

Mike Potenza  
San Jose Sharks

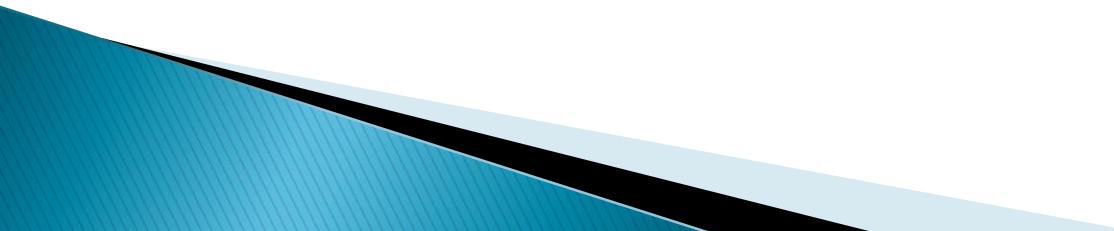
[mpotenza@sjsharks.com](mailto:mpotenza@sjsharks.com)

HockeySC.com



# CONSIDERATIONS FOR A DEVELOPMENTAL HOCKEY PROGRAM

# THANK YOU

- ▶ Coaches in attendance
  - ▶ Colleagues
  - ▶ College and Private Training Facility Experiences
  - ▶ Past Employers
  - ▶ San Jose Sharks
  - ▶ And Of Course..... The Athletes
- 

# Resources and Learning Tools

- ▶ HockeySC.com



- ▶ Mike Boyle's strengthcoach.com



- ▶ Jim Snider: Neuroexplosion.com (pros v. joes: long term athlete development)



- ▶ Text: Ultimate Hockey Training by: Kevin Neeld

# Journey Line: What I have come to believe and my learning experiences.

Springfield  
College

B.U.

I.P.I

Univ. Of  
Miami

B.U. Graduate  
School

Side Jobs

M.B.S.C

Harvard Univ.  
(6mths)

Side Jobs

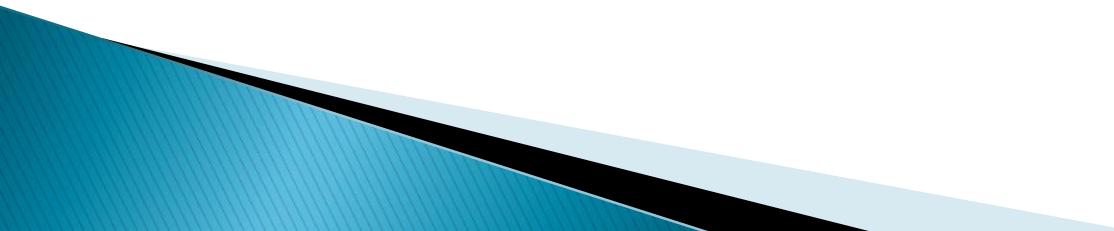
M.B.S.C.

Colgate Univ.

