

PHYSICAL PREPARATION FITNESS & TESTING OF REFEREES

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INSTITUT
FOR
SPORTS MEDICINE
& SCIENCE
AUSTRIA

HIGH
PERFORMANCE
CENTER
SÜDSTADT
1982



IMSB - Austria



GOAL

**OPTIMIZATION
OF
TRAINING
&
PERFORMANCE**

IMSB - EHF



MEMBER
MEDICAL COMMISSION
1992 - 2011

HEAD
EHF- ANTI - DOPING
since 2011



IMSB - EHF



REFEREE

THE GAME

IMSB
Austria

**HANDBALL
TODAY**

DYNAMIC

ATTRACTIVE



THE GAME



HANDBALL
IS
PHYSICALLY
EXTREMELY
EXHAUSTING

PLAYER

REFEREE



THE REFEREE

IMSB
Austria

**HANDBALL
REFEREES**

~ 5000 m

~ 5 % HIR

**LESS
RECOVERY**



THE REFEREE



CONSEQUENCE

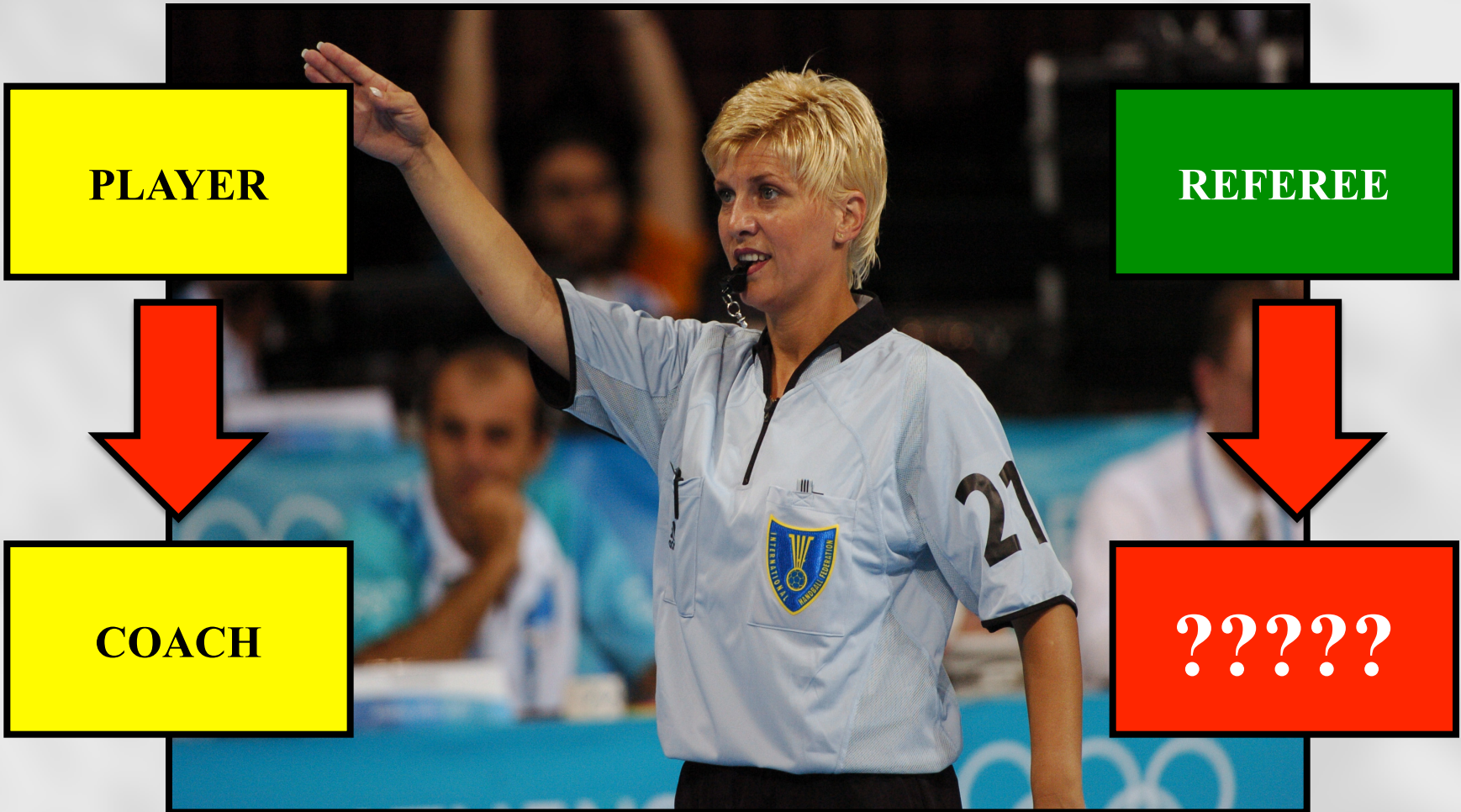
**REFEREES
MUST BE PERFECT
PREPARED**

THE REFEREE



**EHF – IMSB
REFEREE
TRAINING
SUPPORT
PROGRAMME**

THE REFEREE



THE REFEREE



THE REFEREE



REFEREE-TRAINING

ENDURANCE

SPEED (POWER)

