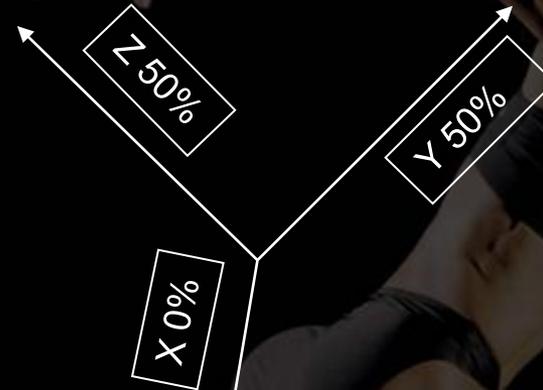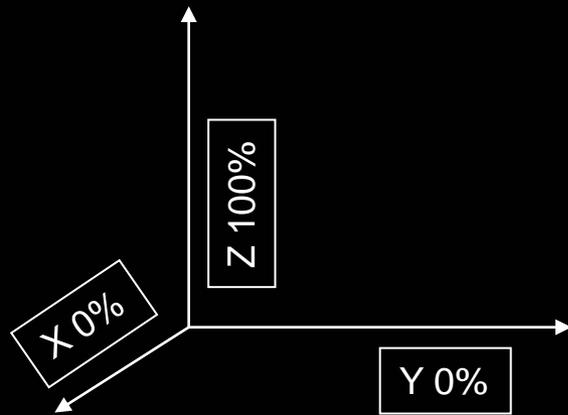# **Myotest** The new Technology for

Strength, Power and Speed Assessment & Training

Patrick Flaction
Founder & Inventor of Myotest
Physical trainer
National coach of SWISS alpine skiing

Myotest is based on acceleration principles

X 0%
Z 100%
Y 0%

Z 50%
Y 50%
X 0%

Gravity

Force (Newton) = mass x acceleration

Velocity (cm/s) = integral of acceleration

Power (Watts) = force x velocity

Myotest makes a biomecanic analysis like a force plate :

Tests
MEM
Dével.couché
Demi-squat
Saut - pliométrie
Saut - CMJ
Saut - SJ
Profil dév.-couché

esc — enter + on-off

myotest

From the Laboratory to the Field

Myotest calculates values from acceleration

Basis values

Force (N)	= Mg + Ma
Velocity (cm/s)	= Integral of acceleration
Power (W)	= F x V

Average of the nb. of repetitions
Progress based on the average of the 3 last tests

Bench press and half-squat

Concentric strenght (N)	= F max in the push
Veloctiy max (cm/s)	= at the end of the push
Power max (W)	= in the push

Myotest calculates values from acceleration

Values for jumps

Height (cm)	= Flight time
Concentric strength (N)	= F max in the push
Velocity max (cm/s)	= at the end of the push
Power max (W)	= in the push

Values for reactivity jumps

|	
Height (cm)	= Flight time
Contact t. (ms)	= Delta peak Vmin. – peak Vmax.
Flight t. (ms)	= Delta peak Vmax. – peak Vmin.
Index of reactivity	= Flight t. / Contact t.
Stiffness (KN/m)	= Fmax. break / delta displ. Peak

Validations

Validity & reliability of an inertial dynameter using accelerometry (published)

Jidovtseff, Crielaard, Cauchy, Croisier; Université de Liège

Validity & feasibility of testing a large number of athletes in a rapid period with Myotest (published)

Dr. William Kraemer; Human Performance Laboratory Department of Kinesiology University of Connecticut
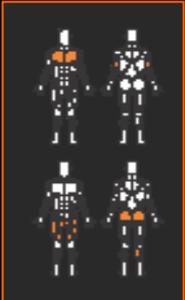
COMPARISION OF ACCELEROMETER BASED ESTIMATES OF MAXIMAL BENCH PRESS STRENGTH AND ACTUAL 1-REPETION MAXIMUM TESTS IN UNTRAINED COLLEGE STUDENTS (poster to NSCA Congress Las Vegas 08)

G. Gregory Haff, M.H. Stone, M.W. Ramsey, and W.G. Hornsby
Division of Exercise Physiology, West Virginia University School of Medicine,
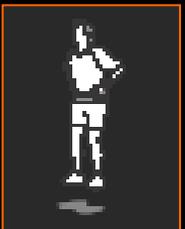
Evaluation of the vertical jump with Myotest systhem.
Phase I : Validation and reproducability (validated)

Dr. Babault, CE Performance, Faculté des Sciences du Sport, Université de Bourgogne, Dijon, France.
Dr. Maffiuletti, Neuromuscular Research Laboratory, Schulthess Clinic, Zurich, Suisse.