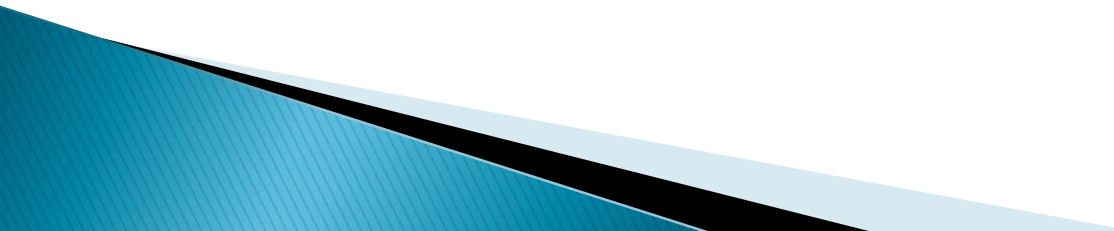
Univ. Of  
Wisconsin

San Jose  
Sharks

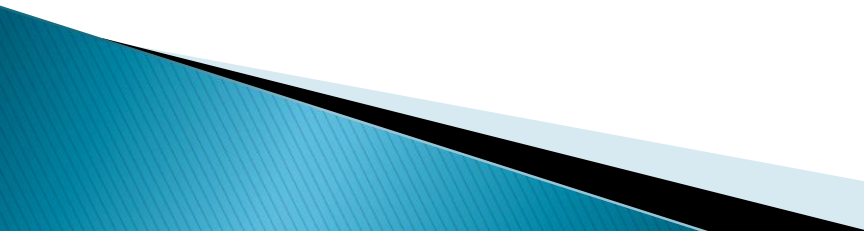
# What are we responsible for????

- ▶ In the area of physical development a coach or strength coach from the youth levels up to and including college // Junior hockey, need to invest in getting their kids stronger so they can compete physically and so they can reduce the injury risk associated with the sport.
  - ▶ WE ARE RESPONSIBLE FOR “JUMP STARTING” OUR YOUNG ATHLETES.”
- 

# What will we discuss

- ▶ My findings and observations. Physically and Culturally.
  - ▶ Physical Development is a Year–Round process.
  - ▶ Physiological information that will support youth development training.
  - ▶ Testing and Evaluation
  - ▶ Putting it together
  - ▶ Questions
- 

# Observations

- ▶ Youth Hockey (Madison, WI)
  - ▶ College Level
  - ▶ Private sector commitment
  - ▶ The need for development in the young that are drafted. (2 to 4 year process)
  - ▶ NEGATIVES and POSITIVES
    - Conditioning levels
    - Body Comps
    - Strength Capabilities and inadequacies
    - Poor recovery
    - Lack of HABITS (\*\*\*VIP\*\*\*)
- 

# The need for a developmental plan???? Why

- ▶ “8 to 12 years of training to become elite.” I. Bayli
- ▶ This position is Echoed in Outliers (Malcolm Gladwell) and Talent Is Overrated (Geoff Colvin)

# Development is a Year-Round process!!!!

- ▶ THERE CAN BE NO QUICK FIX ATTITUDES!!!
- ▶ Common “Quick fix attitudes” in American Sports Training:
  - Hockey = Jumps, Med Ball, Ladder
  - Football = Squats and Bench
  - Soccer = Ladder and Aerobic Training
- ▶ If you are starting development early... or late... Know that there is a PROCESS

# Development is a Year-Round process

- ▶ Coaching Staff commitment
  - Schedule and Competitions
- ▶ Strength and Conditioning Staff commitment
  - Training and Recovery Model
- ▶ Medical staff commitment
  - Any rehab concerns or situations
- ▶ Athletes commitment
  - Effort physically and cognitively (be a student), OWNERSHIP!!!!!!
- ▶ Parental commitment (Investigate and Support)

# Development is a Year–Round process (continued)

- ▶ Workouts
  - Pre–Season (tolerance to workload)
  - In–Season first half (Building)
  - In–Season Second half (Polishing)
  - Immediate post season (Healing and Remodeling)
  - Off–Season (Prepare and Create new limits)
- ▶ What about down time and recovery????

# Development is a Year-Round process (continued)



**“There are no short cuts in  
athletic preparation.**

***I. Bayli***

# They will never get this time to physically develop back!!!!!!

- ▶ Fundamental Development and Physical Literacy (6 to 8 years old)
  - “for most sports, specialization occurring before the age of 10 years old most often sets up the athlete for subpar development and in worst cases burnout and dropout from sport all together.”
  - PLAY, Multiple Sports, Body weight movements, Swimming, Agility (TAG GAMES), Basics of Locomotion
- ▶ Learning to train (8 to 11 years old)
  - “Train the Brain”
  - Great time for new skills acquisition (Cornerstone for athletic development)
  - WHY DO WE WANT TO ASK THIS GROUP TO PERFORM AT A HIGH LEVEL?

