



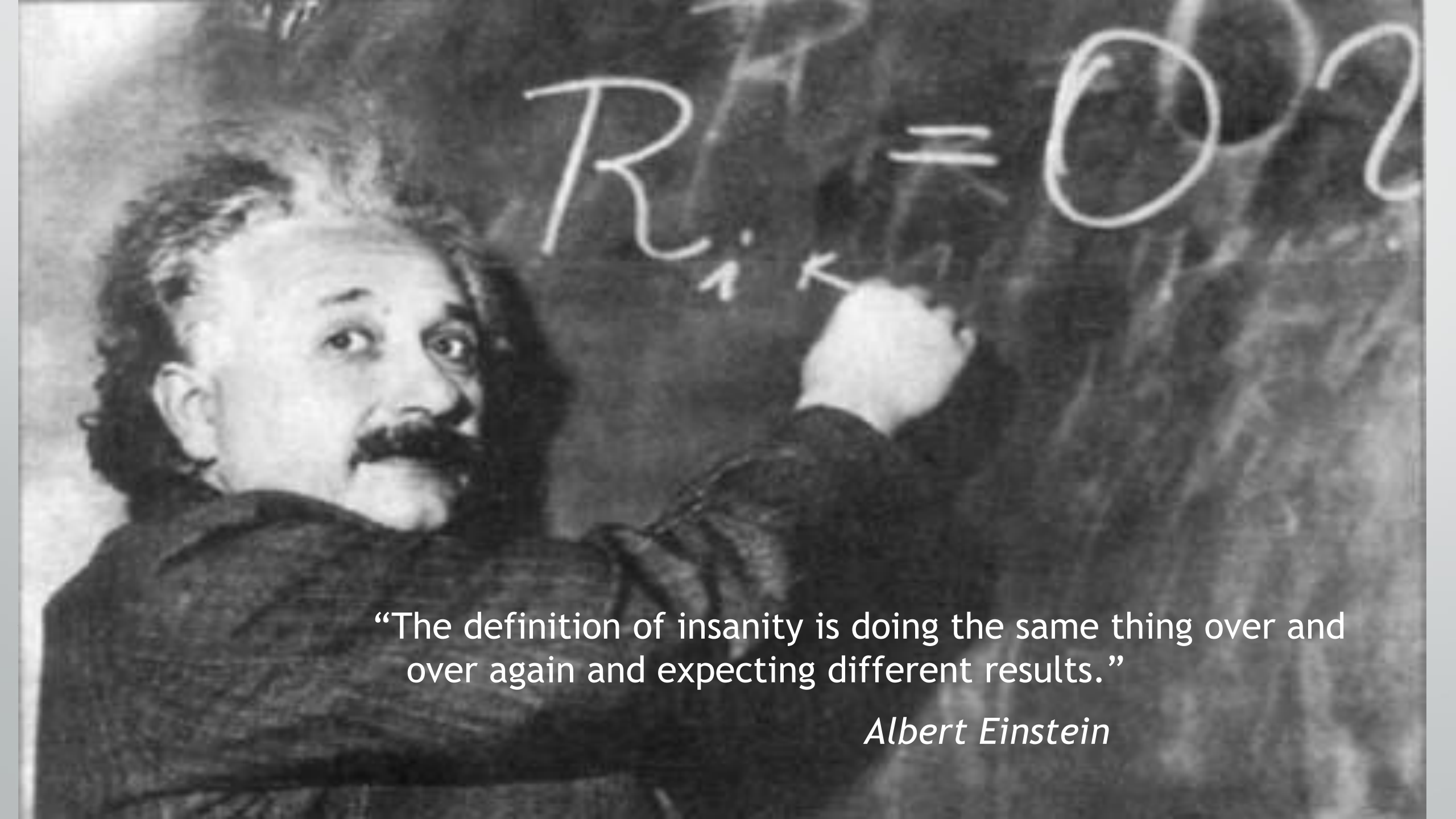
**BCSSA AGM**

**Kamloops,**

**May 26<sup>th</sup> - 28<sup>th</sup> 2017**

A speed skater is shown in a dynamic, low-profile racing posture on an ice rink. The skater wears a white racing suit with black accents and a prominent red logo on the back. A bright yellow helmet with the number '2' and a small crest is worn, along with dark sunglasses. The skater's body is angled forward, and their hands are positioned near the ice for balance. The background is a blurred, light-colored ice surface.

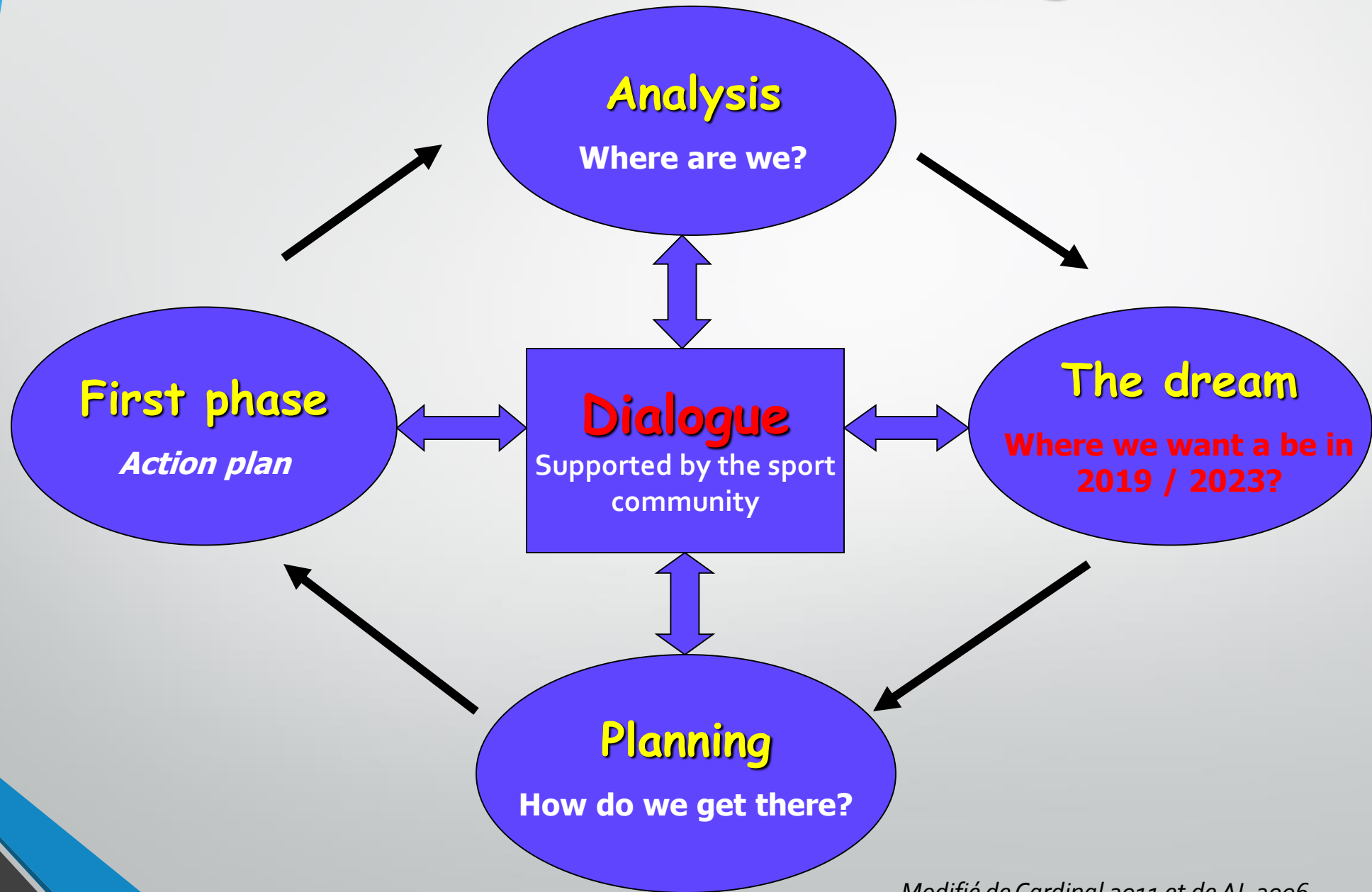
**Adapt for the future..  
Today !**



“The definition of insanity is doing the same thing over and over again and expecting different results.”