Myotest is the new training tool

Quick, easy, and instant performance measurement

Training & rehabilitation optimization

Analyzing, sharing, and comparing results

The Myotest is efficient and easy to use

Select a test and place the Myotest

Follow the audio prompts to complete the test

Your results	
Height	39.1 cm ◄
Power	62.81 W/kg ◄
Force	30.23 N/kg ◄
Velocity	276 cm/s ◄

Instantly see the results and progress

Myotest PRO Software for advanced analysis
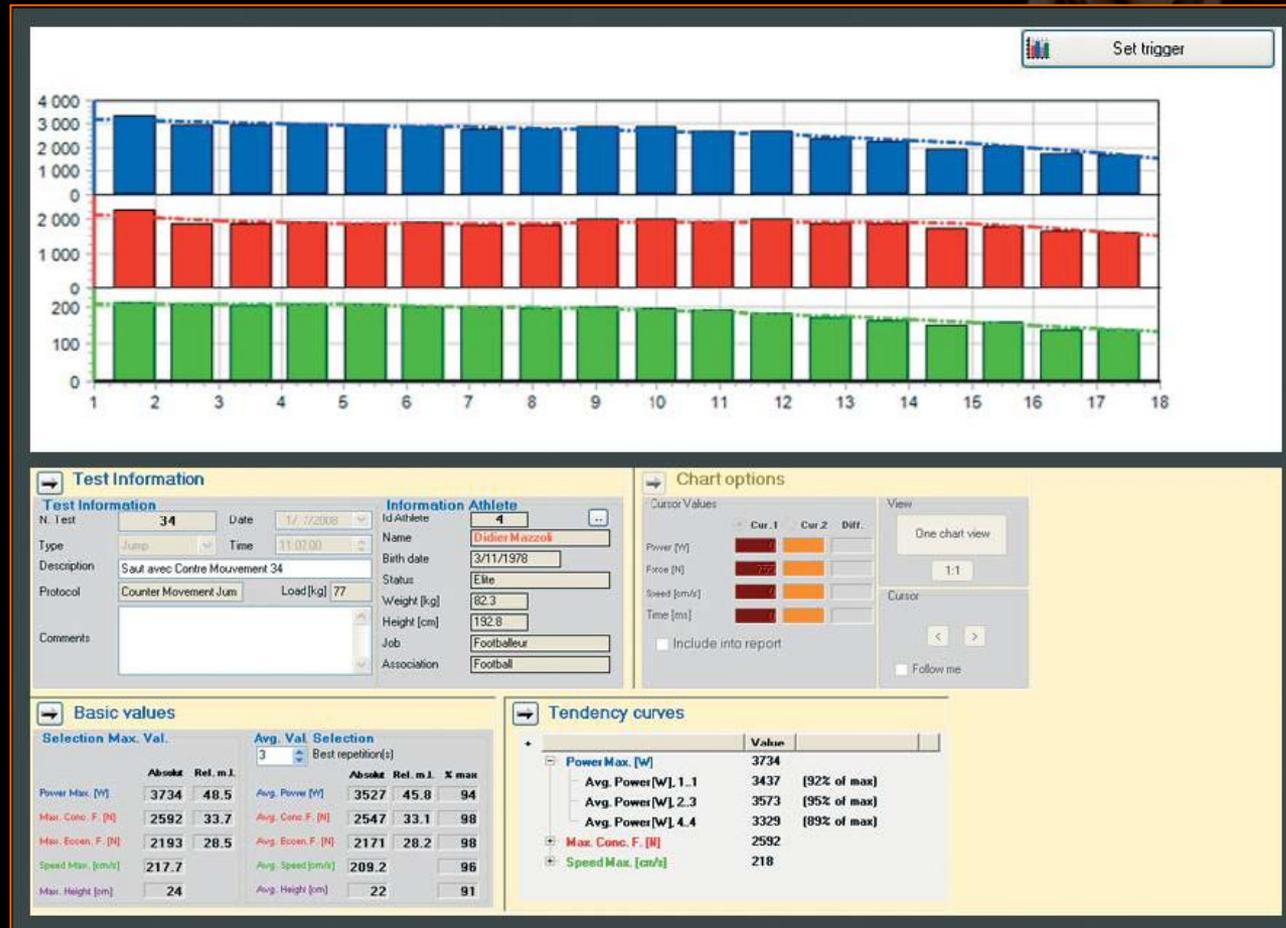
Detailed graphical curve analysis