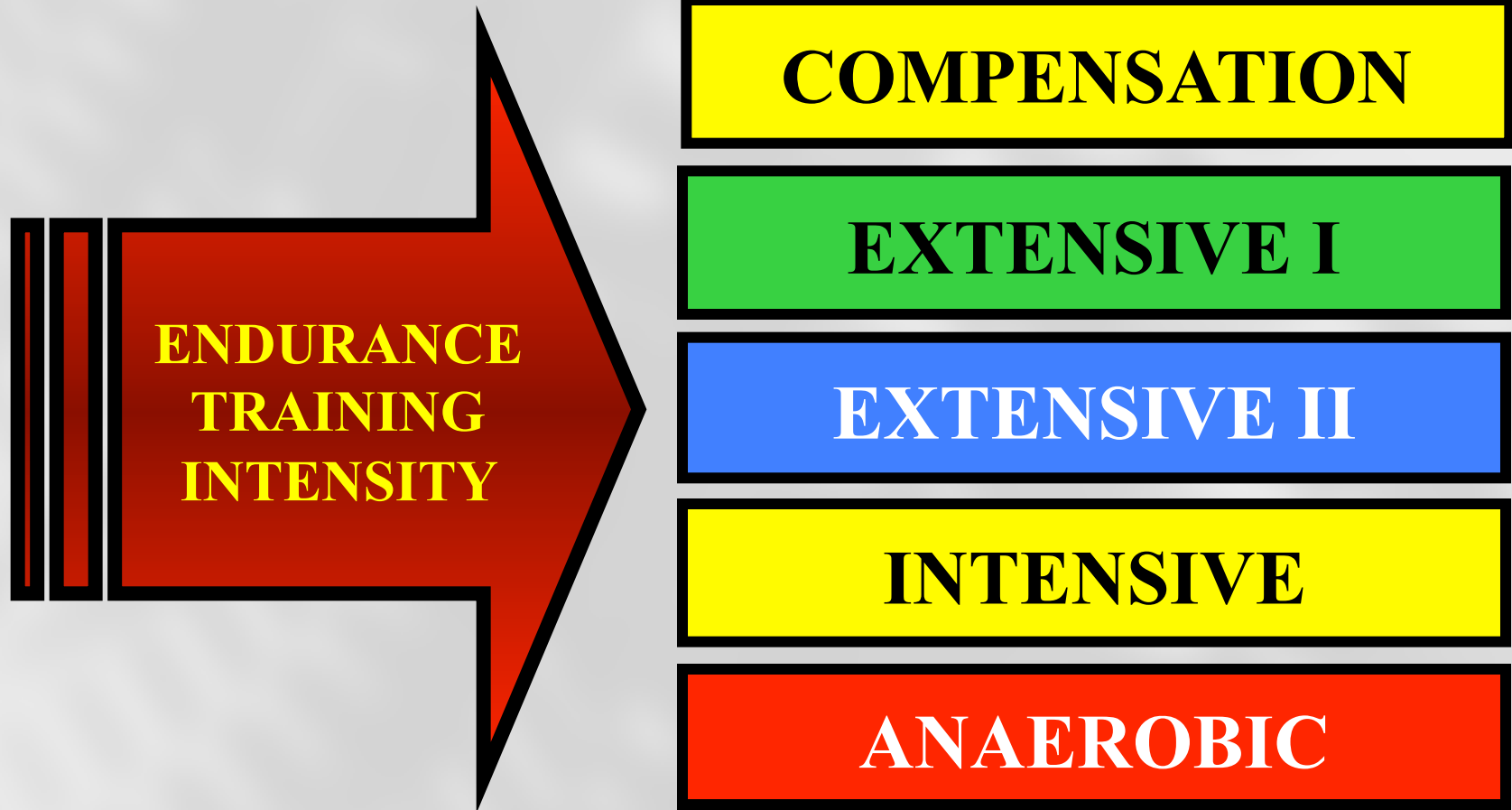
COORDINATION

THE REFEREE



ENDURANCE

THE REFEREE



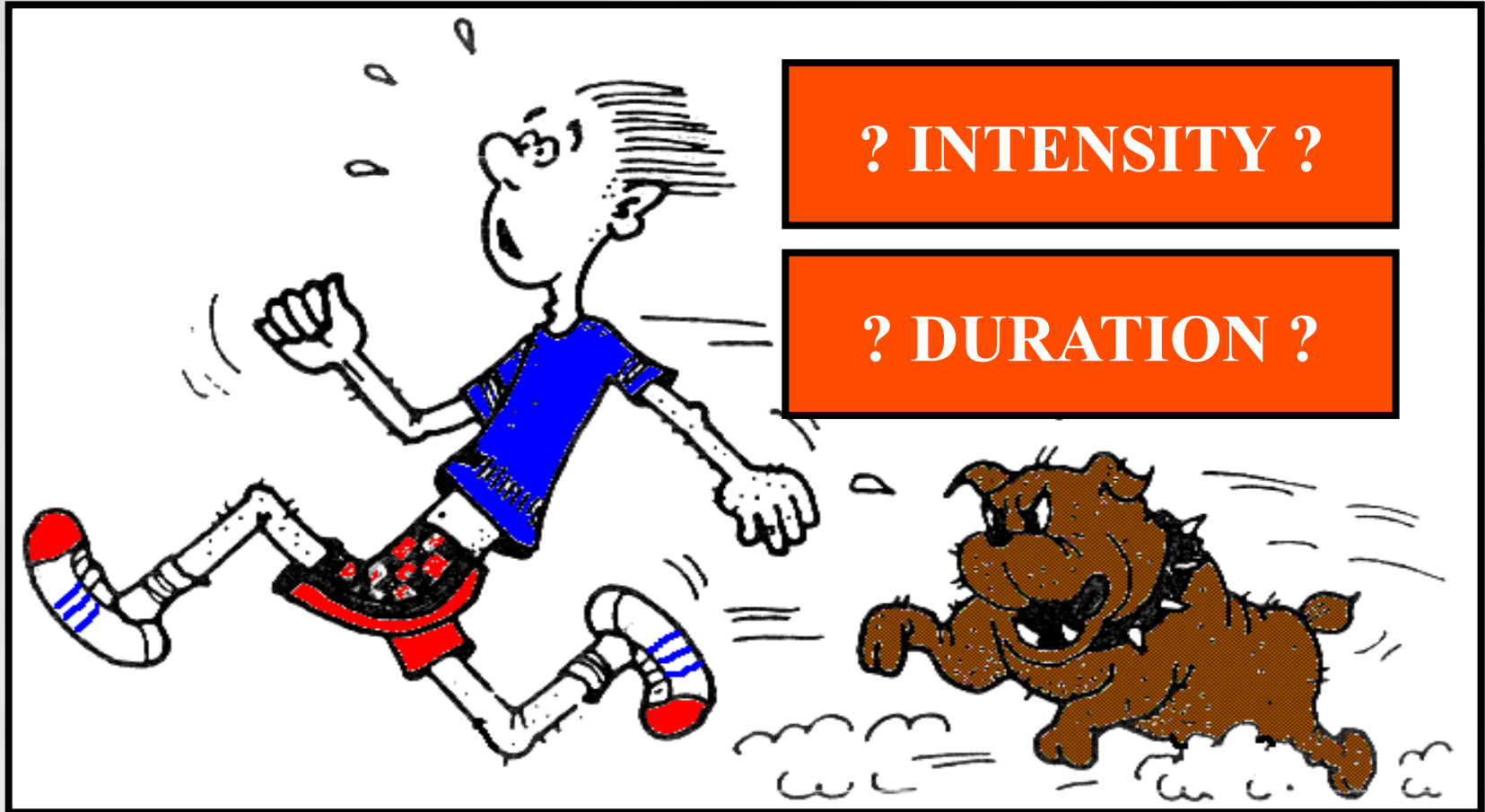
ENDURANCE



EXTENSIVE I & II

BASIC ENDURANCE
FAT & CH METABOLISM
ECONOMIZING

ENDURANCE



ENDURANCE

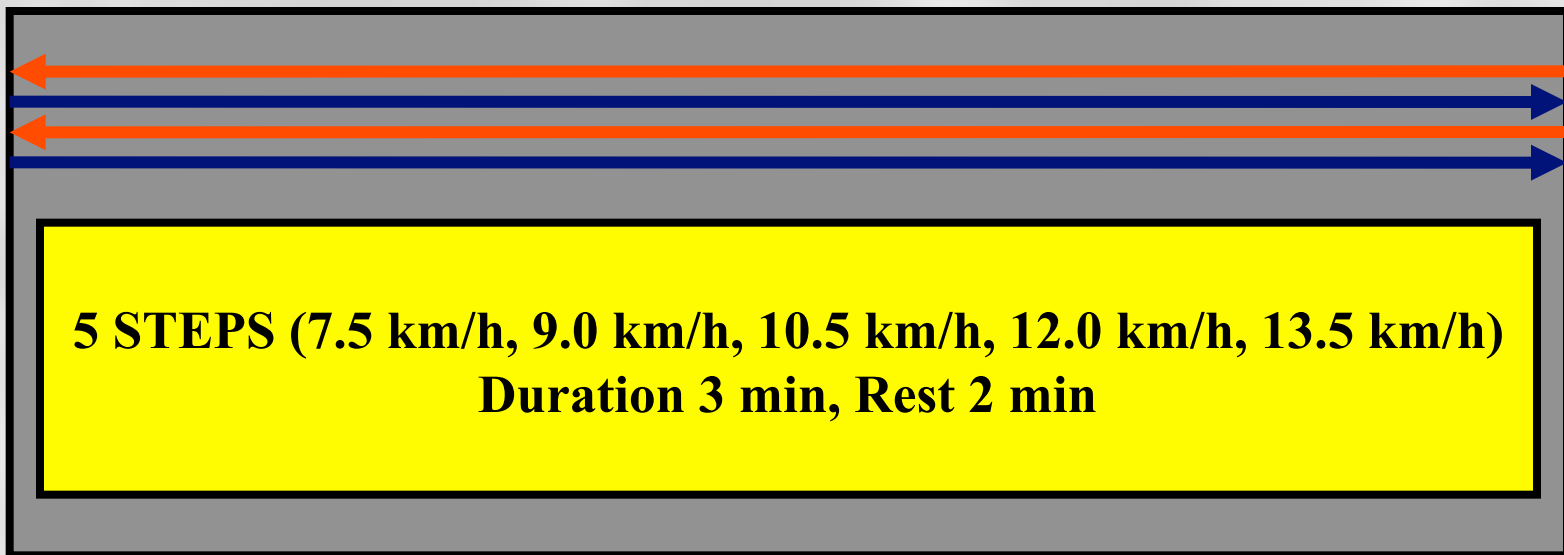


COMPENS.	F	15-30 m	50-60%
EXTENSIV I	F	60-120 m	60-70%
EXTENSIV II	F/CH	45-90 m	70-80%
INTENSIVE	CH	30-45 m	80-90%
ANAEROBIC	CH	15-30 m	90-100%