*Albert Einstein*

# How to introduce change?



# Evolution

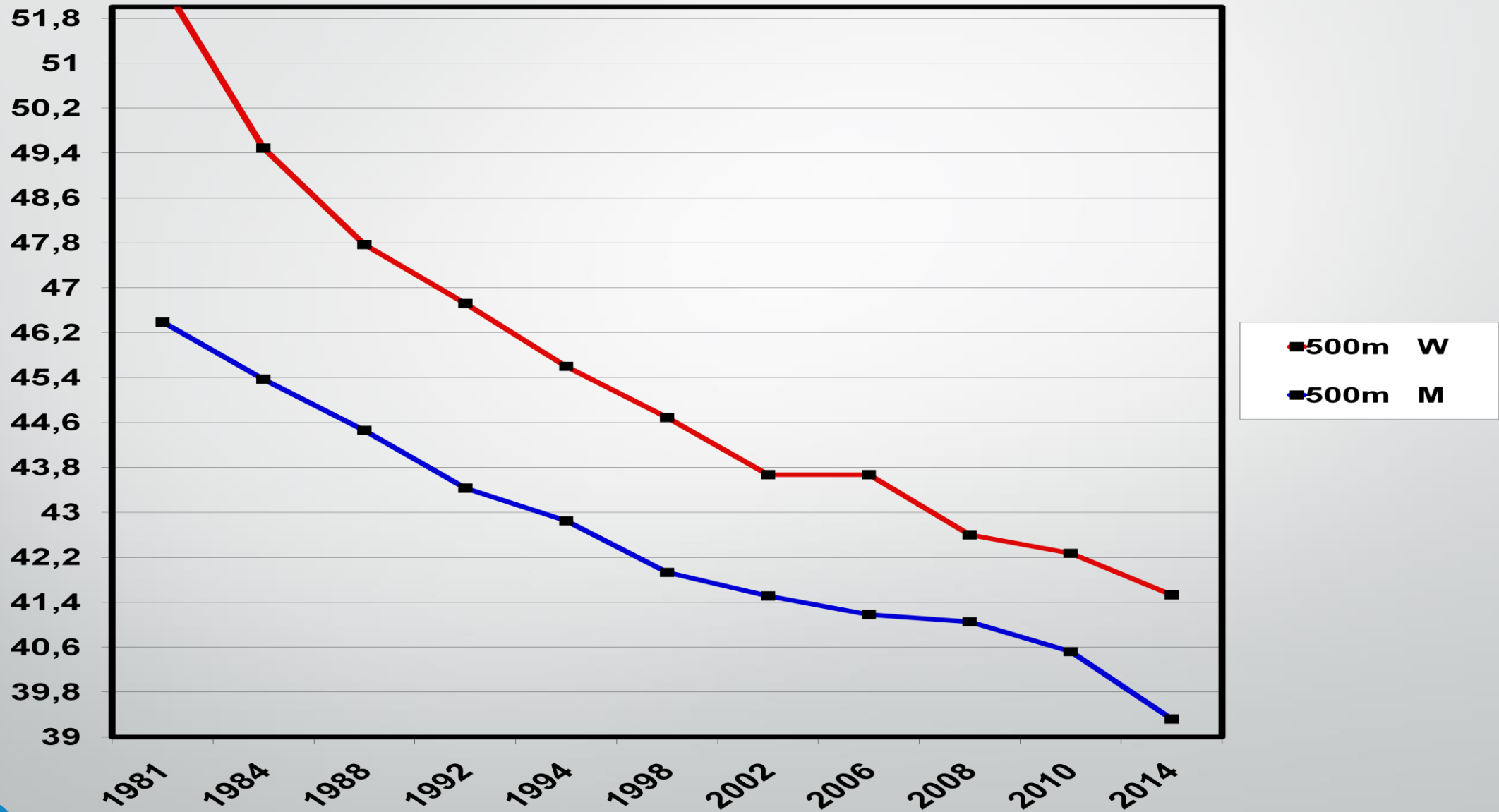
- EQUIPMENT
- TRAINING /YTP
- COACHES
- TECHNIQUE /TACTIC



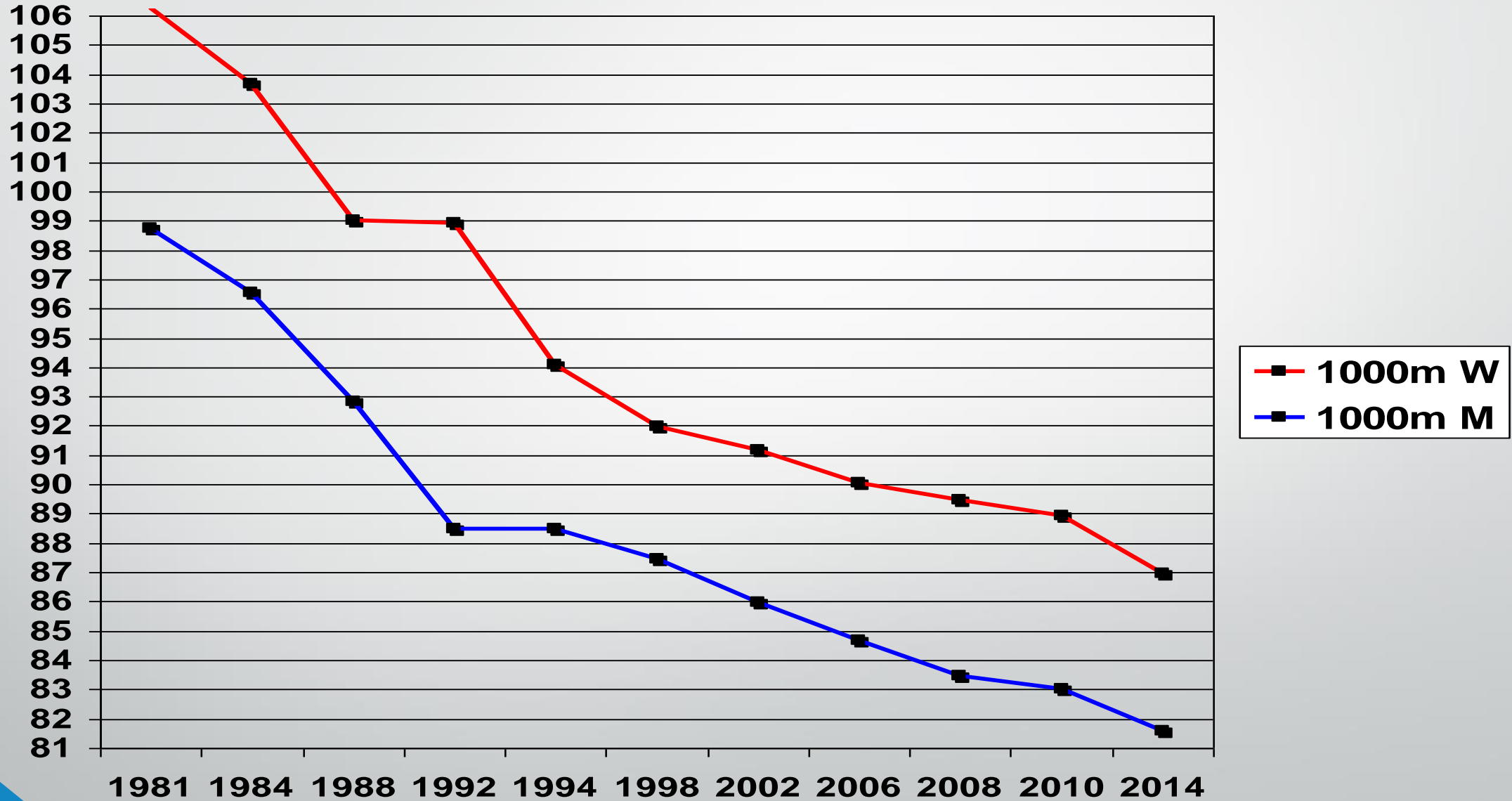
# Where Short Track come from?



# 500m World Record



# 1000m World Record





A photograph of three speed skaters in a starting crouch on an ice rink. The skater on the left is wearing a red and black suit and a white helmet with the number 25. The skater in the middle is wearing a blue and black suit and a white helmet with the number 24. The skater on the right is wearing a light blue and black suit and a white helmet with the number 23. They are all leaning forward with their hands on the ice, ready to start a race. The background shows a blurred green and blue wall.

**On ice technique**

The image shows two athletes on a blue running track. They are wearing black tracksuits and yellow beanbag hats. The athlete on the left is in a starting block, while the one on the right is in a full running stride. The background is a bright blue wall with some white text, possibly '2014'. The overall scene is brightly lit, suggesting an outdoor or well-lit indoor track.

**Why is technique important?**

# Good technique

- Allows to generate a maximum of watts
- Maximizes your strenght
- Saves energy
- Reduces chances of falling
- Increases efficacy of motion
- Increases aerodynamics
- Reduces friction with the ice
- Increases stability



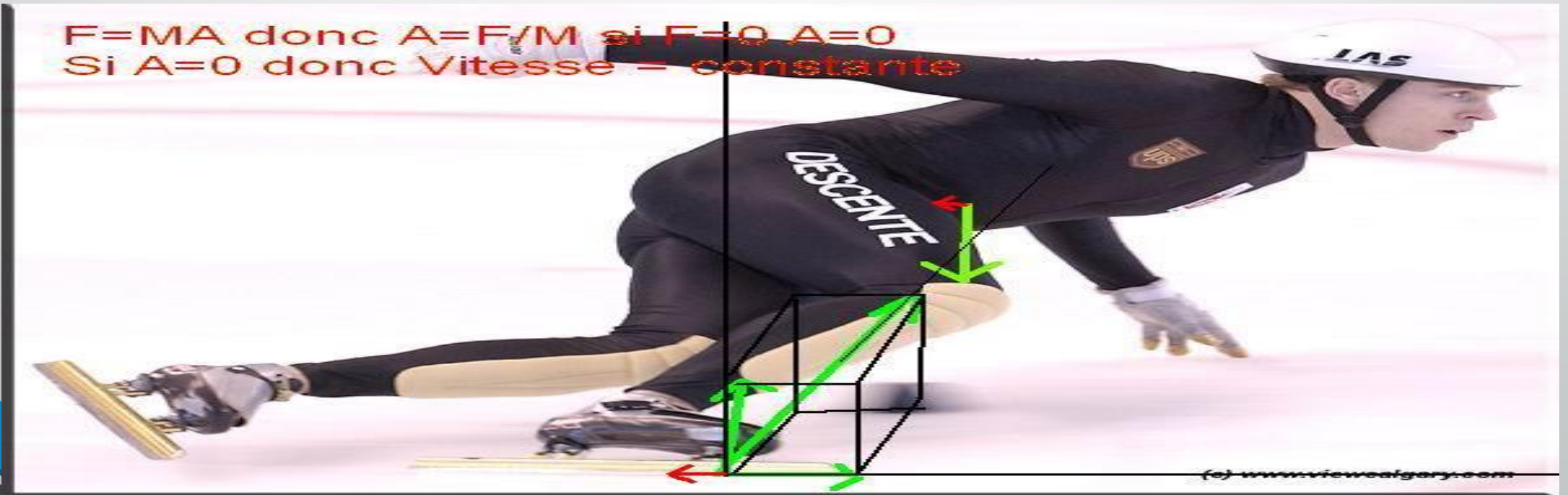
# Important technical points in ST

- Your back should be slightly rounded
- Your knees should always be in front of your toes with an angle of less than  $90^\circ$  between the hamstring and calf : Stability , power , direction
- The center of gravity has to be in front
- The opposite hip from the pusch, must be in front.
- The hand on the ice (corners) must be on the side (not in front or behind)
- Be careful with the right arm in corners
- Shoulders and hips parallel to the ice. In corners, never have your back facing inside.
- Keep the same inclination through the whole curve.



