

**TOP FORM, INC.**



**PRESENTS:**  
**NYS COACHES**  
**FIRST-AID**

# TOP FORM<sup>INC.</sup>



Delmar Training Center

333 Delaware Ave

Delmar, NY 12054

[www.topform.us](http://www.topform.us)

Top Form, Inc.'s new Corporate Headquarters is home to Sports Performance Training, Personal Training, Athletic Training, and is our **NEW Education Center!!!**

# DAY 1

# Prevention

THE 7 P'S

- |                  |             |            |
|------------------|-------------|------------|
| ■ Prior          | ■ Prior     | ■ Prior    |
| ■ Proper         | ■ Proper    | ■ Proper   |
| ■ Preventative   | ■ Planning  | ■ Planning |
| ■ Prioritization | ■ Prevents  | ■ Possibly |
| ■ Planning       | ■ Potential | ■ Prevents |
| ■ Promotes       | ■ Profound  | ■ Profound |
| ■ Paradigms      | ■ Problems  | ■ Puck-Ups |



# Prevention

\*As coaches this will require your greatest organizational skills!!!

## ■ Physical Exams & Screening

- documented by school nurse before ANY organized practice

## ■ Ensure Appropriate Training & Conditioning

### ■ Warm-Up

- increases muscle temp
- brings oxygen to muscles
- jump starts nervous system
- increases synovial fluid in joints
- increases metabolism
- mobilizes ATP (energy)
- mobilizes waste system
- increases muscle spindle activity



# Prevention Cont.

## ■ Stretching (10-15 Min)

- Dynamic Stretching (10-15 Min)
- lengthens muscles
- loosens ligaments & tendons
- lifetime benefit

## ■ Exercise / Conditioning

- proper drills
- developmental progression
  - Types: off-season, pre-season, in-season, post-season

## ■ Cool-Down (5Min)

- decreases heart rate
- decreases blood lactic acid
- decreases blood carbon dioxide
- balances pH of blood
- takes away waste products

## ■ STRETCH!!! (10 Min)

- Static Stretching!!! (10 Min)
- Increases muscle length
- Increases ROM
- Realigns damaged muscle tissue fibers
- Each stretch must be held for 20-30 secs

# Prevention Cont.

## ■ Proper Protective Equipment

- fitting properly
- shoes / helmets / pads / etc.

## ■ Playing Surface

- indoor / outdoor
- coaches responsibility

## ■ Medical Kits

- properly equipped
- must be taken care of
- no medications
- emergency numbers & cards
- at every practice / game

# Prevention Cont.

## ■ Blood Plan

- how / where to dispose

## ■ Emergency Plan

- should have for both home & away
- Phone? AED?

## ■ Team Meeting

- with both parents & athletes
- prior to season
- agenda:
  - emergency procedures
  - drug / alcohol rules
  - general practice rules & conduct
  - emergency cards completed

# Prevention Cont.

## ■ Coaches Preparation

- CPR / AED (1yr.)
- First-Aid (3yrs.)
- seminars / camps
- JUNE CLASS!!!

## ■ Finger Printing

## ■ DASA (Bullying)

## ■ Child Abuse

## ■ School Violence

## ■ Phase 1

## ■ Phase 2

## ■ Phase 3

## ■ Blood Borne Pathogens

## ■ Concussion Management

# Acute Soft Tissue Injury

## ■ MOI (Mechanism of Injury)

- Direct - contusion
- Indirect - strain or sprain
  - Strain - muscle / tendon injuries
  - Sprain - ligament injuries

## ■ Primary Injury

- tissue destruction directly related to the injury causing force
  - damage irreversible

## ■ Secondary Injury

- damage from cell death due to blockage of oxygen to injured area
  - damage limited if treated properly - \*\*main goal

# Acute Soft Tissue Injury Cont.

## ■ Pain / Spasm Cycle

- injury causes build-up of fluids
  - compresses nerves
  - causes pain
  - lack of oxygen
- muscles begin to die
- cycle must be broken before healing can occur

# Acute Soft Tissue Injury Maintenance

## ■ R.I.C.E.

- Rest
- Ice
- Compression
- Elevation



# Rest

## How

- Stay off injured body part
  - crutches
  - slings
  - etc.