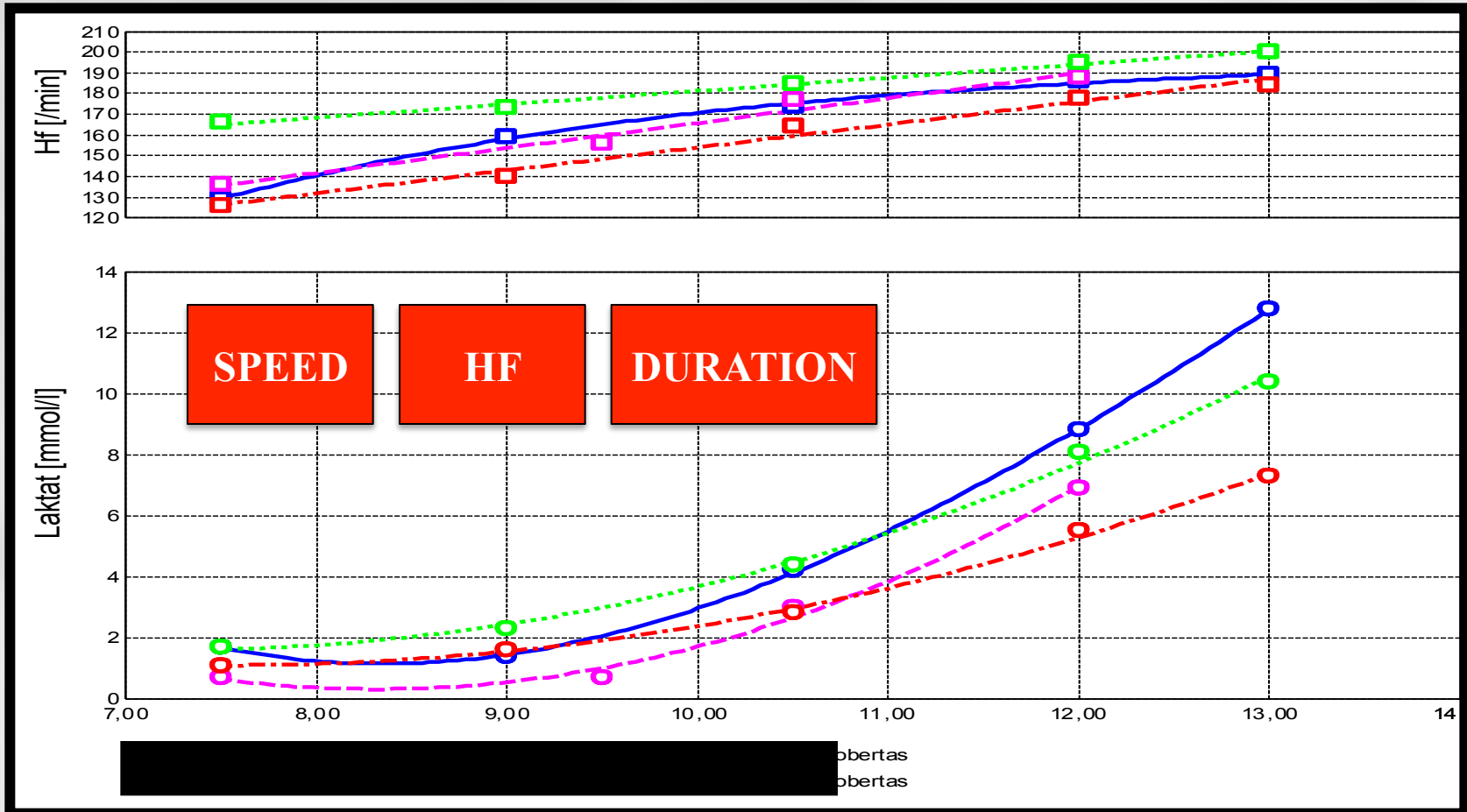
THE REFEREE



SHUTTLE-RUN



SHUTTLE RUN



SPEED



SPEED



SPEED

SPRINTS

10m

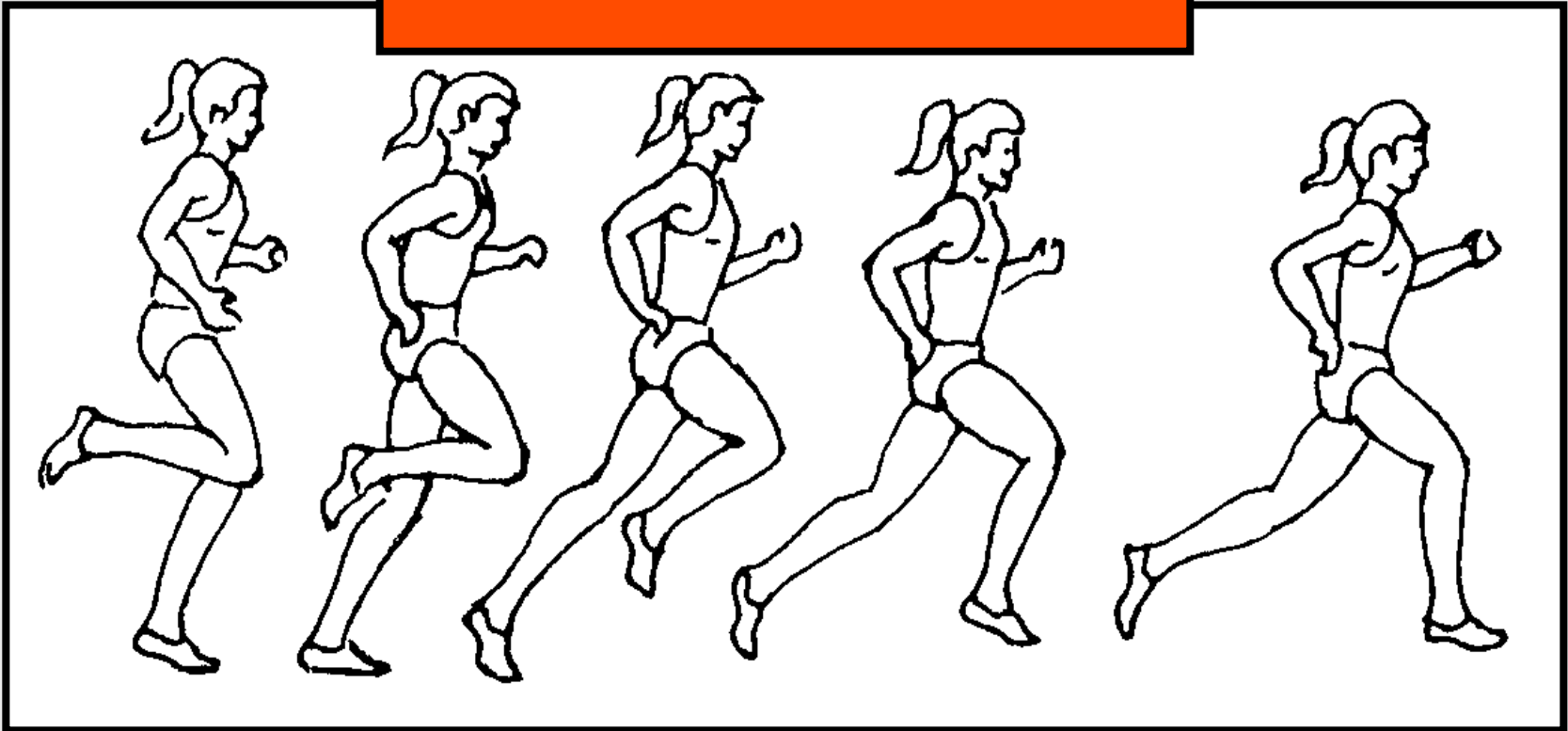
20m

30m

SPEED



COORDINATION



RUNNING ABC



COORDINATION



**MOTION-
TREASURE**



COORDINATION



REACTION

ORIENTATION

BALANCE

COORDINATION



MULTIFUNCTIONEL
POLYSPORTIVE

? TRAINING ?