(c) www.viewoalgary.com

$F=MA$  donc  $A=F/M$  si  $F=0$   $A=0$   
Si  $A=0$  donc Vitesse = constante



(c) www.viewoalgary.com

# Apolo Ohno

2002



2006



# Eric Bedard

1998



2006



# Arianna Fontana

2006



2014





# 20 years!

1994



2014





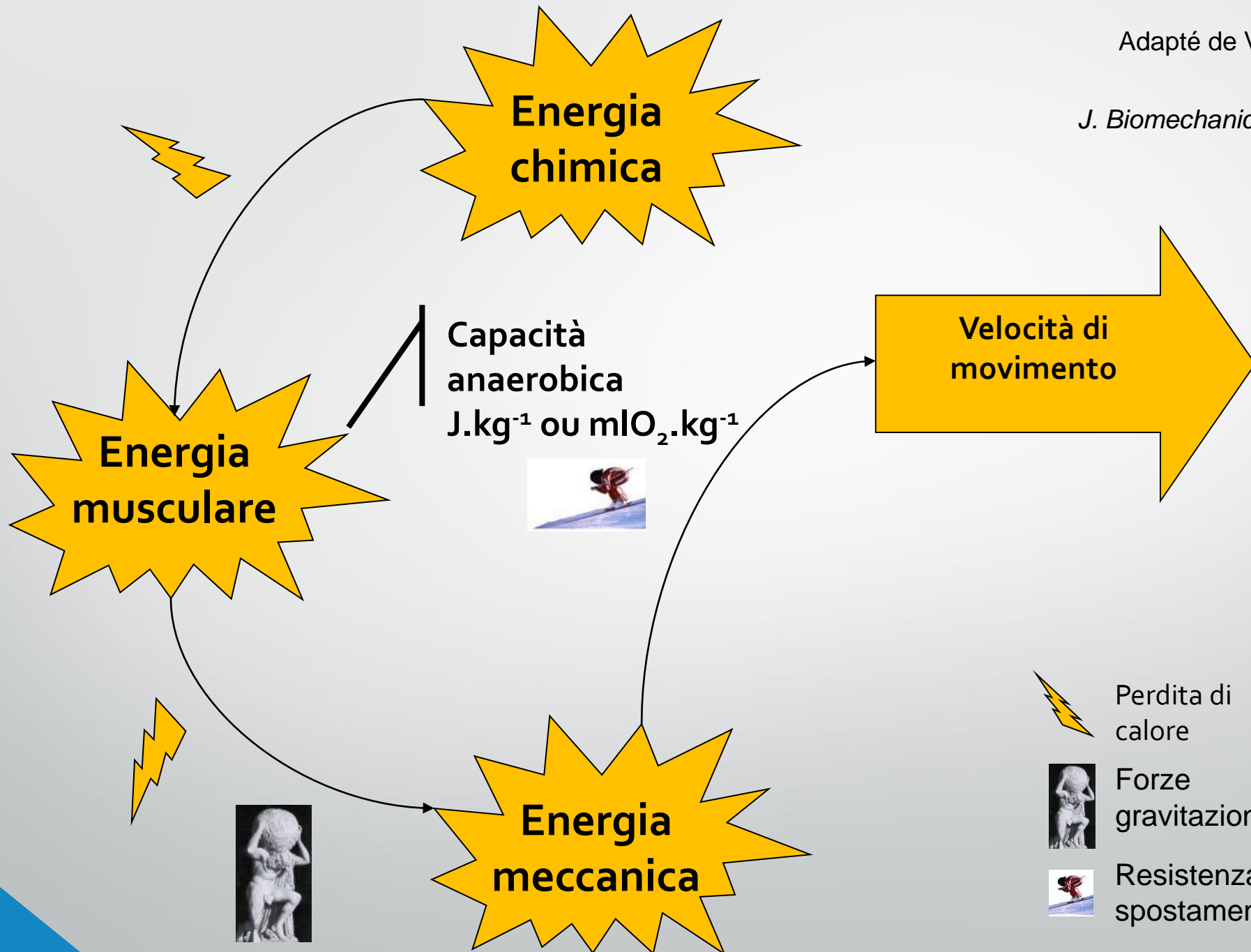
**Periodization**

**Energy System**

# The 3 Zones

## Energy System

Energy System	ATP, ATP-CP	Lactic Power	Lactic Capacity	AeP / MAP	CP/CS	AnT	AeT	Aerobic	Sub-Ae
Effort	4-15" Max	15-45" Max	45"-2' Max	2'-6', 90%-MHR	6-12', 87-92% MHR	>12', 82-87% MHR	1-3hr, 72-82% MHR	1-6hr, 62-72% MHR	1-6hr, 55-62% MHR
	Start / Sprint	Short Interval	Long Interval	Endurance Aer					
	r4' / R8'	r4'-5' / R8'	r5''6' / R8'-10'	r 1-1' / R8'-10'					
Int. Scale	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0
	Zone 3			Zone 2			Zone 1		



**Energia chimica**

**Energia muscolare**

Capacità anaerobica  
 $J.kg^{-1}$  ou  $mlO_2.kg^{-1}$



**Energia meccanica**

**Velocità di movimento**



Perdita di calore



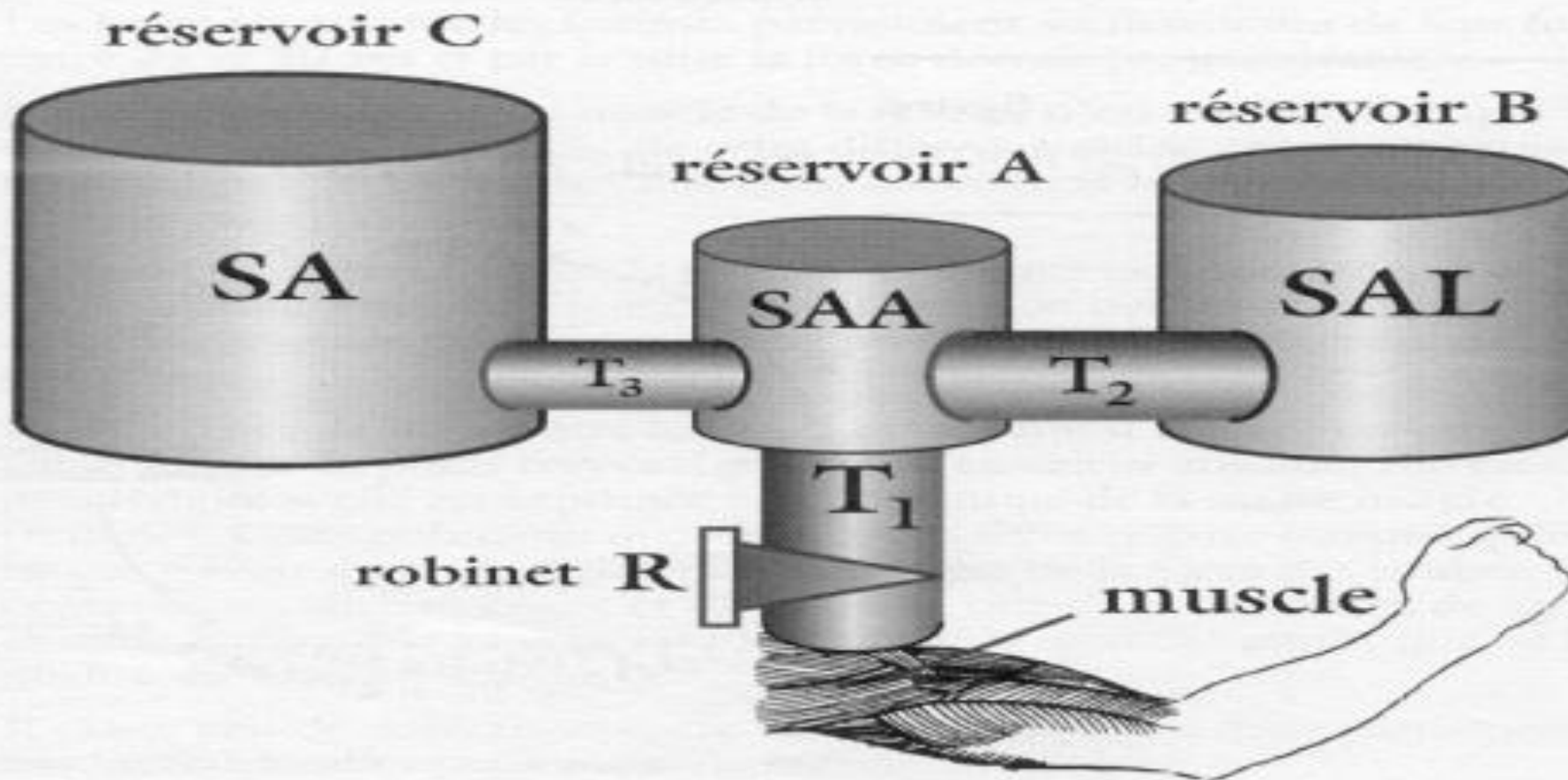
Forze gravitazionale



Resistenza de spostamento

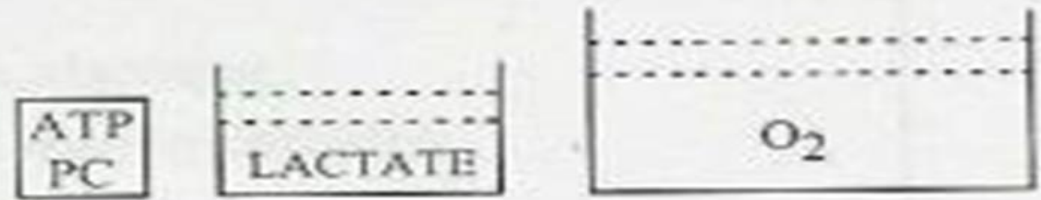
# Energy System

La puissance et la capacité des trois systèmes d'énergie comparées à des réservoirs (capacité) reliés entre eux par des tuyaux (puissance).