## Why

- Prevent further injury
- Prevent new injury

# Ice

## How

- Apply for 15-20 mins.
- 20 Min On / 20 Off
- 2-3 days

## Why

- Decrease tissue temp
- Decrease metabolism
- Decrease pain
- Decrease spasm
- Decrease chance of cell death

# Compression

## How

- Apply elastic bandage

## Why

- Increase lymphatic drainage
- Prevents more swelling
- Gives feeling of security

# Elevation

## How

- Elevate body part above the heart
- Most valuable, but least used

## Why

- Increase lymphatic drainage
- Prevents more swelling
- Resting

# Heat

## How

- Moist Heat Packs / Heating Pads / Warm Wet Towels
- No Visible Swelling
- Usually after 72 hours

## Why

- Increase tissue temp
- Increase metabolism
- Increase Tissue Elasticity
- Increase Blood Flow
- Increase Flexibility

# Inflammation

- Defense mechanism that occurs to protect & heal injured area
- Signs & Symptoms
  - redness
  - swelling
  - heat
  - pain
  - loss of function
- Primary Function
  - rid the area of waste products to prepare for healing

# Chronic Injuries

## ■ MOI

- repetitive trauma

## ■ Signs & Symptoms

- pain on movement
- loss of ROM
- swelling / inflammation
- known training change

## ■ Treatment

- removal of repetitive trauma
- REST, REST, REST
- flexibility and then strengthening exercises
- ice before and after exercise
- Treatment
- Evaluation of footwear
- Gait analysis

# Chronic Injuries Cont.

## ■ Types

- Epicondylitis
- Patellar Tendinitis
- Bursitis
- Shin Splints
- Achilles Tendinitis

■ \*\*These are all PREVENTABLE!!\*\*



# Taping and Wrapping Lab

## ■ Ankle Tape

- Anchors
- Stirrups
- Horseshoes
- Heel Locks
- Figure 8

## ■ Ankle Wrap

## ■ Wrist

# Environmental Concerns

- Heat Injuries (Play DVD)
  - Heat cramps
  - Heat exhaustion
  - Heat stroke
- Cold Injuries
  - Frost nip
  - Frost bite
- Very rare in high school athletics & usually result of NEGLIGENCE!!!

# Heat Cramps

## ■ Cause

- fluid imbalance
- too much exercise too soon
- electrolyte imbalance

## ■ Signs & Symptoms

- muscle spasms, twitching
- pain

## ■ Treatment

- drink water
- stretch
- ice massage

# Heat Exhaustion

## ■ Cause

- fatigue / weakness, sweating
- partial failure of thermoregulatory system

## ■ Signs & Symptoms

- weak / rapid pulse
- moist skin
- profuse sweating
- headache
- weak / dizzy

## ■ Treatment

- stop activity
- rest in shade
- drink fluids
- can be emergency

# Heat Stroke

## ■ Cause

- complete failure of thermoregulatory system
- untreated heat exhaustion

## ■ Signs & Symptoms

- strong / rapid pulse
- hot & dry skin
- mental confusion
- increased body temp
- may be unconscious

## ■ Treatment

- EMERGENCY!!
- Cool ASAP
- get to hospital



# Frost Nip

## ■ Cause

- damp freezing environment
- involves ears, nose, cheeks, fingers & toes
- increases wind & severe cold

## ■ Signs & Symptoms

- firm skin with cold, painless areas

## ■ Treatment

- DON'T RUB
- blow hot air on affected area

# Frost Bite

## ■ Cause

- exposure to dry temps well below freezing

## ■ Signs & Symptoms

- red, waxy

skin <http://www.nytimes.com/2004/04/14/sports/olympics-unprepared-for-fame-yet-unable-to-resist-it.html>

- tingling and pain

## ■ Treatment

- DON'T RUB
- try to re-warm with blankets, etc.
- get to hospital ASAP

# QUESTIONS?????

- Tomorrow 9-12-?