Myotest PRO for advanced analysis
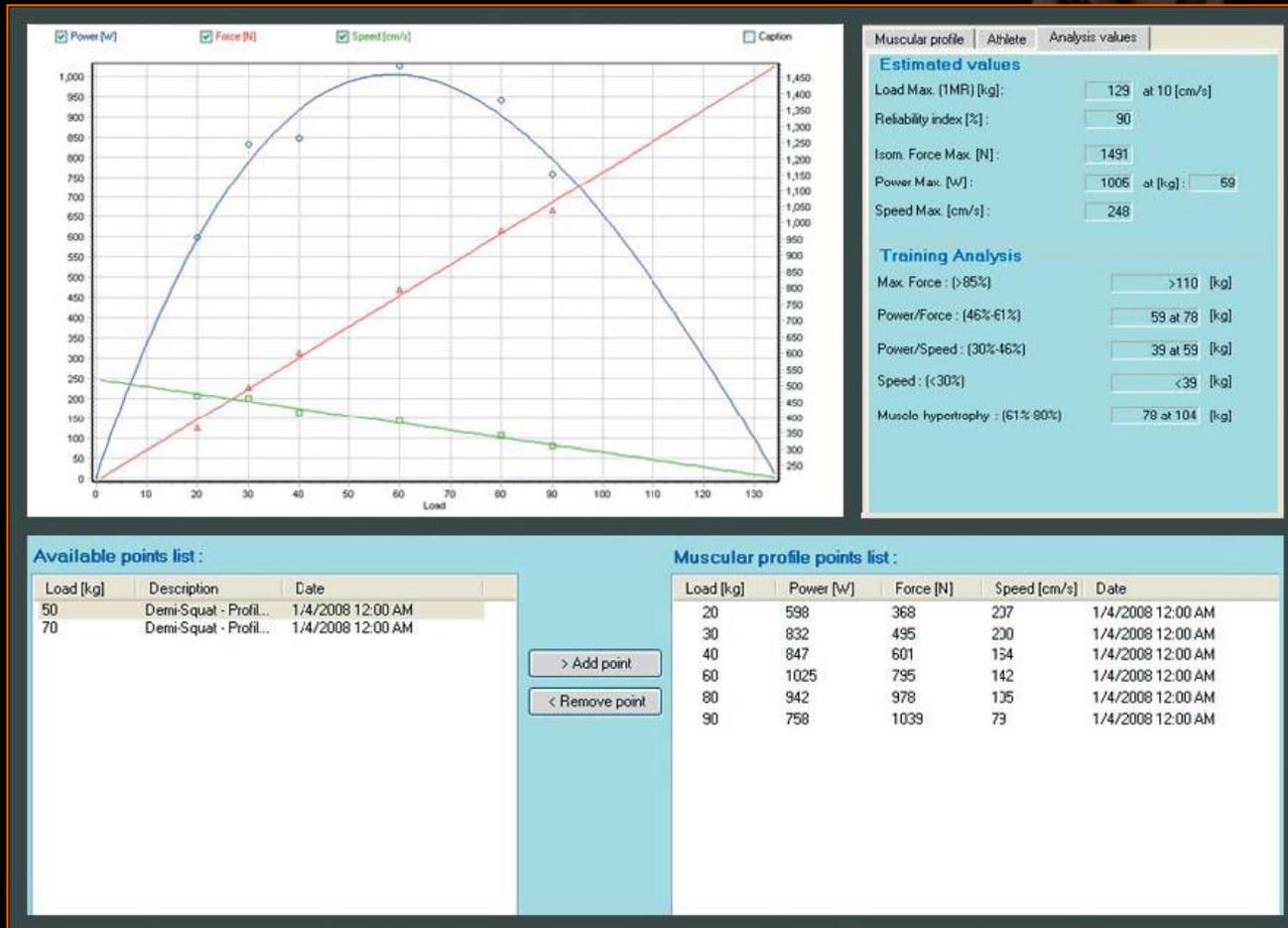