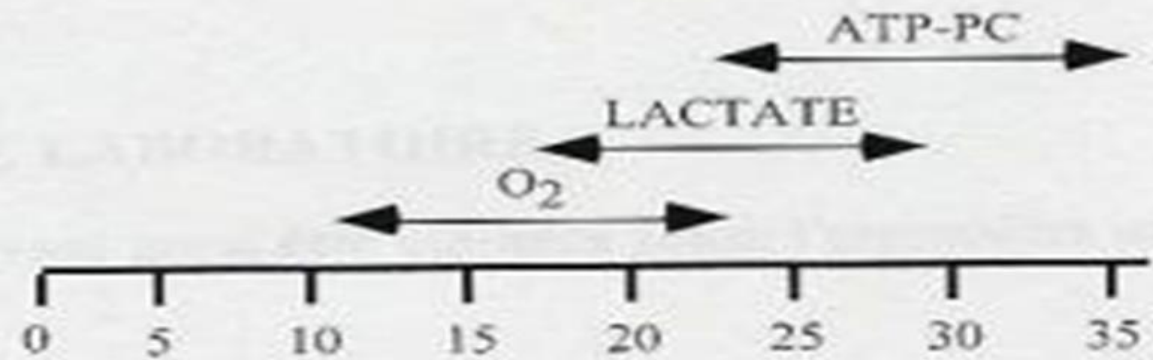


# Energy System

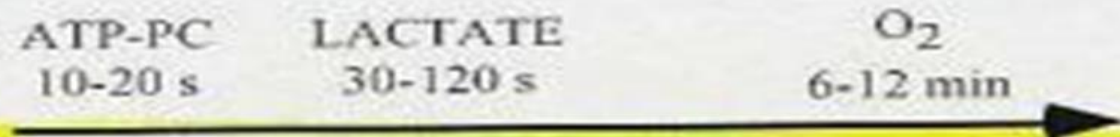
## I. RESERVE



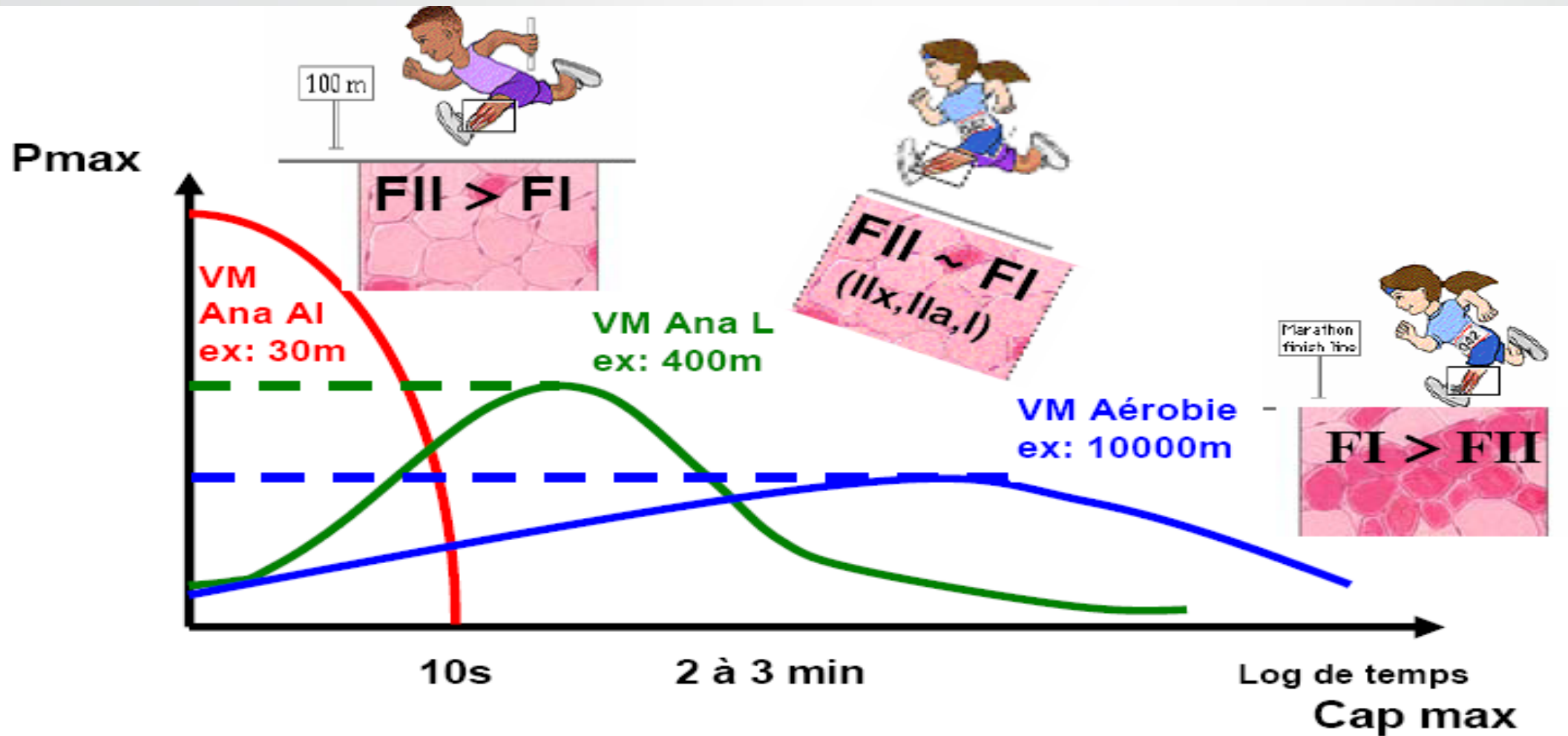
## II. VITESSE, km/h



## III. DUREE A VITESSE MAXIMALE

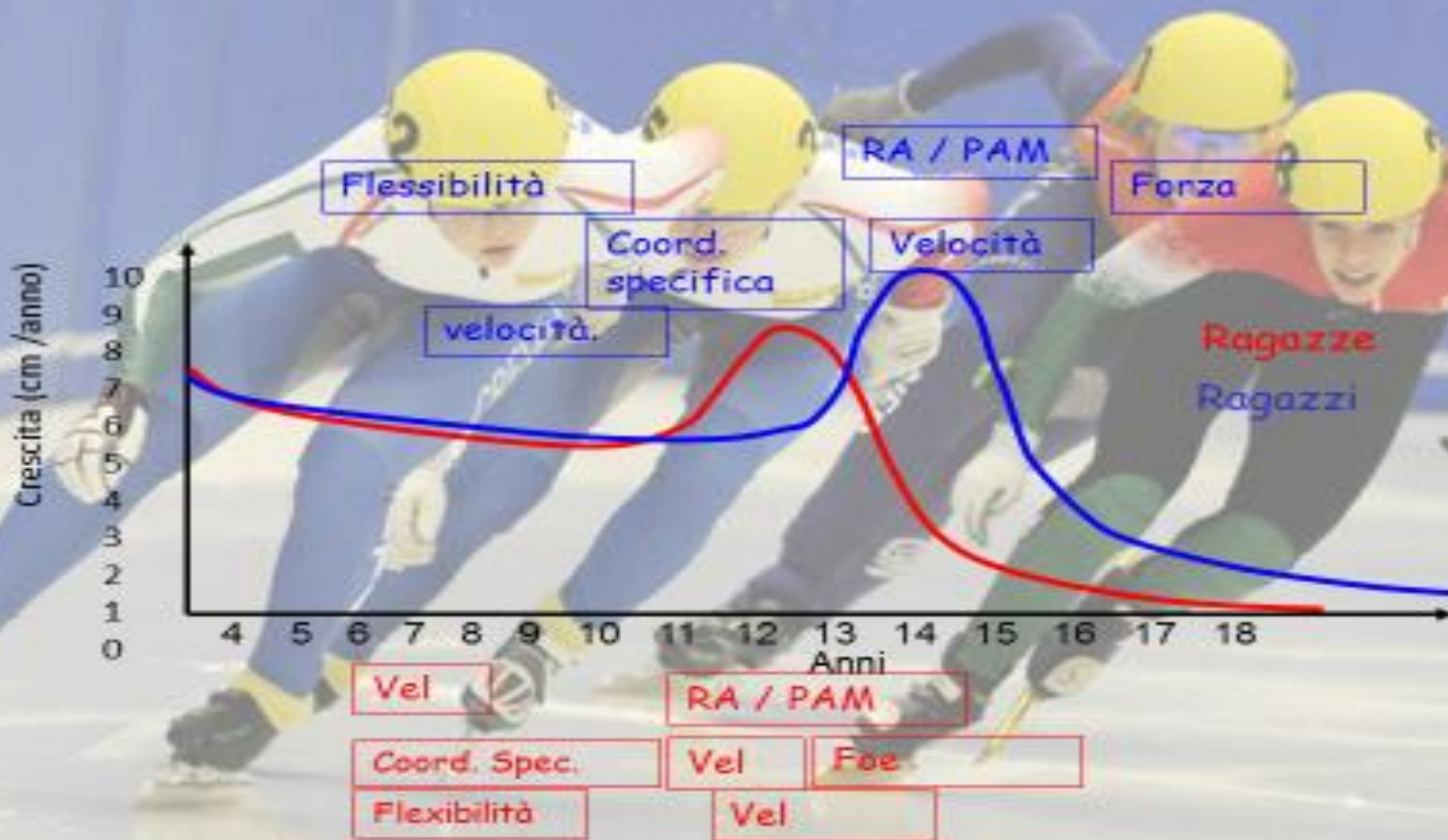


# Energy System



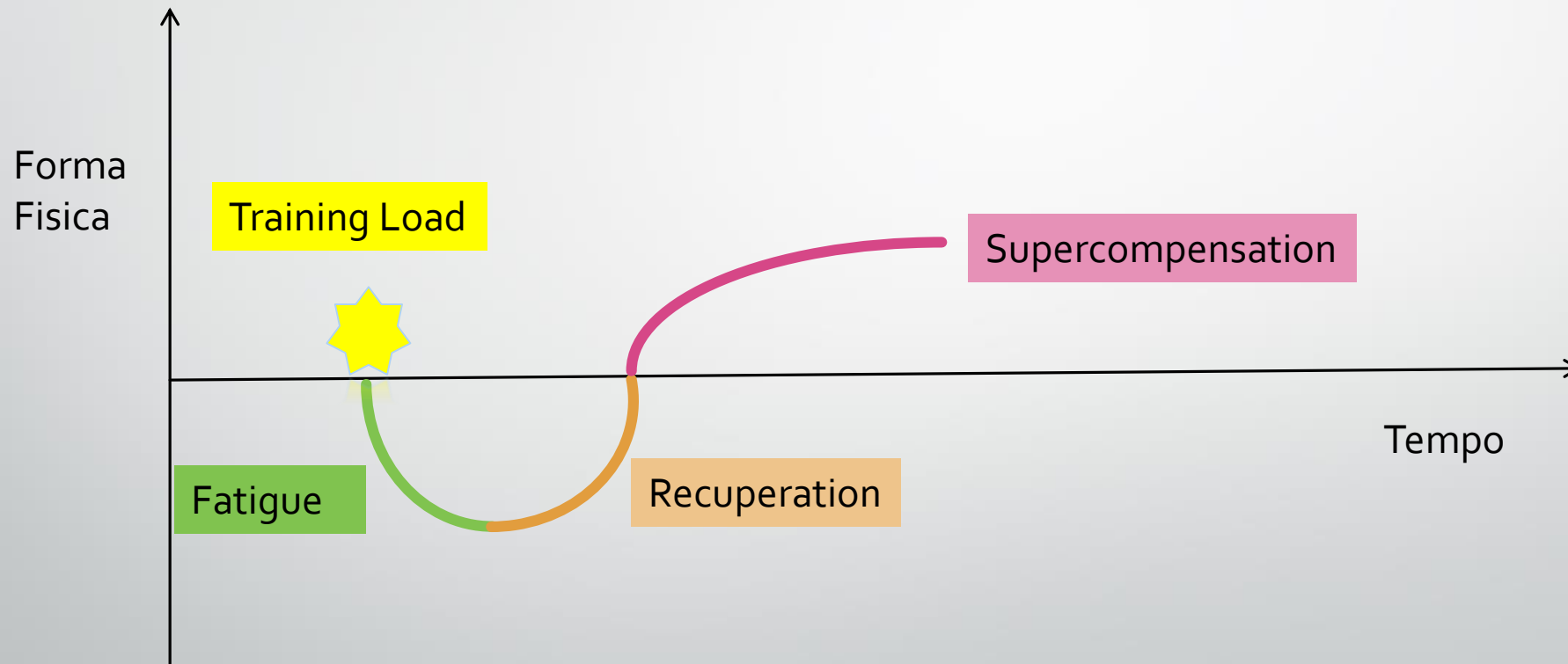
**Caractéristiques des trois filières énergétiques**  
(adapté de Howald, 1974)

# Momento giusto dell'allenamento





# Training Cycle



# Energy System

- **Energic Power:**

Quality maximal - Intensity