DAY 2

# 5 Step General Injury Evaluation

## ■ History

- key to understanding injury is MOI
- ask athlete what happened
- ask if it is a new or old injury
- ask if athlete heard anything (snap, pop, etc.)
- ask athlete where it hurts
- ask what type of pain (burning, sharp, dull)
- \*\*Important to be calm & reassuring!!!\*\*

# 5 Step General Injury Evaluation Cont.

## ■ Observation

### ■ Look For:

- swelling
- deformity
- discoloration

### ■ Watch For:

- how athlete moves

## ■ Palpation

### ■ Feel For:

- \*\*pain
- swelling
- deformity
- warmth

# 5 Step General Injury Evaluation Cont.

## ■ Movement

- look for normal ROM
- important to have athlete move uninjured side first
- sport specific testing
- be careful moving an athlete if involves head, neck or dislocation

## ■ Parental & Medical Follow-Up

- if athlete seeks any medical attention you should call parents
- important to have good communication

# Common Injuries and Treatment

- Fracture
- Bleeding
  - Direct Pressure
- Nose Bleeds
  - Pinch Nose just Below Bone
  - Lean Head FORWARD!!!
- Jammed Finger
  - Ice Bath
  - Buddy Tape
  - MD? For Fracture

# Common Injuries and Treatment

## ■ Diabetes

- Type I – Insulin Dependent
  - Individuals under the age of 35
  - Most of the time they need glucose (i.e.. Sugar, juice, soda, frosting, ETC)
  - Over production of insulin – Does NOT Need
- Type II – Non-Insulin Dependent
  - Individuals over the age of 35
  - Do not produce enough insulin or resists the insulin produced
- Insulin Shock
  - Glucagon Training
  - 911
- Diabetic Coma
  - Not enough Insulin
  - 911

## ■ Anaphylactic Shock (Stings, Bites, Food, Etc.)

- Epi Pen
- 911

## ■ Asthma

- <http://www.winningwithasthma.org/>
- Inhaler

## ■ Shock

## ■ Seizures (Epilepsy)

# Common Injuries and Treatment

- Teeth
- For Female Sport Coaches
  - Amenorrhea
    - Primary
    - Secondary
  - Dysmenorrhea
- Female Athlete Triad
  - Disordered Eating
  - Amenorrhea
  - Osteoporosis

# Common Injuries and Treatment

- The ACL
- <https://www.youtube.com/watch?v=1JQKko6C42s>
- [https://www.youtube.com/watch?v=DAzUp\\_YLVIM](https://www.youtube.com/watch?v=DAzUp_YLVIM)
- [http://sports.yahoo.com/nba/blog/ball\\_dont\\_lie/post/Video-Bucks-mascot-tears-ACL-in-knee-from-groin?urn=nba,142557](http://sports.yahoo.com/nba/blog/ball_dont_lie/post/Video-Bucks-mascot-tears-ACL-in-knee-from-groin?urn=nba,142557)
  - Epidemic?
  - Male vs Female
  - Turf vs Grass



# ACL

## ■ Female

- Q-Angle
- Notch
- Menstruation-Estrogen
- The Core
- Training
- NEW...Food Sources

# The Knee

- <http://www.mayoclinic.com/health/arthroscopic-knee-surgery/mm00006>
- Prevention?
  - The Core



# The Head & Neck



# The Head & Neck

- True fractures...thankfully rare!

<http://www.nfl.com/videos/green-bay-packers/09000d5d82257183/Collins-suffers-neck-injury>



Heads up video.wmv

# Neck Prevention

- <http://www.youtube.com/watch?v=NuUM70kmUSg&feature=related>

## Head Prevention

- Proper Equipment
- Proper Technique
- Rules of Play

# Head Injury Evaluation

## ■ Secondary Survey

### ■ Primary Survey

- Check for responsiveness
- Airway
- Breathing
- Circulation

### ■ History

- ask for MOI
- level of consciousness
  - Where are you?
  - Who are you playing?
  - What's the score?
  - What's your phone #?
- What have you eaten today?
- headache
- double vision, nausea, ringing in ears
- pain

# Head Injury Evaluation Cont.

## ■ Observation

- deformities
- pupils (size & reaction)
- respiration (rate, pattern, quality)
- signs of trauma