**IMSB
TRAINING
SUPPORT**

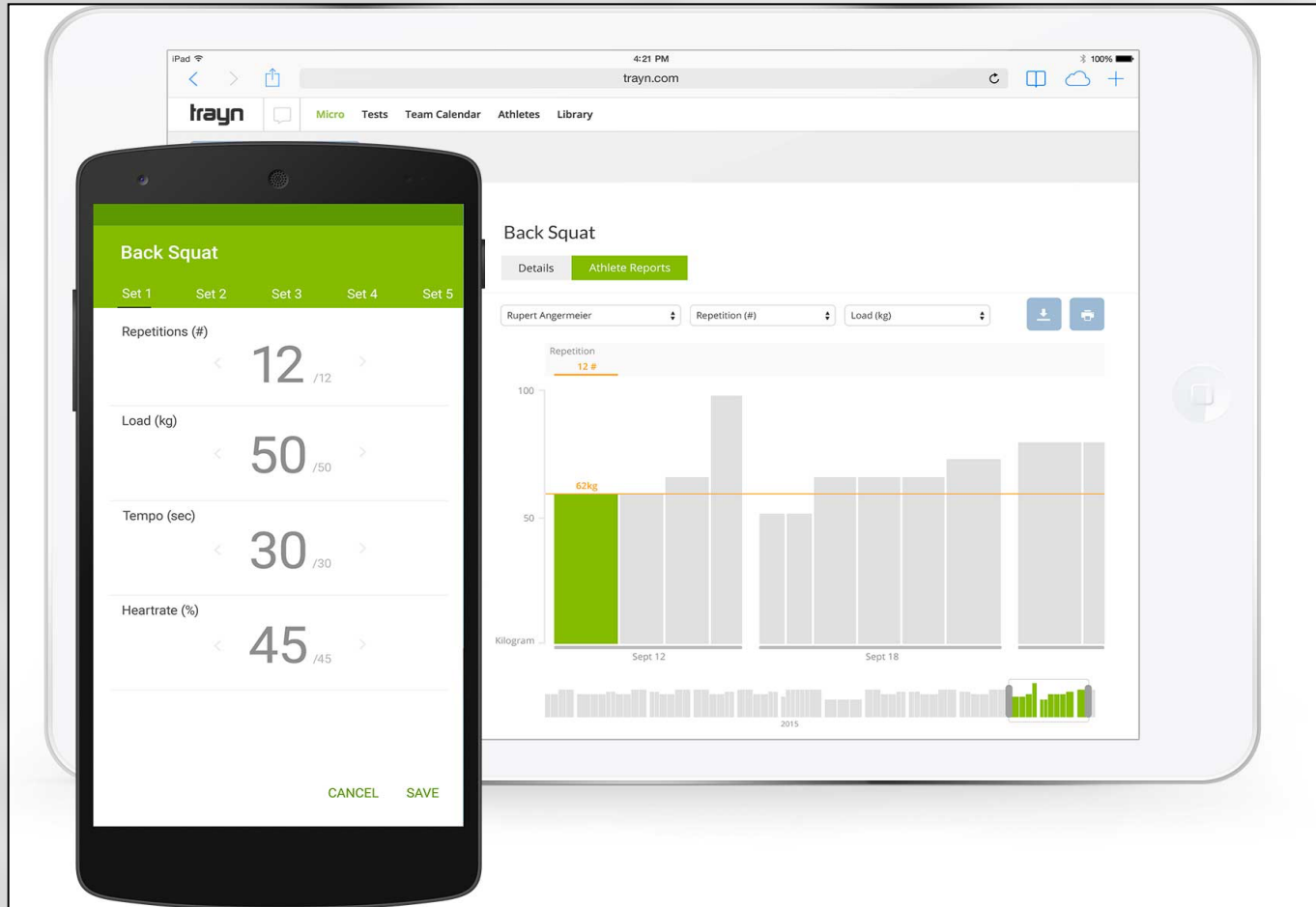


TRAYN

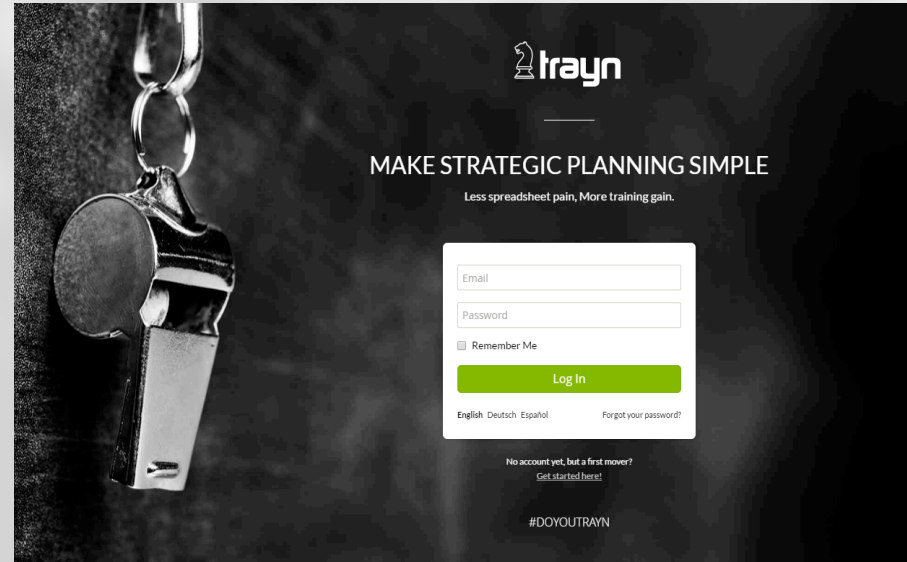
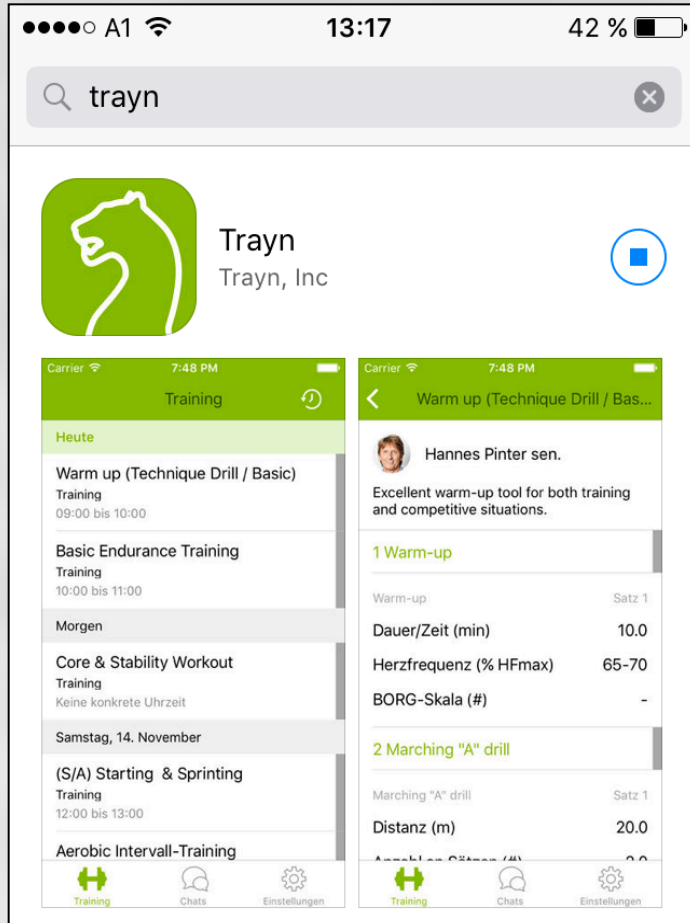
trayn



A
P
P



trayn



www.trayn.com

trayn



trayn Christian Fail - Calendar - X
https://app.trayn.com/#!calendar/athlete/2B99CBE5BCB04AB1B1FFBF3FA064EDA8/2016-08-28/agendaWeek