- *The amount of energy that can be used by the unit of time or the maximum amount of energy provided by each system*

- **Energic Capacity:**

(Quality of duration – duration)

- *The total amount of energy available to do the effort or duration of effort*

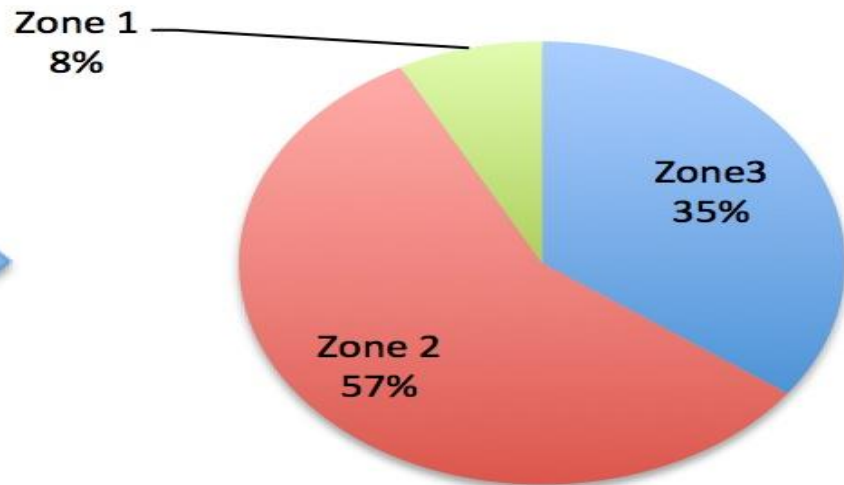
- **Energic Performance:**

- *The effectiveness of the body's use of a given amount of energy*

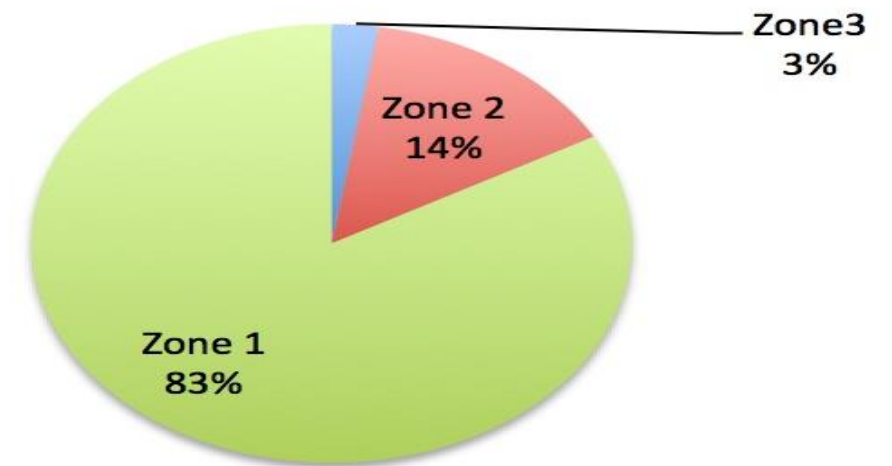
# 2015-2016 Training Zone Allocation

2015-2016 Seasonal Summary	Laps			Minutes		
	13121			9188		
	Zone3	Zone 2	Zone 1	Zone3	Zone 2	Zone 1
	35.01	57.24	7.74	2.52	14.38	83.10