## ■ Palpation

- heart (rate, pattern, quality)
- head / neck / muscles

## ■ Movement

- active movement in extremities
- coordination
- sport specific skills

# Head Injury Follow-Up

- Signs do not always appear directly after trauma
- May take a few hours
- Signs & Symptoms:
  - severe headache (specific location)
  - mental confusion
  - nausea or vomiting
  - poor balance
  - dizziness
  - loss of appetite
  - ringing in ears
  - slurring of speech
  - non-responsive pupils
  - sensitivity to light
- Appearance of any of the above S & S requires MEDICAL ATTENTION



## HEAD INJURY FOLLOW-UP

This is a medical follow-up sheet for your health and safety. Quite often signs of a head injury do not appear directly after trauma, but may appear hours after the injury itself. The purpose of this fact sheet is to alert you to the symptoms of significant head injuries, symptoms that may occur several hours after you leave the care of the athletic trainer.

If you experience one or more of the following symptoms after sustaining a head injury, medical help should be sought:

- Difficulty remembering recent events or meaningful facts
- Severe headache, particularly at a specific location
- Mental confusion or strangeness
- Nausea or vomiting
- Poor balance or unsteadiness
- Severe Dizziness
- Abnormal drowsiness or sleepiness
- Loss of appetite
- Persistent ringing in ears
- Slurring of speech
- Severe sensitivity to light
- Non-responsive pupils

**\*\*The appearance of any of the above symptoms tells you that you have had a significant head injury that **requires medical attention!!****

# The Head

- <http://abcnews.go.com/Video/playerIndex?id=7187431>
- <http://abcnews.go.com/Video/playerIndex?id=7187090>
- [CTE](#)



# The Head

- CTE



# The Head

- TBI

- Sub-Dural Hematoma



# Nutrition

## ■ Weight Control

- $\text{Cal (in)} = \text{Cal (out)} \Rightarrow \text{weight control}$
- $\text{Cal (in)} < \text{Cal (out)} \Rightarrow \text{weight loss}$ 
  - don't restrict Cal / increase activity
- $\text{Cal (in)} > \text{Cal (out)} \Rightarrow \text{weight gain}$ 
  - increase Cal / decrease activity

## ■ Basal Metabolic Rate (BMR)

- Calories needed for sustaining life (metabolism)
- BMR will change if you change / manipulate calories too much

# Nutrition Cont.

- Ideal Balance:
  - 65% carbohydrates
  - 15% protein
  - 20% fats
    - Difficult & usually not probable with teens
- Keep the big picture in mind => healthy foods for life / get rid of junk food

# Nutrition Cont.

- WATER is most important nutrient!!
- Very important to get some form of carbs in body 20 mins. prior to competition
  - replenishes glycogen (especially if multi contest / tourneys)
- Supplements - JUST SAY NO!!!!

# Steroids

- Top Form PP

# Supplements

- Top Form PP



# TOP FORM, INC.

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**LIVE IT!**

[www.topform.us](http://www.topform.us)

## Health Thoughts

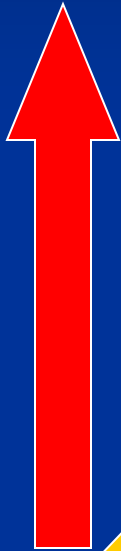
Rule #1

**Dieting**



# Power of the Pyramid!

## ■ Rule #2



Less stored calories

**NO..eating after 9,8...7pm!!!!**

# Power of the Pyramid!

## ■ Rule #3

■ Eat Breakfast!!!

Use The Calories for Brain  
Power (Glucose)!!



Wake Up Hungry! And go  
downhill from there!



Nutrition ie: Steroids/Supplements/Diet

Starvation/Low Cal

Cardio, cardio, cardio

Work, work, work

Eat Well!

FUN!