Micro Macro Tests Team Calendar Athletes Library Marco Angeler

← Agenda **Week** Month Aug 28 — Sep 3, 2016 for Christian Fail

Individual Training Team Training Game/Competition Event

W36	Sun 28/8	Mon 29/8	Tue 30/8	Wed 31/8	Thu 1/9	Fri 2/9	Sat 3/9
				(E) Light Aerobic Training 1 Core Stabilization EHF 3	(E) Light Aerobic Training 1		(E) Light Aerobic Training 1 Core Stabilization EHF 3
7 am							
8 am							
9 am							
10 am							
11 am							
12 pm							
1 pm							
2 pm							
3 pm							
4 pm							
5 pm							

TRAINING SCHEDULE

trayn



Trayn Training - Trayn

https://app.trayn.com/#/training/workout/my/2016-09-07/43E7BF00B8F14D7C98070E0F7F79675C

trayn Training Christian Fall

← Back to Calendar Agenda for Sep 7, 2016 Today

basic endurance Training 1

7 am

8 am

9 am

10 am

11 am

12 pm

1 pm

2 pm

3 pm

4 pm

basic endurance Training Track Skip

Planned by Marco Angeler

1 Easy Endurance Run

Set	Heart Rate (BPM)	Time/Duration (min)
1	129	15
2	137	10
3	153	10
4	121	5

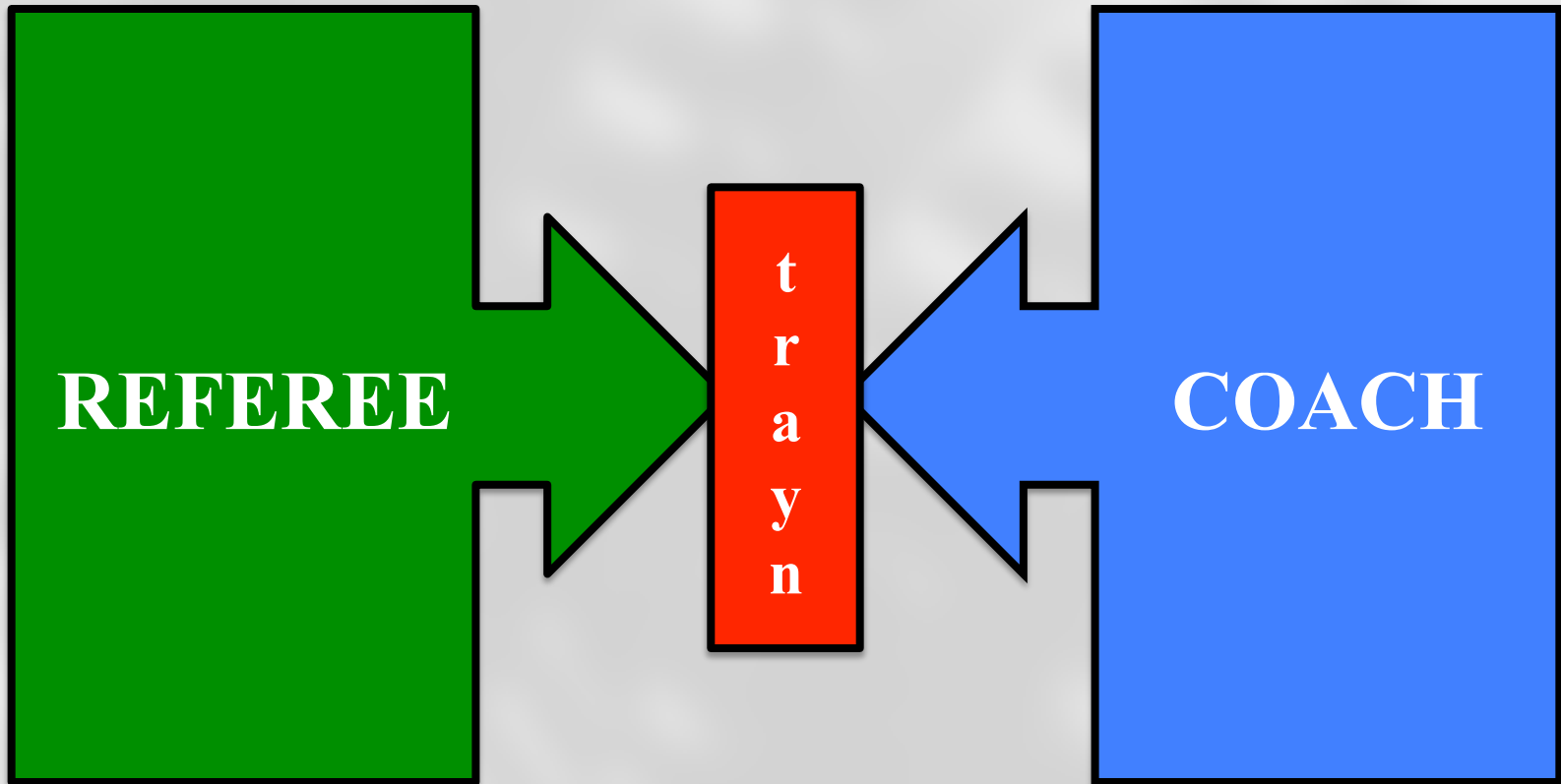
**TRAINING
DATA**

trayn



A screenshot of the Trayn mobile application interface. The top part shows a browser address bar with the URL 'https://app.trayn.com/#!training/workout/my/2016-09-07/43E7BF00B8F14D7C98070E0F7F79675C'. Below the browser, the app header includes the 'trayn' logo and a 'Training' tab. The main content area is split into two panels. The left panel shows a calendar for 'Wed 7/9' with a single event titled 'basic endurance Training' at 7 am. The right panel is a 'New Message' composition screen for 'Marco Angeler'. The message body contains the text 'Hi coach, today everything was fine.' with red underlines under 'coach' and 'fine'. At the bottom of the message screen are buttons for 'Attach file' and 'Send Message'. A large red rectangular box with the word 'MESSAGE' in yellow, bold, serif font is overlaid on the bottom left of the screenshot.