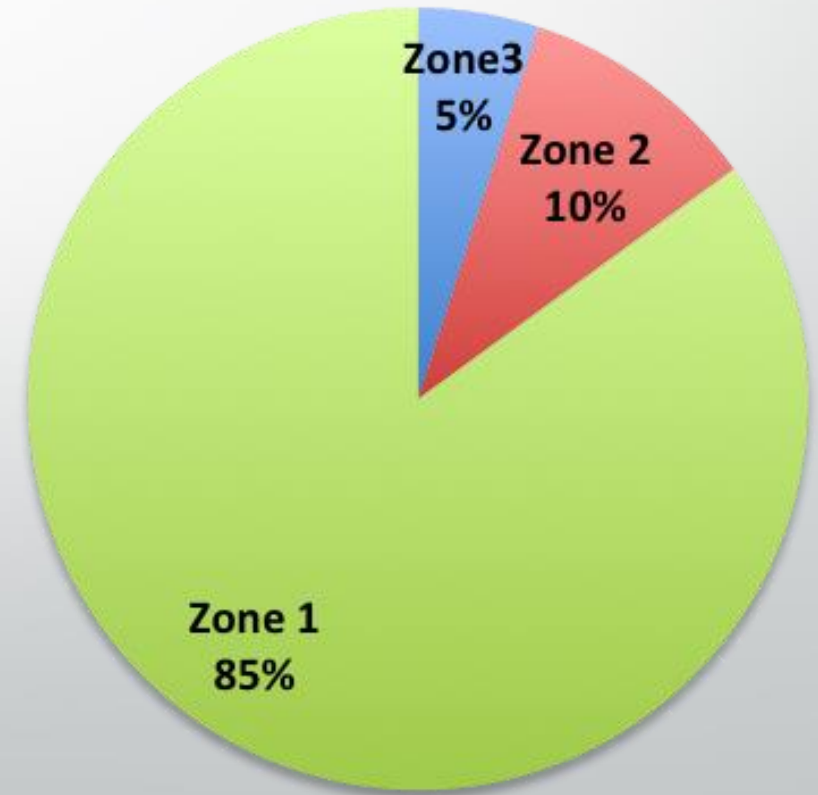
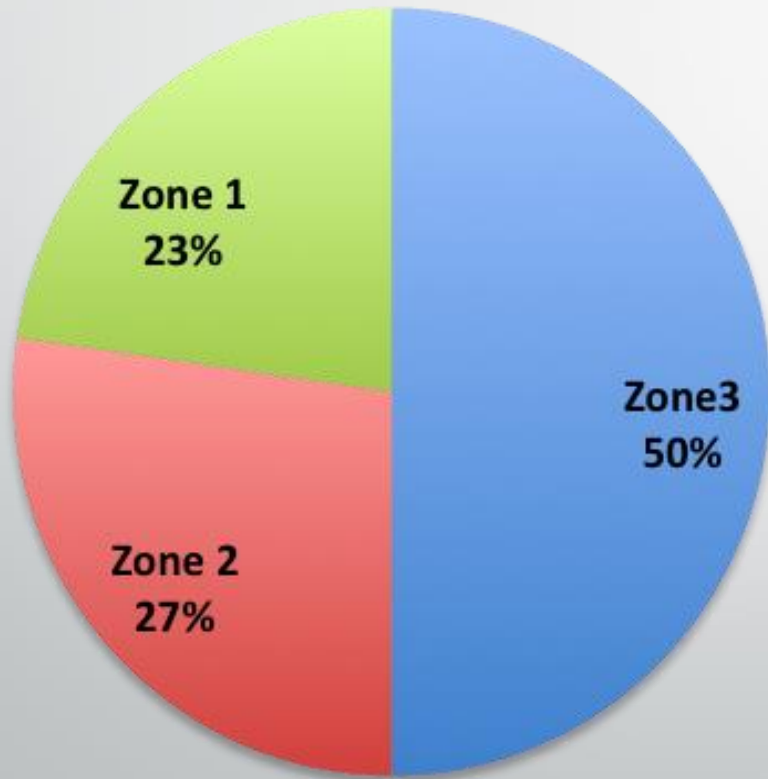
**Total 13121 Laps**



**Total 9188 Minutes**



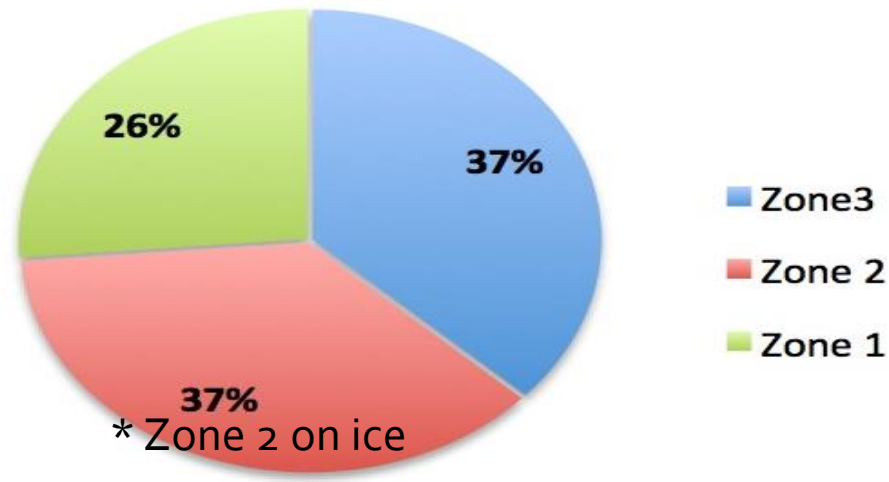
# 2016-2017 Training Zone Planning



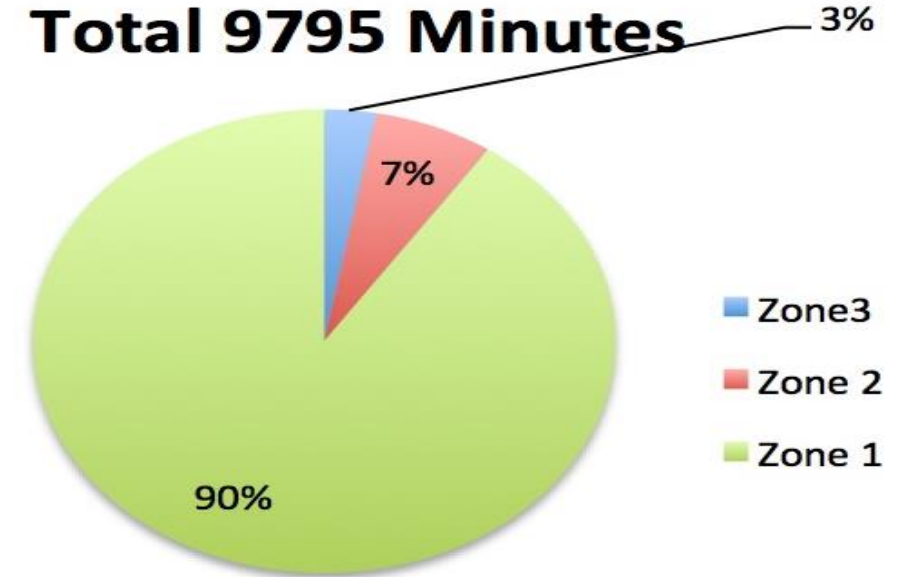
# 2016-2017 Training Zone Allocation

<b>2016-2017 Seasonal Summary</b>	<b>Laps</b>			<b>Minutes</b>		
	<b>12573</b>			<b>9795</b>		
	<b>Zone3</b>	<b>Zone 2</b>	<b>Zone 1</b>	<b>Zone3</b>	<b>Zone 2</b>	<b>Zone 1</b>
	<b>36.84</b>	<b>36.87</b>	<b>26.30</b>	<b>2.89</b>	<b>6.62</b>	<b>90.50</b>

**Total 12573 Laps**



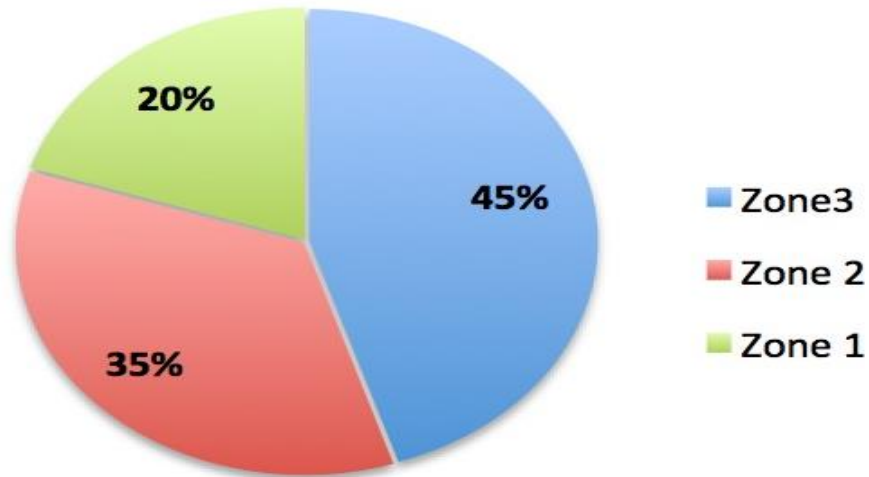
**Total 9795 Minutes**



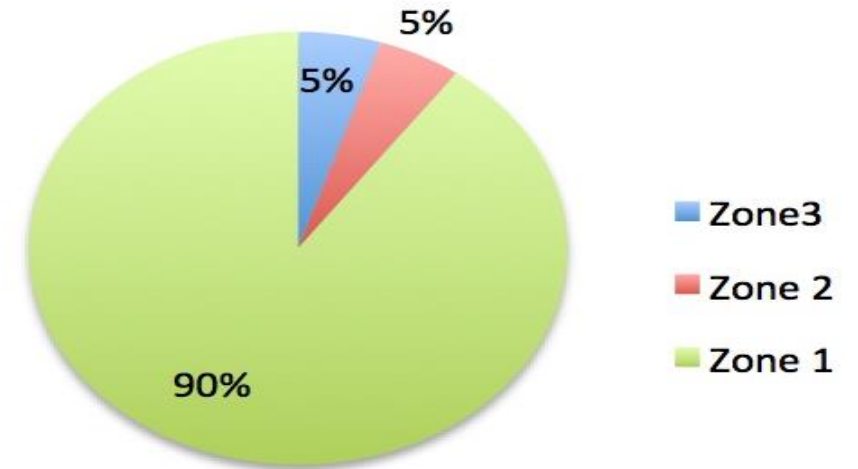
# 2017-2018 Planning

<b>2017-2018 Seasonal Planning</b>	<b>Laps</b>			<b>Minutes</b>		
	<b>12000</b>			<b>10000</b>		
	<b>Zone3</b>	<b>Zone 2</b>	<b>Zone 1</b>	<b>Zone3</b>	<b>Zone 2</b>	<b>Zone 1</b>
	<b>45.00</b>	<b>35.00</b>	<b>20.00</b>	<b>5.00</b>	<b>5.00</b>	<b>90.00</b>