Left leg vs right leg comparison report
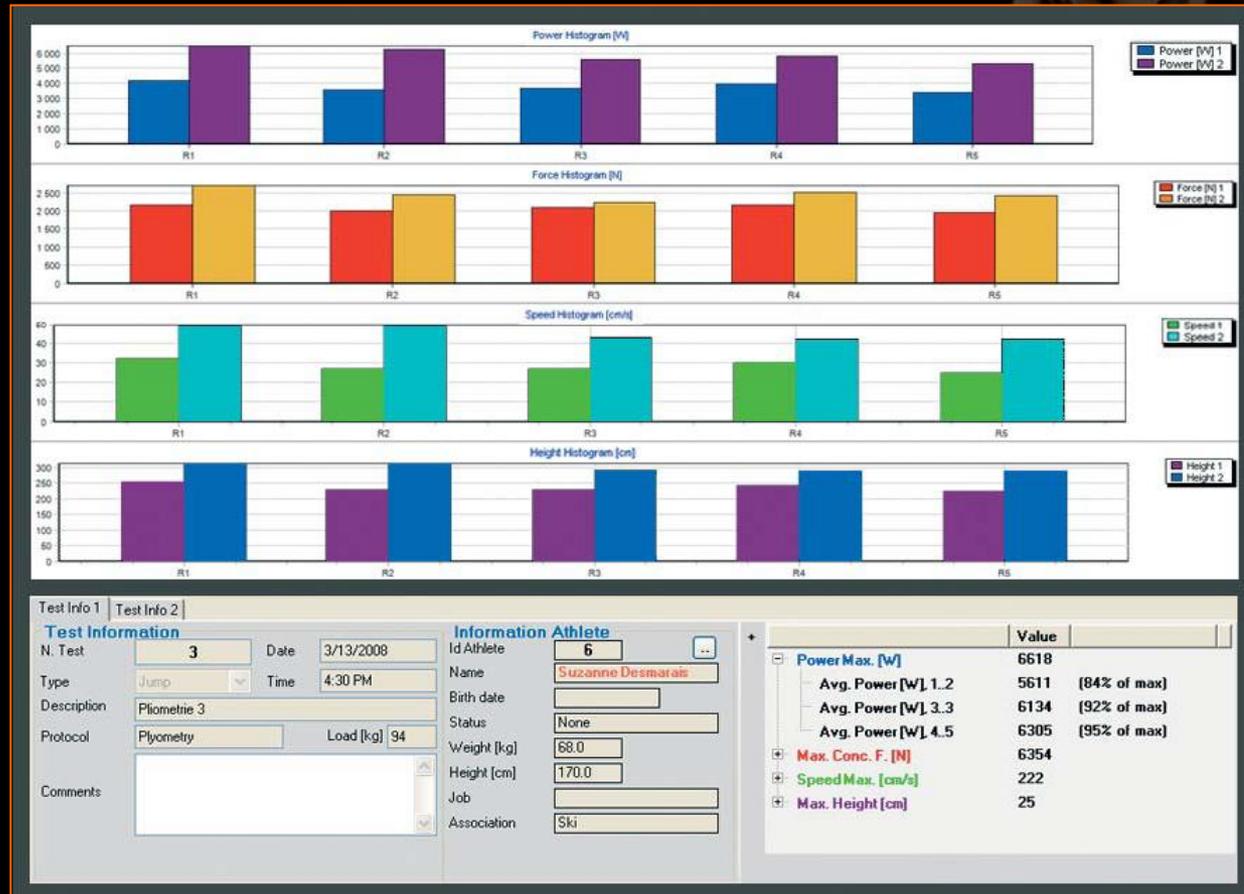
