



# Preventing sports injuries special relevance to team games

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# 3 Subdivisions of this session



1conceptual approach to injury prevention and applying prevention model to your team




2Recovery




3.importance of baseline assessment of each athlete and periodic medical assessment



# Concept of mechanotransduction

- BODY \_ MECHANICAL STRESS -  
ADAPTS
  - CAREFULLY MANIPULATE TRAINING  
PARAMETERS - TO INDUCE ADAPTATIONS  
- TO IMPROVE PERFORMANCE
  - STRENGTH, ENDURANCE, NMCONTROL,  
FLEXIBILITY
- 



DELICATE BALANCE OF  
OVERLOAD AND  
RECOVERY

# recovery

## **Effective**

- Greater level and quality of training
- Enhance performance

## **Inadequate**

- Impair performance
- Results in injury , illness or burnout

# A conceptual approach to injury prevention

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An ounce of prevention is worth a pound of cure

# Risk management :applying prevention models to your team



Systematic surveillance for  
injury



Pre and in season strategy  
planning sessions with coaches.



Regular screening of athletes  
and development of specific  
prevention program for team/  
athlete

Basic model  
by willem  
van  
mechelen

- Step 1
- Identify magnitude of problem theory / team
- record incidence
- severity
- training
- match exposure






Step 2  
identify risk  
factors and  
injury  
mechanisms

- Periodic medical assessment [PMA]
- **BASELINE ASSESSMENT**
- **TRAINING AND COMPETITION PROGRAMME**

STEP 3  
MEASURES  
THAT ARE  
LIKELY TO  
REDUCE  
RISK /  
SEVERITY

- CAUSE
- EVALUATE EFFECT OF MEASURES TAKEN ..  
CONTINUOUS SURVEILLANCE
- THIS IS STEP 4
- INJURY MECHANISMS IDENTIFIED IN 2<sup>ND</sup>  
STEP

- 
- INTRINSIC RISK FACTORS
  - MODIFIABLE OR NOT
  - PREVIOUS INJURY

- EXTRINSIC RISK FACTORS
- VERY COLD , SNOW , FOOTWEAR
- Extrinsic may interact with intrinsic factors


The inciting  
event and  
injury  
mechanism

Playing situation

Player and opponent behavior

Describe the whole body and  
joint mechanisms

Each sport has typical injury  
pattern



Developing and initiating a  
targeted prevention  
programme

# Utilize science

- Hamstring injury prevention plans
- Ankle injury prevention plans
- Acl injury prevention plans like fifa 11 plus
- SLAP prevention strategies





Jogging Line to Line



Walking Lunges





PHASE 4

Plyometrics - Power Jumps - Side/Side

TREND TOWARDS DYNAMIC SCREENING OF ATHLETE TO FIND WEAK LINK IN STRENGTH FLEXIBILITY OR MOTOR CONTROL

FMS BY GARY COOK ET AL

US TENNIS ASSOCIATION HIGH PERFORMANCE PROFILE

9 + TEST BATTERY SWEDISH SPORTS CONFEDERATION



# Assessing recovery

General muscle function

Specific performance task

Extent of tissue damage [ creatine kinase ]

Level of metabolite removal [ blood flow, blood lactate ]and VAS


ATHLETES perception of recovery [POMS]



Active recovery



After high intensity  
short duration exercise

- MOST EFFECTIVELY DECREASES BLOOD LACTATE LEVELS AT EXERCISE INTENSITY CLOSE TO THE LACTATE THRESHOLD
- 


# After longer duration exercise



MESSAGE WITHIN  
2HRS



HAS CELLULAR AND  
PSYCHOLOGICAL  
BENEFITS



# STRETCH / SLEEP

SLEEP HYGIENE STRATEGIES  
SHOULD GET FOLLOWED



# WATER IMMERSION/ NUTRITION



COLD WATER IMMERSION



CONTRAST WATER THERAPY



NO NEGATIVE BALANCE



OPTIMISE MICRONUTRIENTS



CARTILAGE SUPPLEMENTS

# RECOVERY MODALITIES ALLOW TRAINING ADAPTATIONS



NON LOADING EXERCISES LIKE  
UNDER WATER OR ZERO GRAVITY



POSITIVE PERCEPTION OF RECOVERY  
AND THINKING AHEAD



ESP DURING HIGH LOAD MASSAGE  
/NMES / COMPRESSION GARMENTS  
CAN HELP IN FEELING OF WELL BEING



SLEEP AND GOOD NUTRITIONAL  
PRACTICES ARE CORNERSTONE

# BASELINE AND PMA



WHY OVERUSE HAS  
POTENTIAL TO INJURE



TO MAKE SPORT SAFER



ALL SYSTEM CHECK UP  
ENOUGH ONCE IN 2 YRS

# BASELINE TESTING



NEUROPSYCHOLOGICAL TESTING FOR ATHLETES INVOLVED IN CONTACT SPORTS .. CONCUSSION INJURY BASELINE



TEST TO MONITOR FATIGUE AND RECOVERY [blood / saliva biochemical , hormonal or haematologic tests, aerobic / anaerobic fitness tests , psychological tests ]

# Physical tests to be used as post injury reference values

Muscle  
strength

Single leg  
hop tests

Vertical  
jump

30m sprint  
time

GH ROM

# CONCLUSION



LOVE YOUR TEAM . UNDERSTAND STRENGTH AND WEAKNESS



UPGRADE SURVEILLANCE . SMART TOOLS AVAILABLE



BE GOOD SHEPHERDS / FATHER OF TEAM . IDENTIFY WEAK AND ROBUST PLAYERS AND HANDLE . ASK FOR HELP



CONSTANTLY MONITOR TEAM AND UPSKILL IN KNOWLEDGE AND IDEAS

Special thanks to  
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sportsinjuries





Thank you