**Total 12573 Laps**



**Total 9188 Minutes**



# Work Shop!


- Identify 6 different ICE training on each Energy system
- Identify 6 different DRY LAND training on each Energy system

# The 3 Zones

## Energy System

Energy System	ATP, ATP-CP	Lactic Power	Lactic Capacity	AeP / MAP	CP/CS	AnT	AeT	Aerobic	Sub-Ae
Effort	4-15" Max	15-45" Max	45"-2' Max	2'-6', 90%-MHR	6-12', 87-92% MHR	>12', 82-87% MHR	1-3hr, 72-82% MHR	1-6hr, 62-72% MHR	1-6hr, 55-62% MHR
	Start / Sprint	Short Interval	Long Interval	Endurance Aer					
	r4' / R8'	r4'-5' / R8'	r5''6' / R8'-10'	r 1-1' / R8'-10'					
Int. Scale	5.0	4.5	4.0	3.5	3.0	2.5	2.0	1.5	1.0
	Zone 3			Zone 2			Zone 1		





# **The annual planning and the periodization**

# Pathway Progression Structure

*Sport  
Science*

	Stage 1	Stage 2	Stage 3	Stage 4	Stage 5
<b>Training weeks</b> (Per Year)	32	35 - 44	42-46	48	48
<b>Training hours</b> (Per Year)	300-500	400-600	600-800	700-1000	1000 & up
<b>Ice sessions</b> (Per Week)	3 to 5	4 to 6	8 to 9	8 to 10	individualized
<b>Off ice sessions</b> (Per Week)	2 to 4	3 to 5	5 to 7	6 to 8	individualized
<b>Coach/Athlete ratio</b>	1 for 16	1 for 16	1 for 12	1 for 8	1 for 6
<b>IST Services</b>	Seminar	Seminar	FULL	FULL	FULL



**A simple way...**

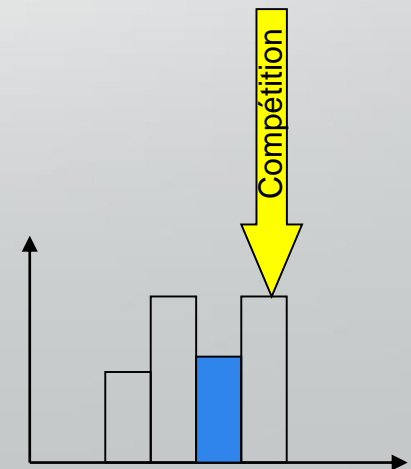
Month	Dry-Land	Weight	Ice
May / June	Aerobic / MAP, Speed, core	Hyper. Core, Posture	Zone 2 (MAP) + Zone 1 (Technic)
July / August	Aerobic / MAP, Speed, core Imitation	Strength ISO Core, Posture	Zone 2 (MAP) + Zone 3 (ATP)
September/ October	Ae/SUB, Short Interval, core, imitation	Explosivity Core	Zone 3 (LC)
November/ December	AE / SUB / zone 1	Hyper. Core, Posture	Zone 2 MAP+ Zone 3 (ATP)
January / Feb. / March	Sub-Aerobic / Zone 1	Explosivity Core	Zone 3 (LP)



# Introductory or approach Microcycle

The introductory or approach microcycle (Portmann, 2006) :

- It is used for **competition immediate preparation**.
- His **content** will depend on the level of the athlete's preparation but must especially content elements related to an **imminent competition**.
- Do not forget to **recover**.



# Training microcycle: Summer

- General basic microcycle (Portmann, 1993)

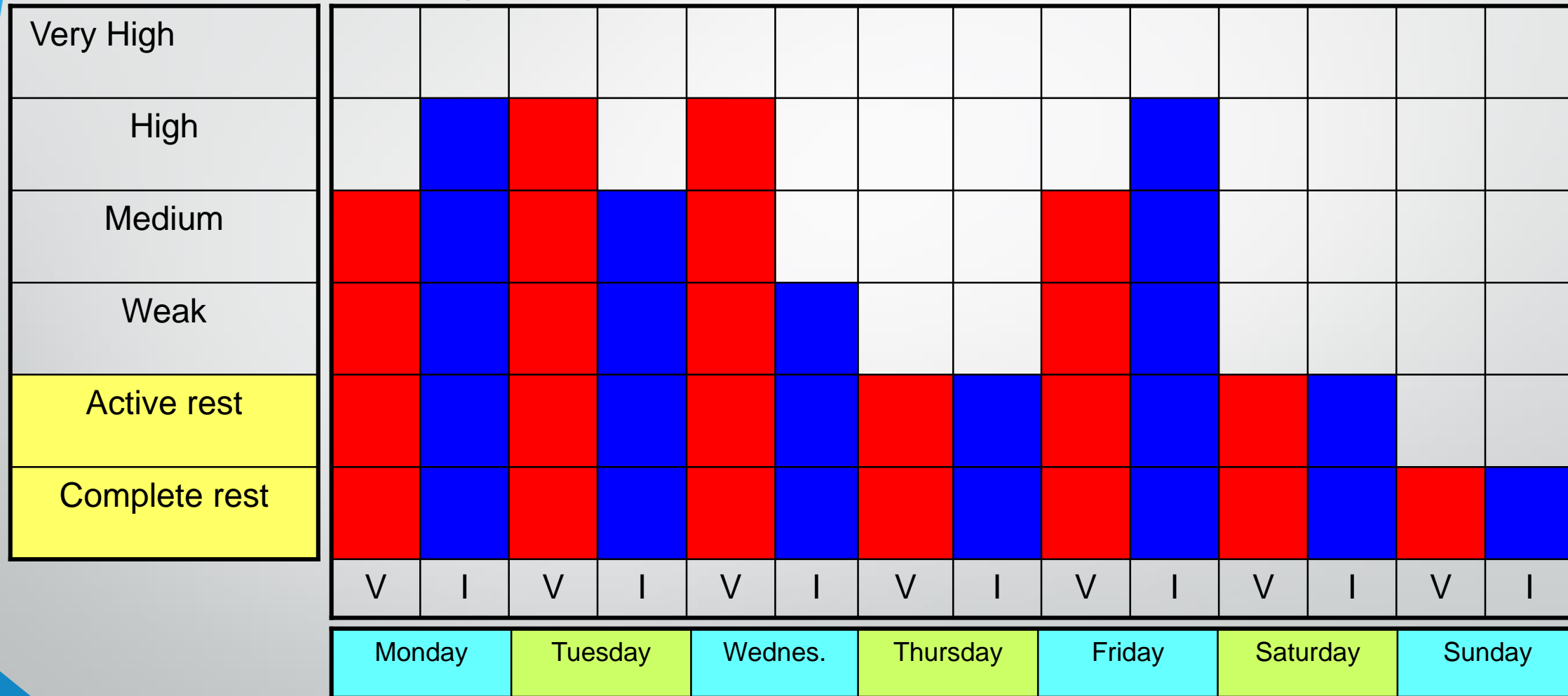


Figure 6. Illustration of a general basic microcycle.

# Training microcycle: Sept - Mars

- Specific basic microcycle (Portmann, 1993)

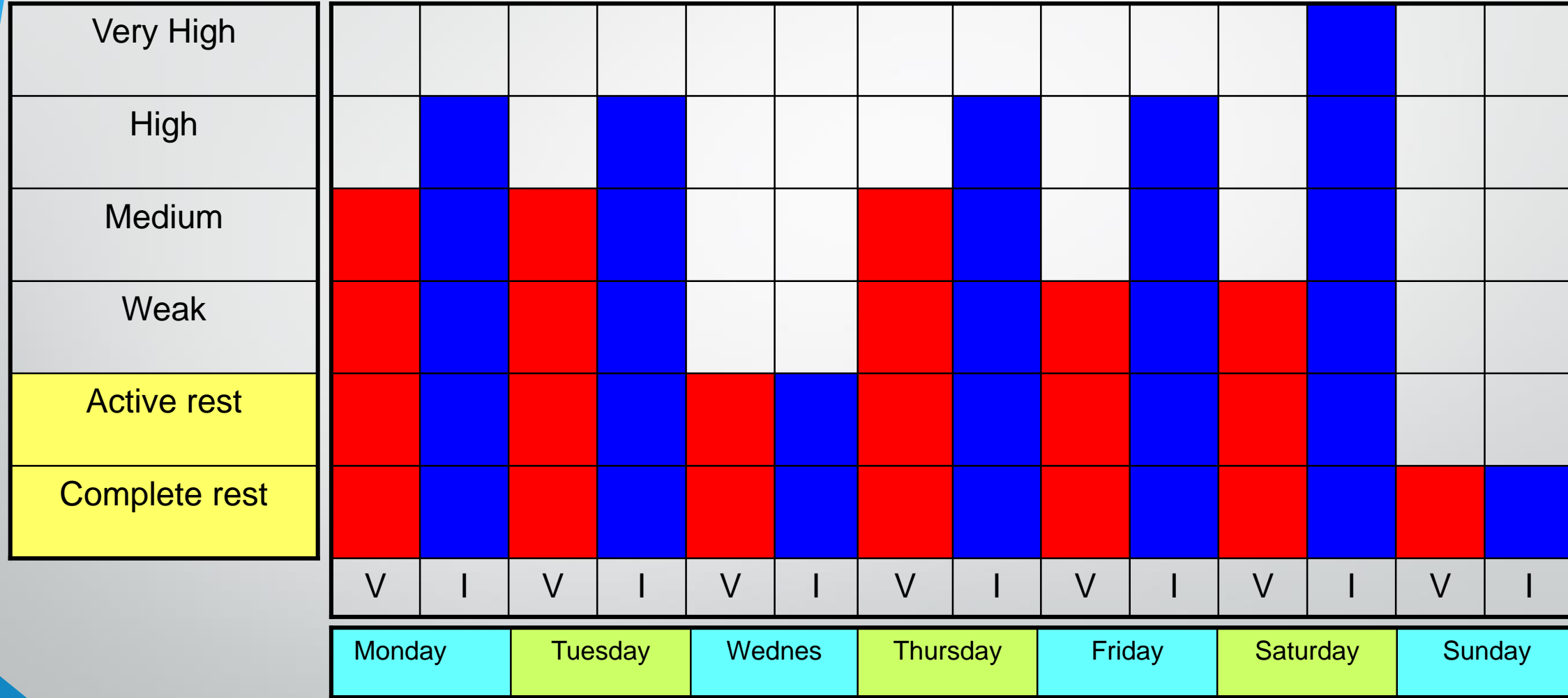


Figure 7. Illustration of a specific basic microcycle.