trayn

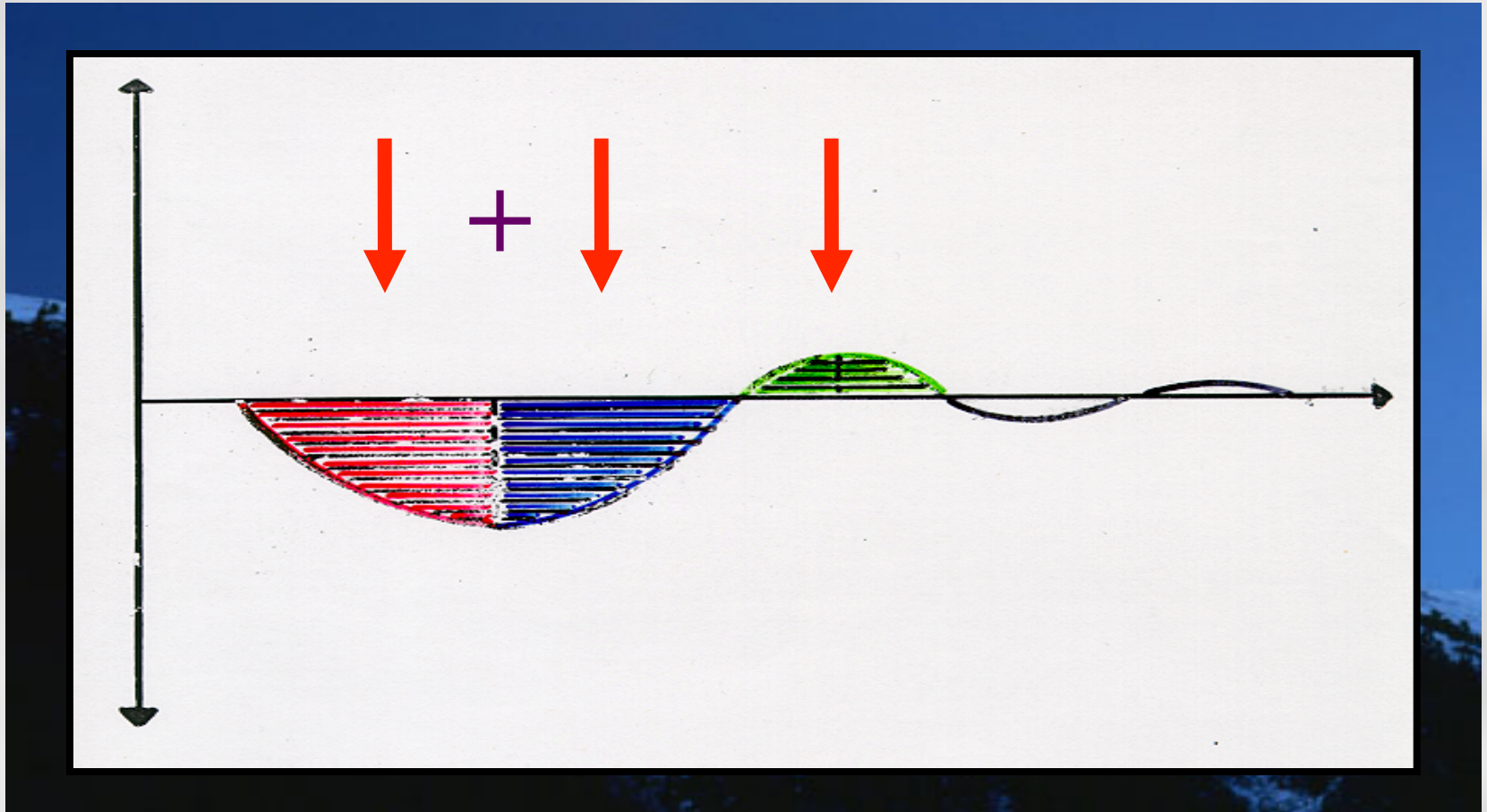


PRINCIPLES



**TRAINING EFFECTS
ARE THE
PRODUCT OF A
SYSTEMATIC CHANGE
OF
TRAINING AND RECOVERY**

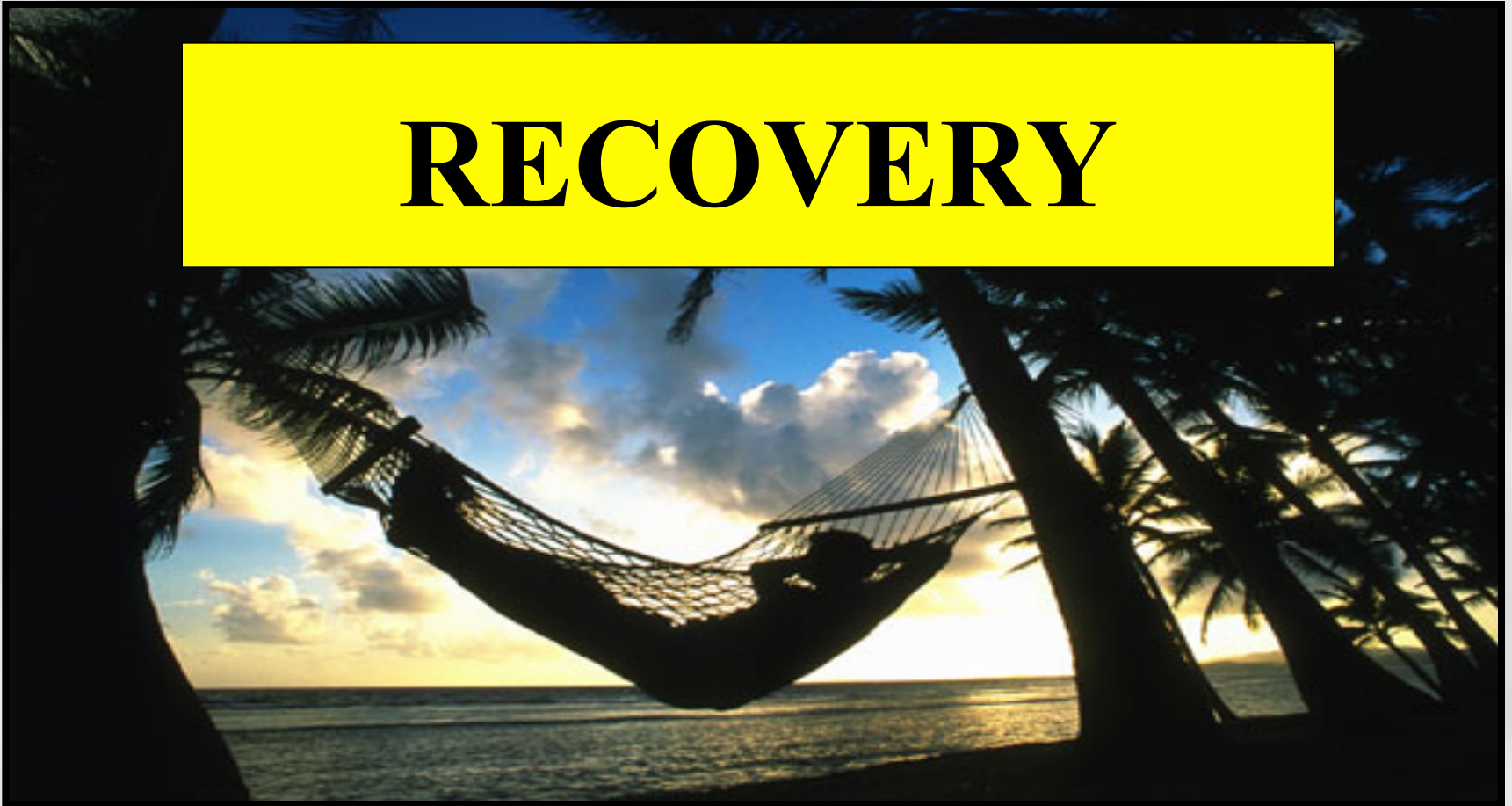
PRINCIPLES



THE REFEREE



RECOVERY

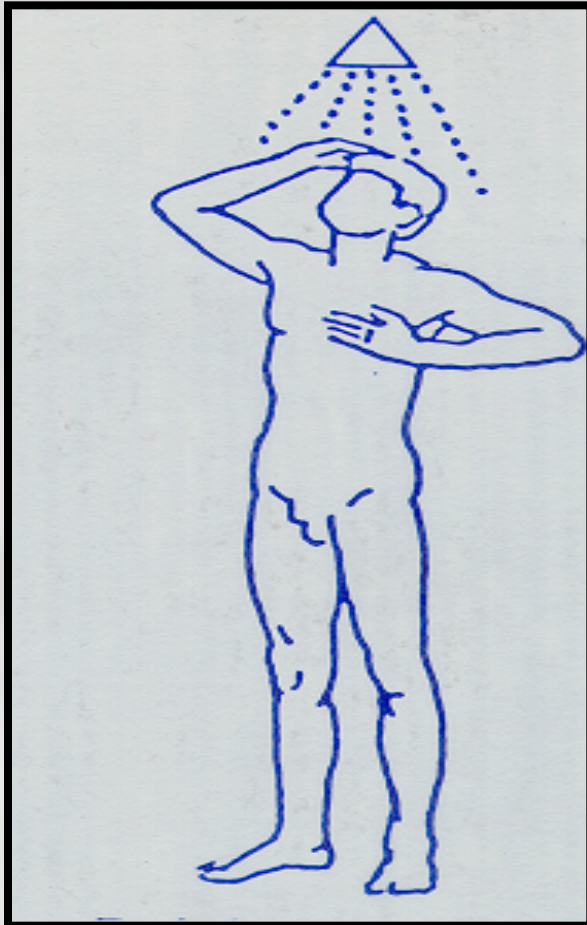


REGENERATION

**SLOW RUN
GYMNASTIC
STRETCHING**



REGENERATION



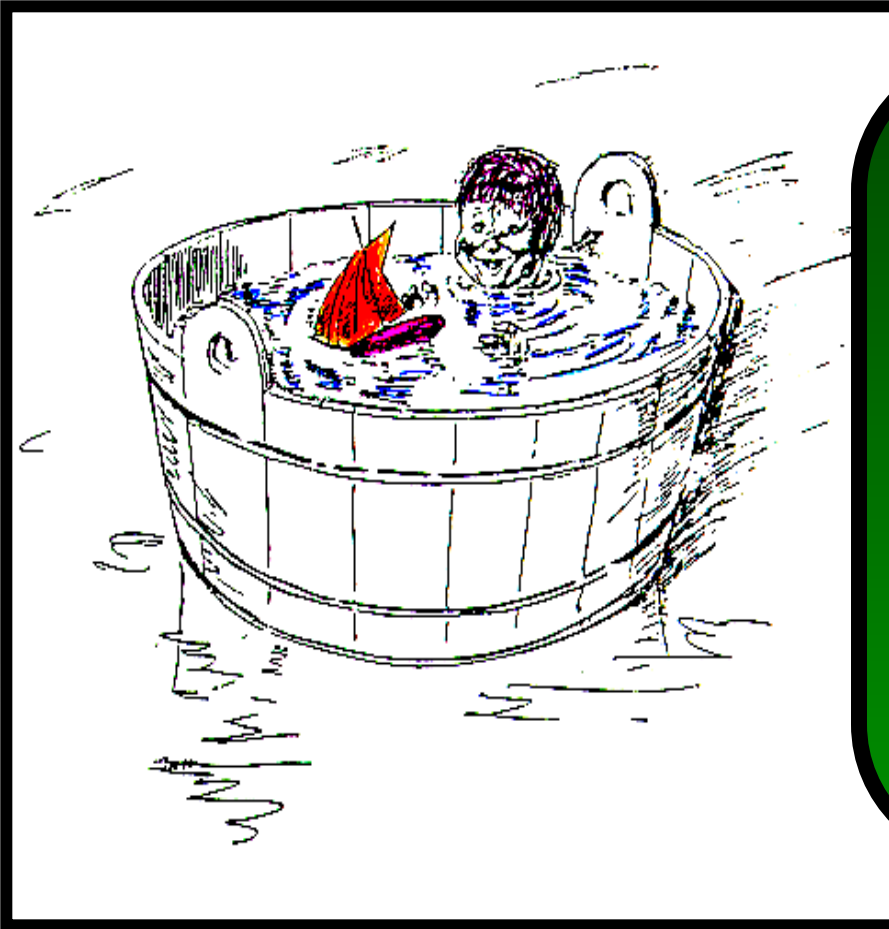