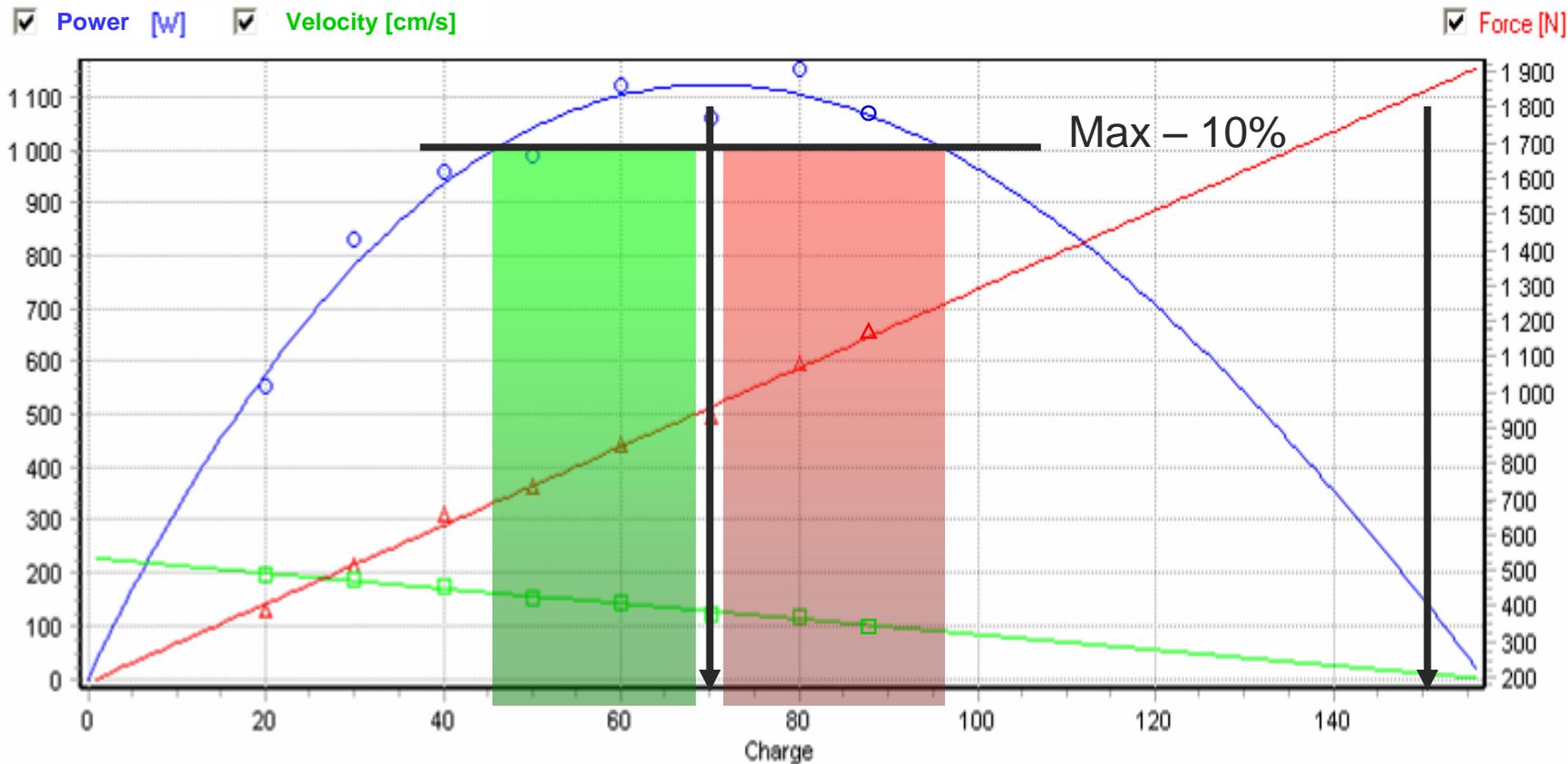# Myotest PRO for advanced analysis