Portmann, M. (1993). Fondements et planification de l'entraînement (Module 12). Ottawa : Association canadienne des entraîneurs.



# Competition Microcycle

- Competition microcycle (Portmann, 1993)

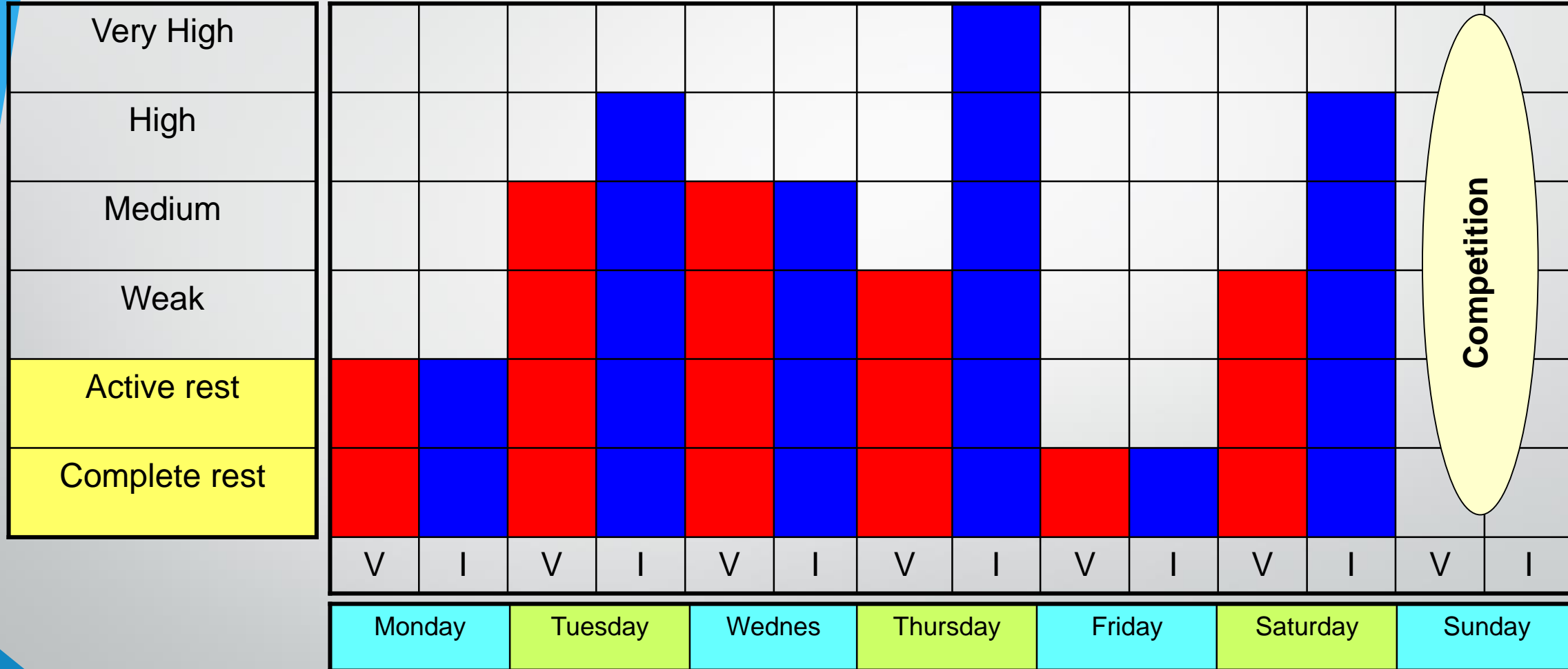


Figure 8. Illustration of a competition microcycle.

# Recovery Microcycle

- Recovery Microcycle (Portmann, 1993)

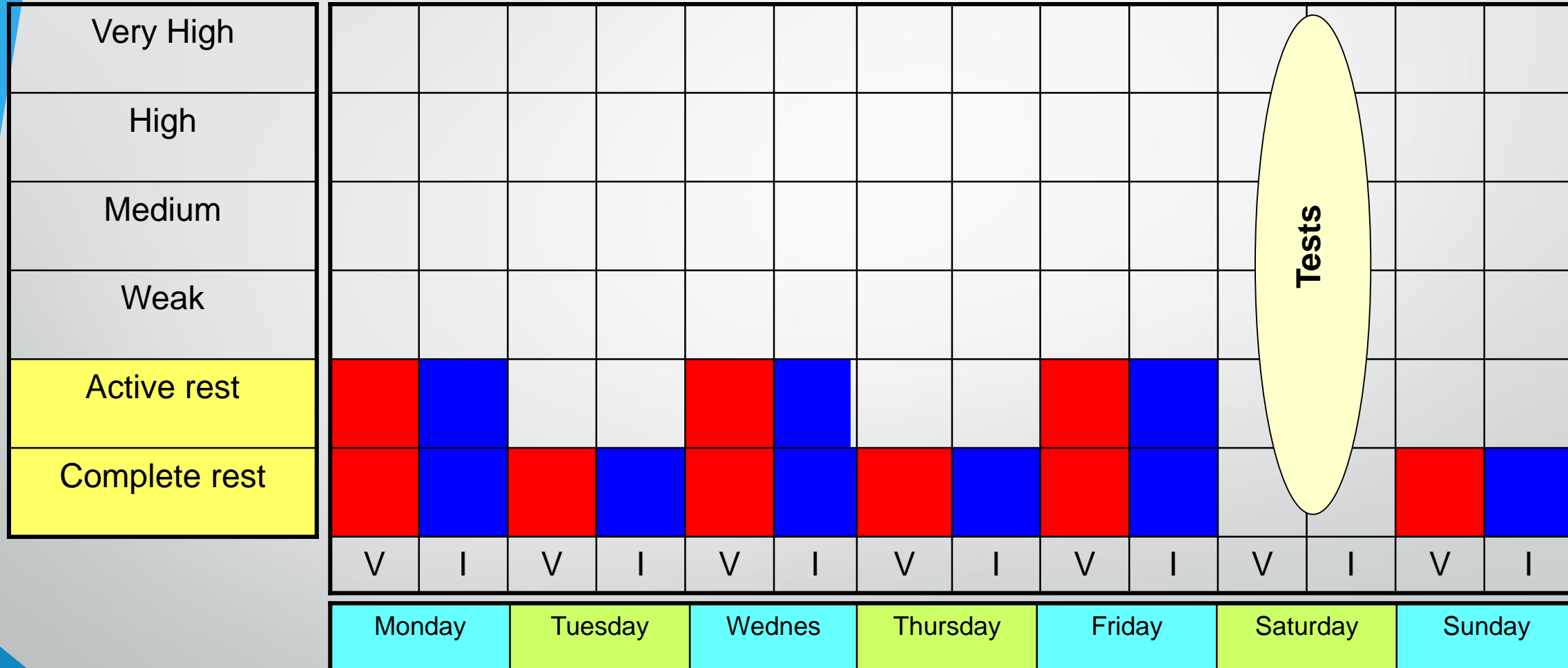


Figure 9. Illustration of a recovery microcycle.

# Implications for training days.

(Cardinal, 1999; 2003)

- Start training (after a complete rest) with everything that involve in an important manner the **S.N.C.** : speed, etc.
- If there's two (2) training a day, which include a specific sport activity session, the **endurance training** can **follow technico-tactic training**, because endurance can be trained after an incomplete recovery.
- When there's two (2) technico-tactic training the same day, the **second session** must be oriented on the **maintain** or on **endurance**.
- If the training session following the technico-tactic one is aiming speed development or another quality that requires a complete recovery, the **sesssions** must be **separate** by a minimum of **six (6) hours**.

# Training session

- Frequence :
  - Minimum of **two (2)** or **three (3)** session by **microcycle**.
  - Maximum of **12** to **15** sessions by **microcycle**.
  - Maximum of **two (2)** or **trois (3)** sessions a **day**.
  - Maximum of **four (4)** high intensity sessions by **microcycle**  
(Chouinard, 2004).

# Remember....

- Train with Fun
- Various type of training
- Taking time to develop a topic, 8 – 12 weeks
- Adapt to your reality
- Having a vision, progression training, OBJECTIVE
- Periodization

# Adapted to you're club!

- Number of ice time hours x weeks
- Your possibilities of dry land sessions
- Fitness, equipment, inventory
- Your time frame available x weeks
- Are your athletes independent?
- School constraints
- Periodization

# Processo di pianificazione dell'allenamento



Figure 1. Processus d'élaboration et d'évaluation de programmes sportifs (Marion, 2000).



# Thank you!

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