# They will never get this time to physically develop back!!!!!!

- ▶ Train to train (12 to 14 years old)
  - KIDS CHANGE HERE!!!!!! WATCH OUT!!!!!!
  - Weight training technique and Movement technique
  - Weight room etiquette
  - Prep for mental demands of the game
- ▶ Train to Compete (15 to 17 years old)
  - Training program progresses to High degree of Fitness, Technical efficiency and Increased Mental demand

# They will never get this time to physically develop back!!!!!!

- ▶ Train to WIN (18 to 22 years old)
  - Last Stages of Growth
  - Major Period of development for: Technical efficiency, Sport Skills and Strength Development .
- ▶ Retention (24 years+)
  - Veterans: Both “Seasoned” and “Early Vets”
  - DO NOT LOOSE QUALITIES!!!!!!

# Testing and Evaluation

- ▶ 6–8 “Physical Literacy Stage” WHY?!?!?!?!?
- ▶ 8–11 “Learning to Train Stage”
  - Simple Body Weight Activities
  - Game based assessments (TAG, Hand Ball, Crab Soccer)
  - Watch them play then decide where your program should go!!!
  - VIDEO (Push Ups, Jumps, Rows, Skipping, Shuffling, Carioca, Crawling, Turning,



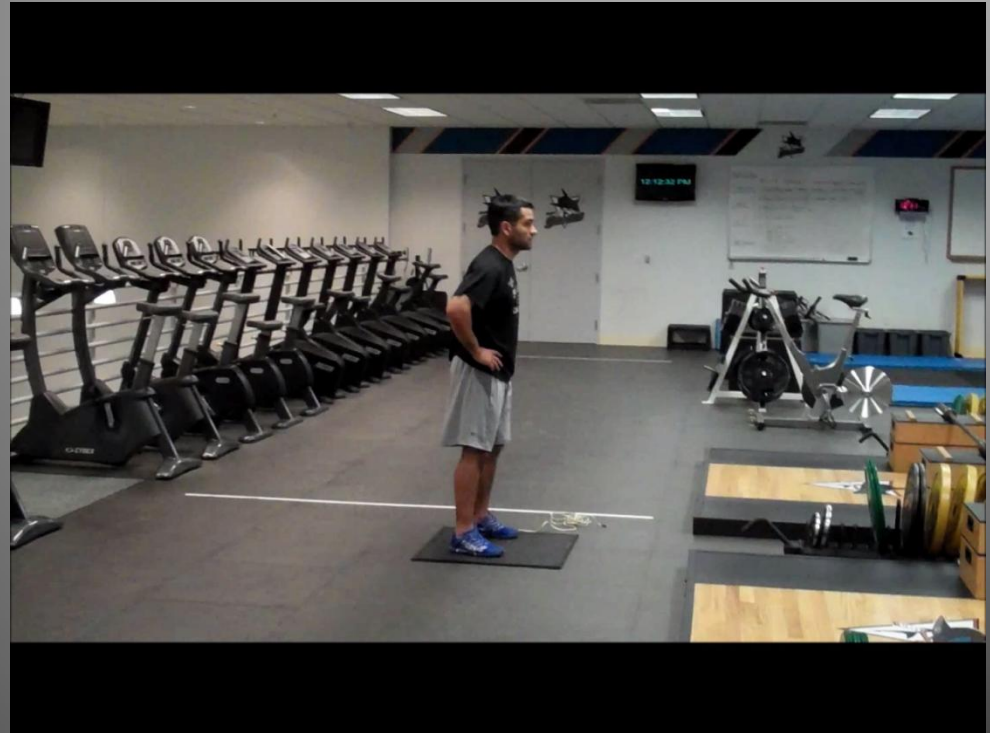
# Testing and Evaluation

- ▶ 12 to 14 years “Train to Train” stage
  - Eval and test their ability to stay focused during test
  - You can still focus on body weight exercises.
  - You can test technical positions
  - VIDEO (Front Squat, OH Squat, Bridging positions, Initial stages of Olympic lifts, Landing on jumps)