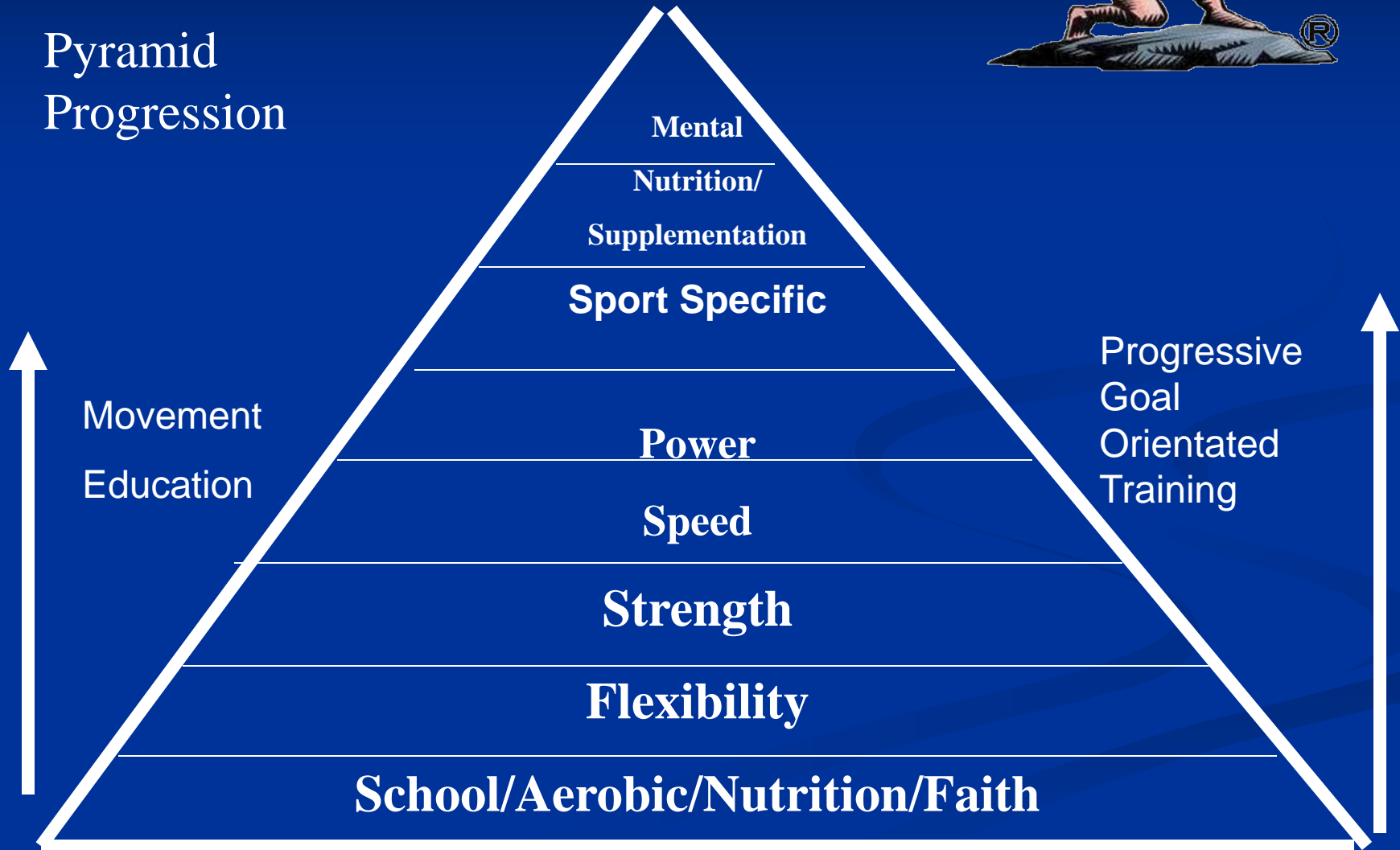
**WRONG!!!**

# Sports/Life Performance



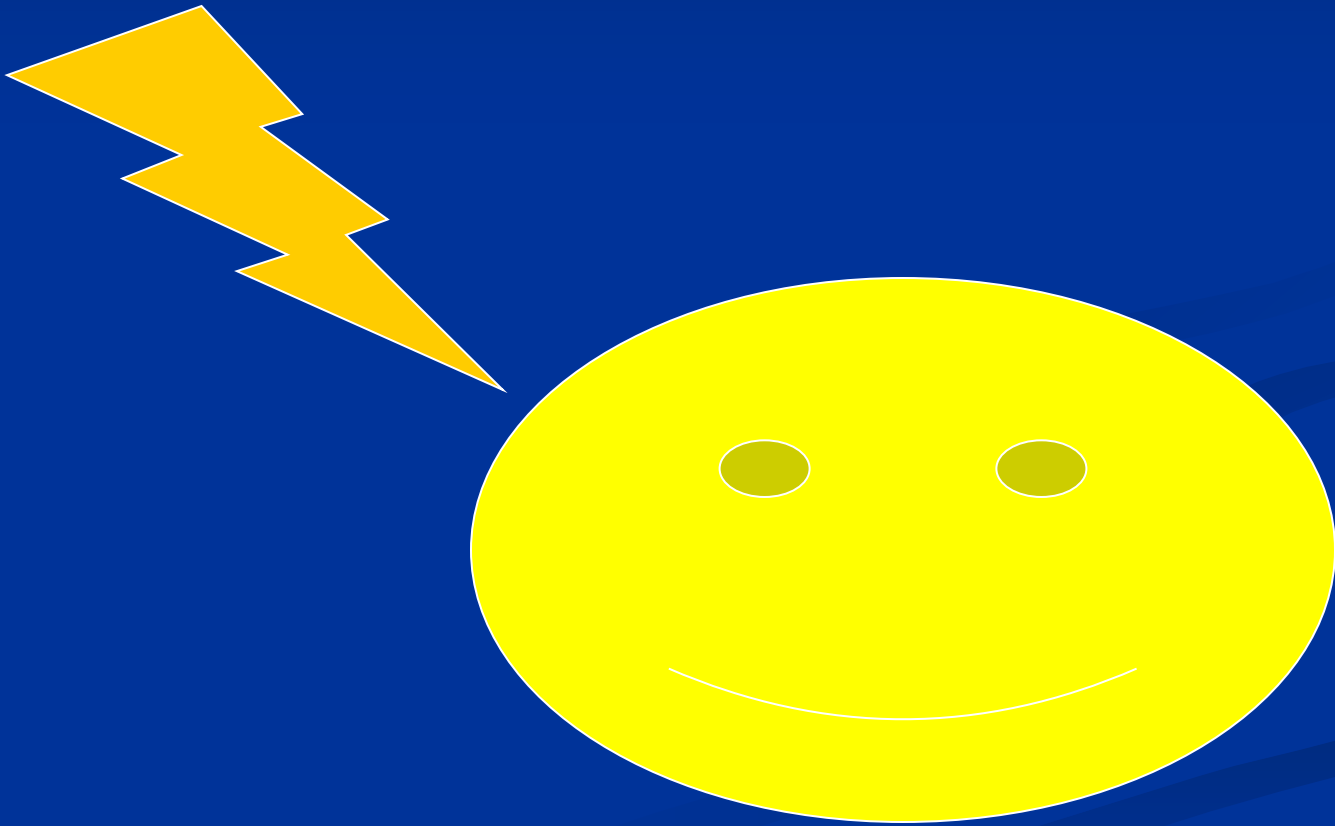
**LIVE IT!**

Pyramid  
Progression



# Magic Bullet?

- If it were only so easy!



# Optimum Performance

- Eat Breakfast!
- Lower Calorie Intake at Night
- Calorie In = Calorie Out (Exercise) = Weight Control
- Rule #4 Fiber!
- No White Bread...Whole Grain Products
- Rule #5 Cut Out Junk!
- Power Snackin





# #4 Lets Talk About, “Junk”

- Soda
- Chips
- Fried Food
- Sugar
- Fake Sugar
- More?

# #5 Exercise

- Why Aerobic
- How Aerobic
- Details:
  - 5x/week
  - 30min
  - Intensity?

# #6 Strength

- Why?
- How?
- Details
  - 2-3x/week
  - 30-40min
  - Multiple Sets
  - Intensity
  - Machine vs Free
  - Core

# # 7 SLEEP!

- Restoration
- Resent
- Heal: mental and physical
- 8hrs
- Physical activity

# #8 OK Supplements

- Omega 3
- Gucosomine
- Gucogennen
- Creatine
- Others?
- Stimulants?? (See Supplements PP)