SHOWER

1-2 min warm

10-30 sec cold

3-4 x

REGENERATION



BATH

15-20 min

38-39°

REGENERATION



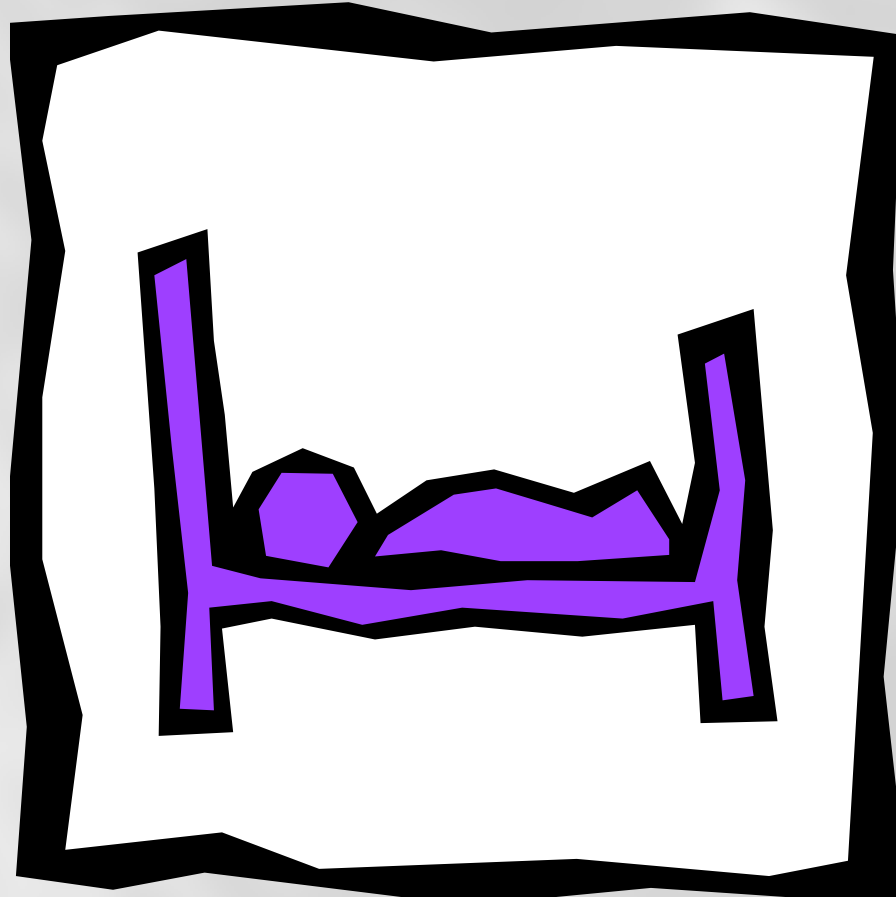
SAUNA

< 70°

dry

**leave when you
start sweating**

REGENERATION



SLEEP

POWER NAP

REGENERATION



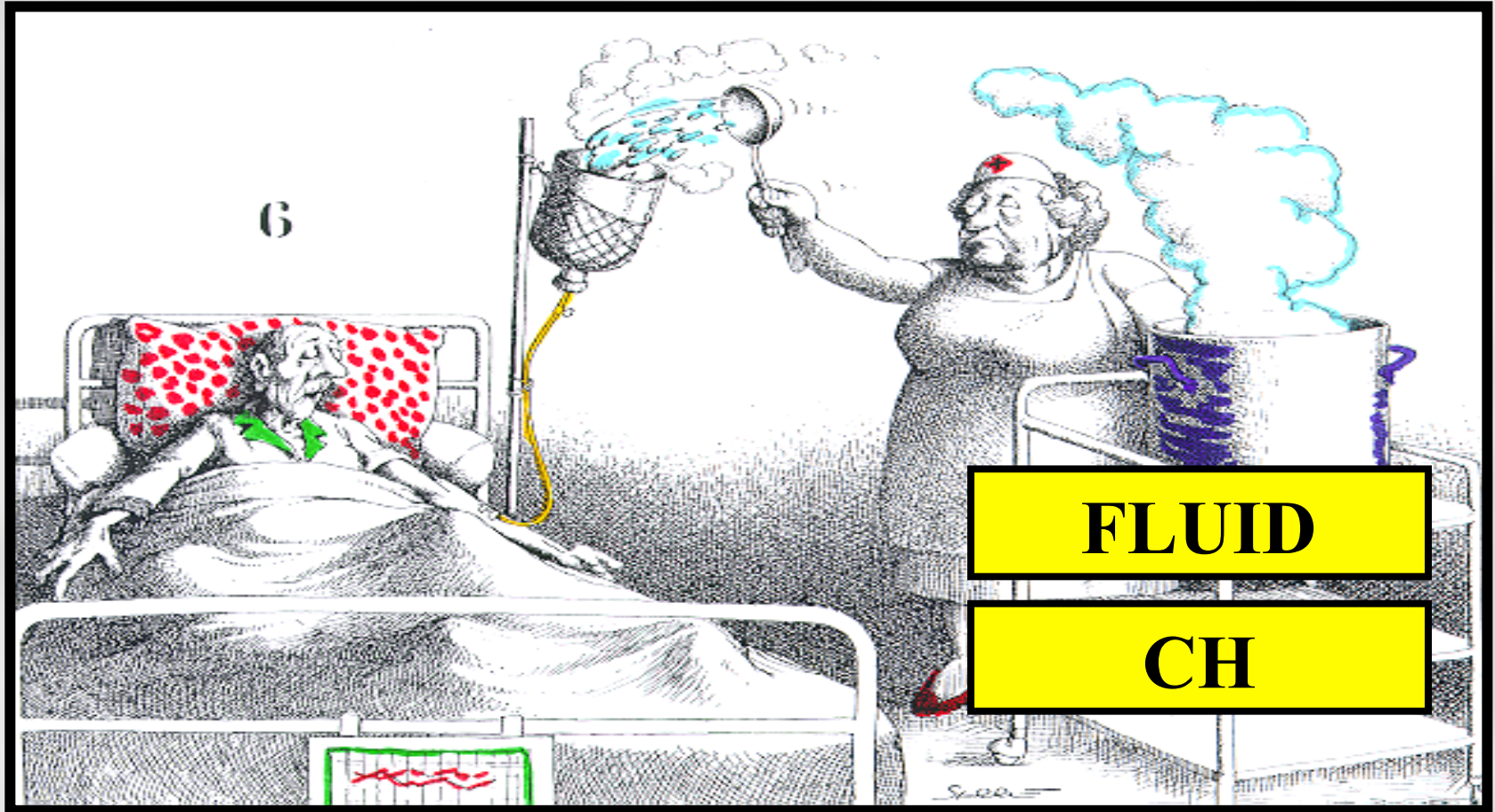
RELAXING MUSIC

REGENERATION

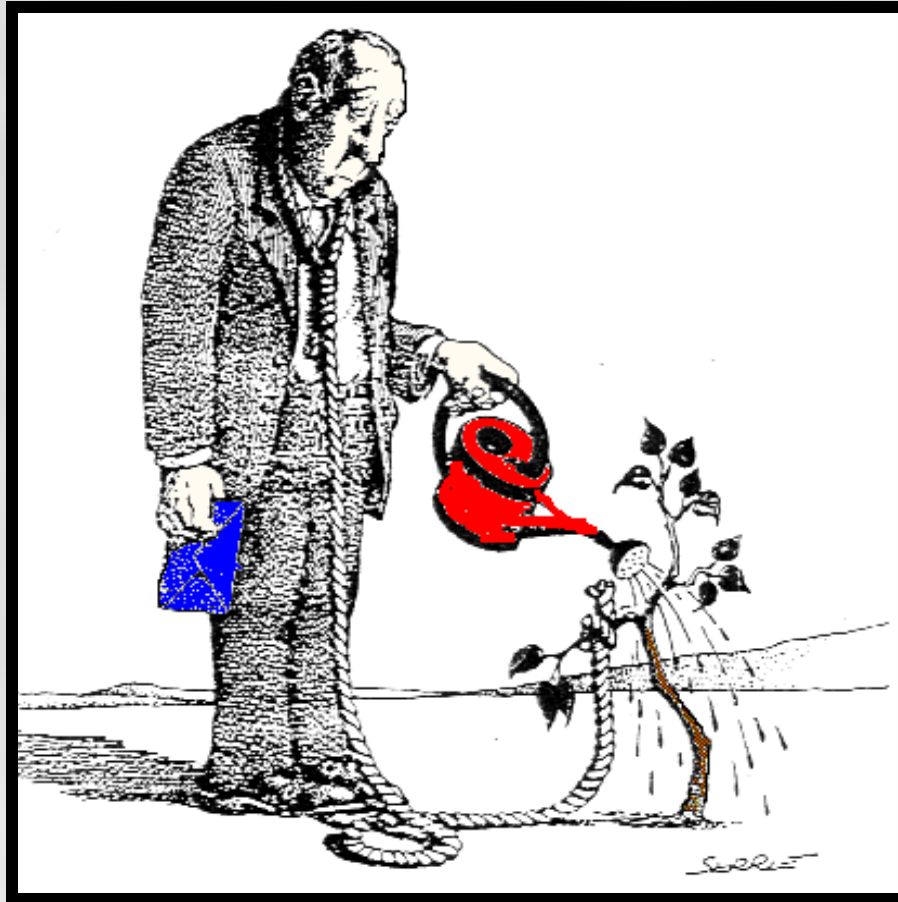