Fatigue resistance test

Myotest PRO for advanced analysis
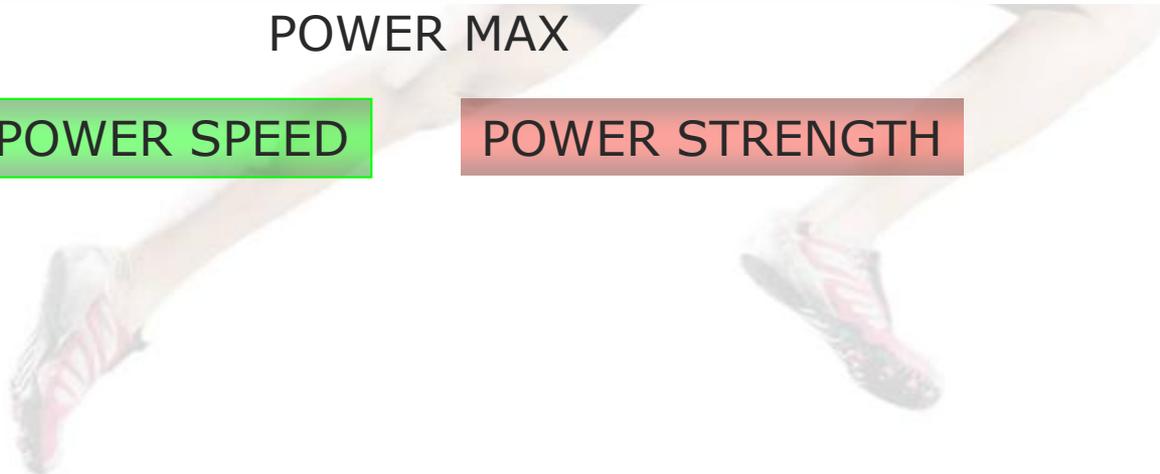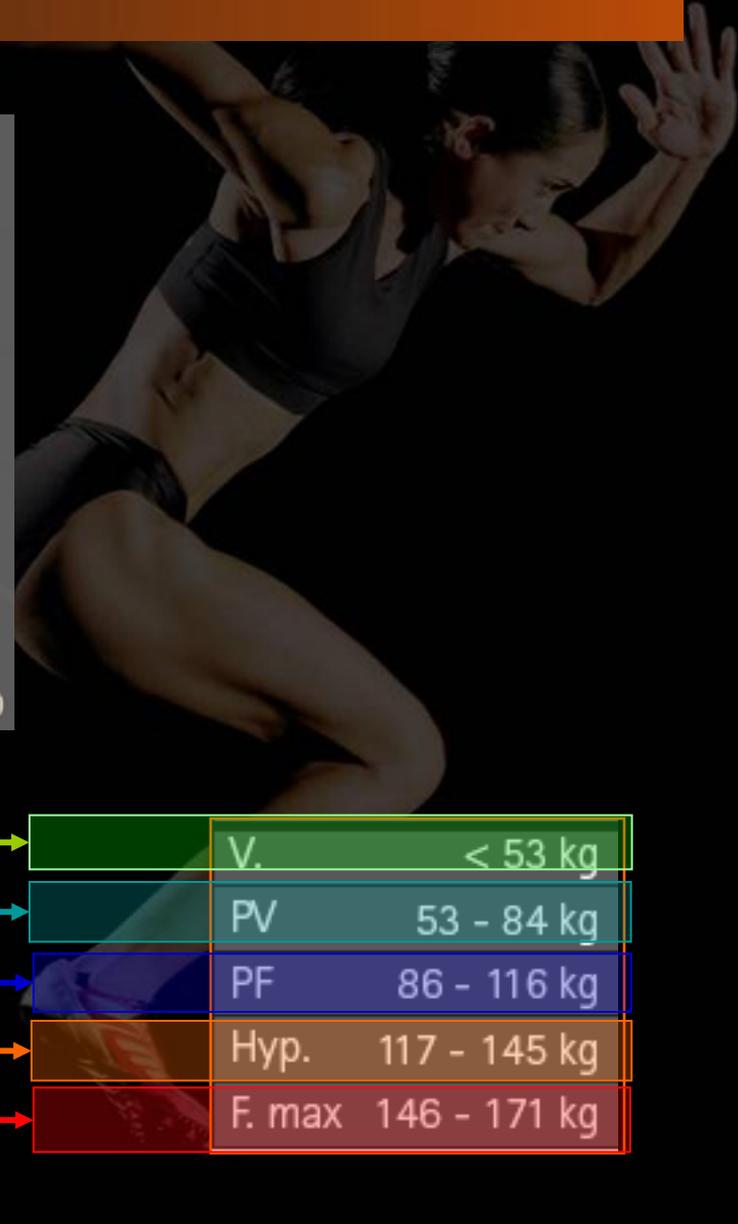
Muscular profile for training zones

