stresses. the skill becomes easier to perform. This also explains the need to vary the routine and continue to apply the Overload Principle if continued improvement is desired.

**Use/Disuse:** muscles hypertrophy with use and atrophy with disuse. It is important to find a balance between stress and rest.

**Specificity:** training must go from highly general to highly specific. To become better at a particular exercise or skill, you must perform that exercise or skill.

**Individuality:** an individual's overall response to exercise may be different from the next person's response.

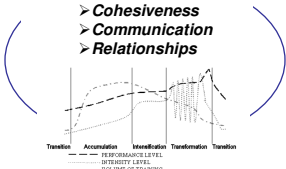




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**By doing this:**

- ✓ Cycling intensity and training objectives.
- ✓ Prescribing training that is specific not only to your sport, but to your athlete's individual abilities (tolerance to training stress, recoverability, outside obligations, etc).
- ✓ Increasing training training loads over time (allowing some workouts to be less intense than others).
- ✓ Training often enough not only to keep a detraining effect from happening, but to also force an adaptation.

**You are more likely to prevent this:**


**OVERTRAINING.**

**28%**



**Proportion of athletes at 1996 Summer Games who reported they had over-trained for the Games...and that this overtraining had a negative impact on their performance.**

(Source: United States Olympic Committee)



**Under-Training**


**Over-Loading**

**Over-Reaching**

**Over-Training**

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<p>Negligible training adaptation No performance improvement</p>	<p>Positive training adaptation Minor performance improvement</p>	<p>Short-term (days) Reversible with recovery Optimal training adaptation Optimal performance improvement Necessary to improve performance at elite level</p>	<p>Long-term (weeks, months) Irreversible with recovery Negative training adaptation &amp; signs of OTS Performance suffers chronically Competitive season is over</p>
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**Zone of Enhanced Performance**

Adapted in parts from Armstrong & VanHeest, 2002 and Wilber, 2006



## What's Behind Over-Training??

**Glycogen Depletion?**  
Recovery, glycogen, carbohydrate

**Immunsuppression?**  
Stress, cortisol, WBC, illness

**Autonomic Nervous System Imbalance?**  
Involuntary homeostasis, sympa (accel), para (brake)

**Central Fatigue?**  
Carbohydrate, BCAA, serotonin, sleepiness, lethargy, moodiness

**Elevate Cytokines?**  
Stress, inflammation, ILs, CNS, adrenal, gonadal

Always understand WHY

Lactate  
Weight  
Sleep Quality  
Appetite  
Healing  
Menstruation  
Concentration  
Self-Esteem  
Performance

Rest/Rec HR  
Fatigue  
Soreness  
Injury  
Illness  
Apathy  
Lethargy  
Fear of Comp  
Moodiness


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...believe in what it does...

- > Cope with Demands
- > Know Status
- > Be Supported
- > Stay Healthier (Longer)
- > Reduce Injury
- > Stay Mentally Fresh
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## How do we AVOID Over-Training and ENHANCE Performance?

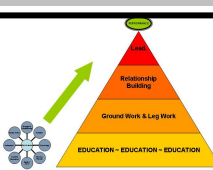
*A cohesive, scientifically sound, professionally-supported training program that integrates and balances training, recovery, evaluation and monitoring.*

- > Education
- > Cohesiveness
- > Communication
- > Relationships

**TRAINING-HEALTH-LIFESTYLE-ENVIRONMENT**

Volume, intensity, recovery, taper, technique, competition, colds, fever, GI infection, menstrual dysfunction, sleep, daily schedule, nutrition, housing conditions, leisure activities, family, roommates, teammates, coach, job, school

- > Fitness
- > Technique
- > Nutrition
- > Psychology



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