# Testing and Evaluation

- ▶ 15 to 17 “Train to Compete”
  - Strength Tests can be performed, but **SHOULD BE TERMINATED EARLY!!!!**
  - Speed Tests
  - Jump Tests
  - Conditioning tests (Short Shuttles)
  - Involve team aspect of testing. **SUPPORT**
  - **VIDEO** (Vertec, Just jump, Long Jump, 3 jump LJ, 10 yard sprint)



# Testing and Evaluation

- ▶ 18 to 22 years “Train to win”
  - Continue to assess Strength Limits and Speed Qualities
  - Terminate test when technique is compromised!!!
  - Sport Specific: HR response and Energy systems
- ▶ 24 years+ “Retention”
  - Physical Qualities (Power and Sustainable Power)
  - Structural Assessment
  - Body Composition
  - Metabolic (VO<sub>2</sub> BUT..... A.T. is the number that helps guide me throughout the year.
  - SCREEN SHOT of PRACTICE and HR



Name JOE PAVELSKI  
 Age 27 Height (cm) 180 Activity class 7.5  
 Gender Male Weight (kg) 86

Max HR 182 Vital capacity  
 Min HR 37 Peak intensity 90  
 METmax 17 Anaerobic training 80  
 Aerobic Lactate 70  
 Base conditioning 60  
 recovery 50

## Measurements

| Date           | Start time  | End time    | Duration | Measurement type | State    | Error percentage | Energy Expenditure | Highest heart rate | EPOC peak   | Training Effect | TRIMP | Recovery index | Night measurement                   |
|----------------|-------------|-------------|----------|------------------|----------|------------------|--------------------|--------------------|-------------|-----------------|-------|----------------|-------------------------------------|
| 12/6/2011      | 7:00:48 PM  | 10:00:40 PM | 02:59:52 | GAME             | Analyzed | 23%              | 1896 (kcal)        | 189                | 89 (ml/kg)  | 3.3             | 302   | -              | <input type="checkbox"/>            |
| 12/5/2011      | 10:14:23 PM | 7:56:08 AM  | 09:41:45 | Night            | Analyzed | 6%               | 675 (kcal)         | 72                 | 0 (ml/kg)   | 1               | 25    | 177            | <input checked="" type="checkbox"/> |
| 2011 - week 48 |             |             |          |                  |          |                  |                    |                    |             |                 |       |                |                                     |
| 12/4/2011      | 10:28:18 AM | 11:24:20 AM | 00:56:02 |                  | Analyzed | 10%              | 834 (kcal)         | 178                | 141 (ml/kg) | 3.9             | 109   | -              | <input type="checkbox"/>            |
| 11/30/2011     | 10:50:24 AM | 12:23:48 PM | 01:33:24 |                  | Analyzed | 32%              | 763 (kcal)         | 164                | 35 (ml/kg)  | 2.3             | 87    | -              | <input type="checkbox"/>            |
| 2011 - week 47 |             |             |          |                  |          |                  |                    |                    |             |                 |       |                |                                     |
| 11/25/2011     | 10:48:03 AM | 12:13:52 PM | 01:25:49 | Not defined      | Analyzed | 26%              | 813 (kcal)         | 166                | 44 (ml/kg)  | 2.5             | 95    | -              | <input type="checkbox"/>            |
| 2011 - week 45 |             |             |          |                  |          |                  |                    |                    |             |                 |       |                |                                     |
| 11/9/2011      | 11:11:08 AM | 12:36:01 PM | 01:24:53 | Not defined      | Analyzed | 17%              | 692 (kcal)         | 163                | 33 (ml/kg)  | 2.2             | 75    | -              | <input type="checkbox"/>            |
| 2011 - week 44 |             |             |          |                  |          |                  |                    |                    |             |                 |       |                |                                     |
| 11/2/2011      | 11:05:26 AM | 12:33:09 PM | 01:27:43 |                  | Analyzed | 9%               | 1017 (kcal)        | 173                | 59 (ml/kg)  | 2.8             | 128   | -              | <input type="checkbox"/>            |
| 2011 - week 43 |             |             |          |                  |          |                  |                    |                    |             |                 |       |                |                                     |

Settings...