A set of silverware (fork, knife, spoon) and a plate on a light blue background. The word 'NUTRITION' is overlaid in large, white, serif capital letters across the center of the image.

NUTRITION

REGENERATION

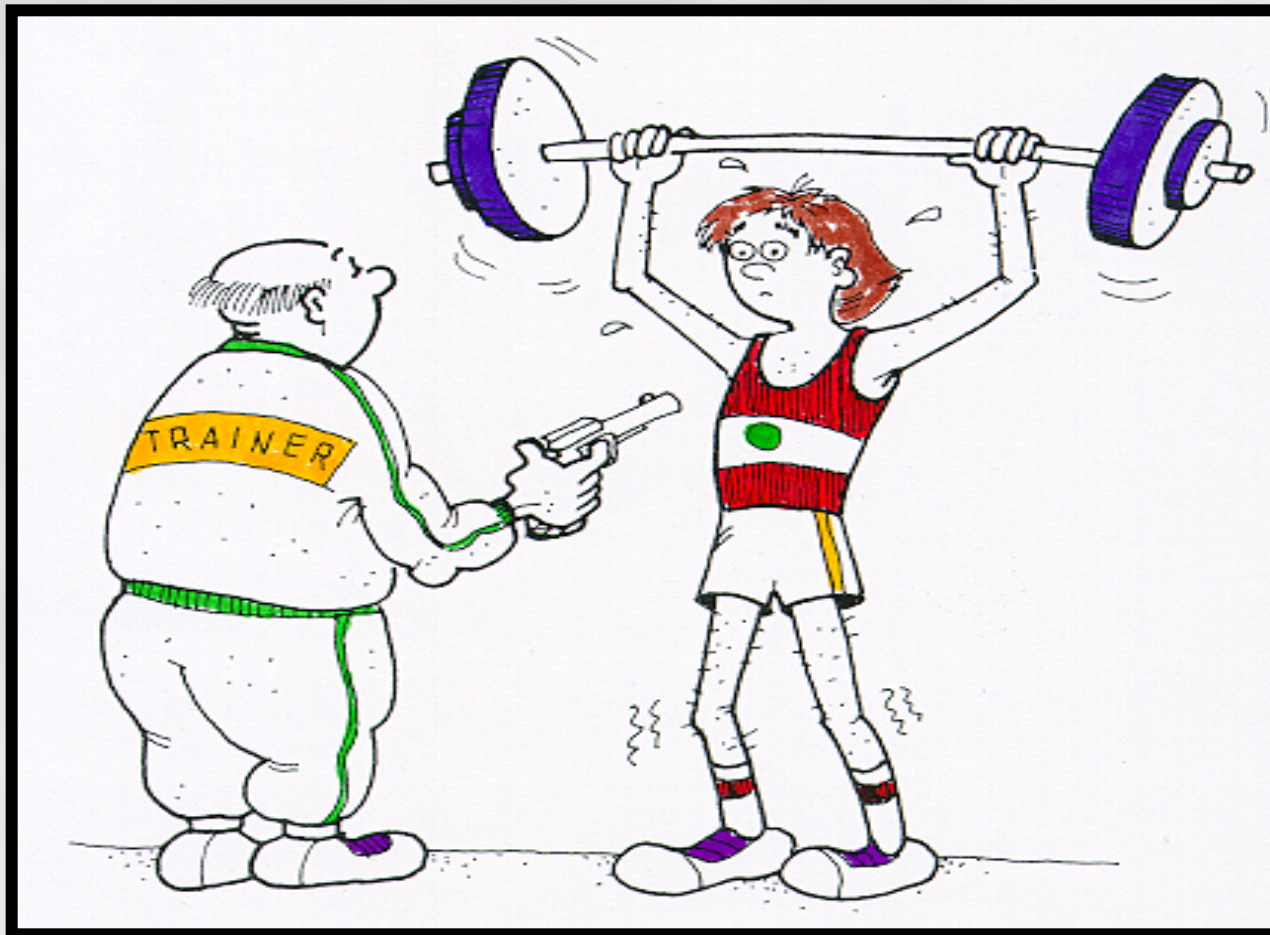


THE REFEREE



**DON'T
WORRY**

THE REFEREE



G L
O U
O C
D K

IMSB - Austria



**THANK
YOU**