Synchronize

Measurement info...

Journal...

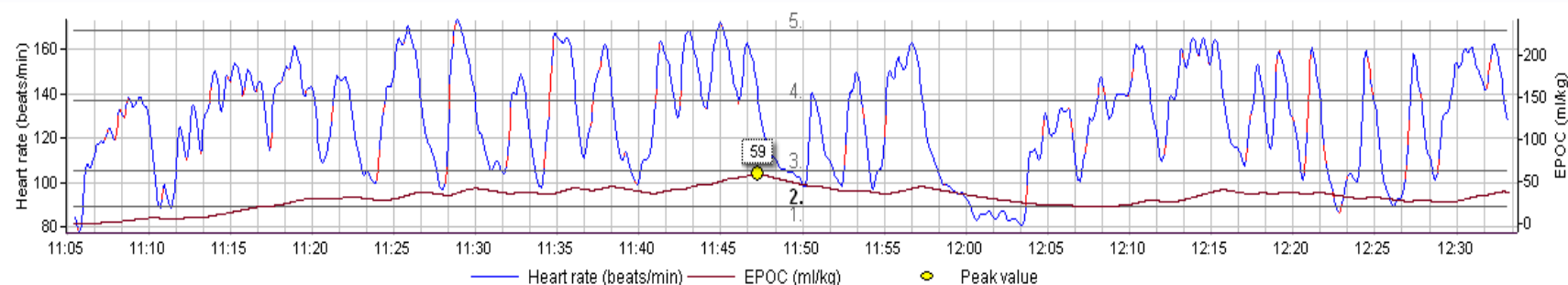
Analyze...

Delete

## HR and EPOC

Physiological state overview

Endurance training classification



Curve 1: Heart rate

☒ Use artifact correction☒ Draw average heart rate☐ Draw curve 2

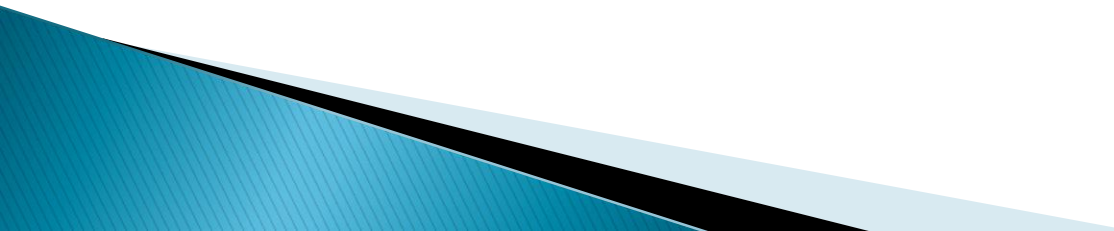
Curve 2: EPOC + TE

Ready

# Putting it together (Programming)

- ▶ IN-SEASON
- ▶ 2 to 3 Workouts per week
- ▶ 30min to 40min Sessions--Timed Segments
- ▶ Why the time commitment..... BECAUSE IT MATTERS!!!!
- ▶ Areas of Focus
  - Movement Preparation
  - Stay Strong!!!!
  - Nutrition
  - Regeneration and Recovery
  - Small Muscles (Core, Pelvic Muscles, Upper Thoracic and Cervical)

# Putting it together (Programming)

- ▶ OFF-SEASON
  - ▶ It's like Farming.... You have to put the work in or else!!!!
  - ▶ If you have to get on the ice.... Be Smart
  - ▶ Skill Development
  - ▶ Take advantage of this time and get as strong as you can.
  - ▶ CREATE NEW LIMITS PHYSICALLY
- 

# THANK YOU ALL!!!!!!

## QUESTIONS MEMBERSHIP GIVEAWAY