Power [W] Velocity [cm/s] Force [N]

Max – 10%

POWER MAX

1 RM

POWER SPEED   POWER STRENGTH

Myotest identifies the training zones…

Myotest analyzes from the muscular profile

Your results	
1 RM	171 kg ◄
Reliability	95 % ►
P. max	1604 W at 85 kg

Information about the performance
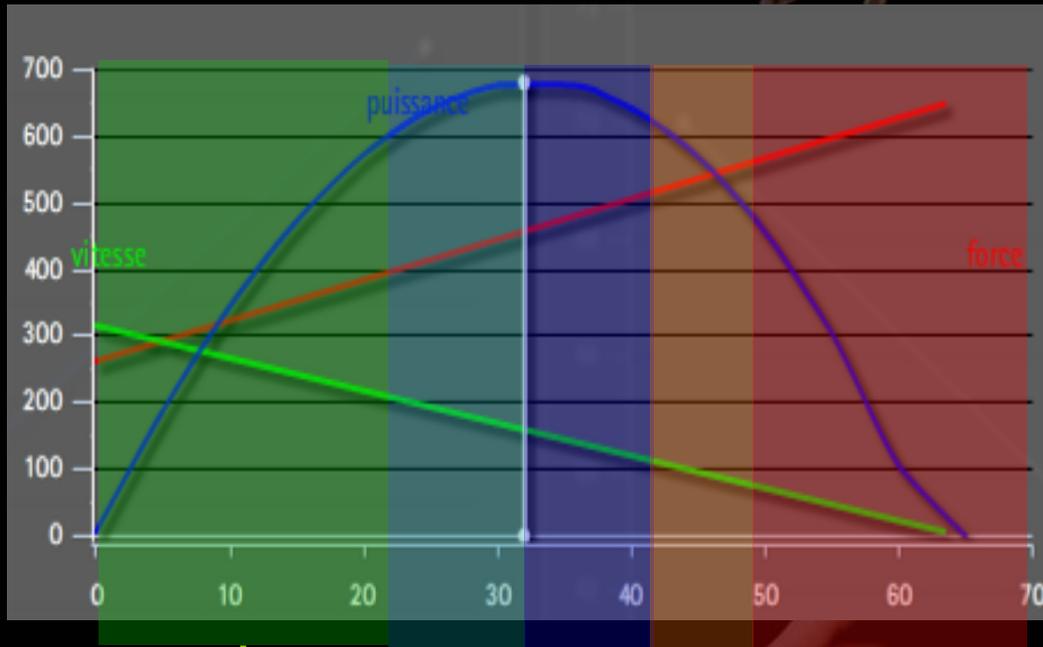
V.	< 53 kg
PV	53 – 84 kg
PF	86 – 116 kg
Hyp.	117 – 145 kg
F. max	146 – 171 kg

Information about the training
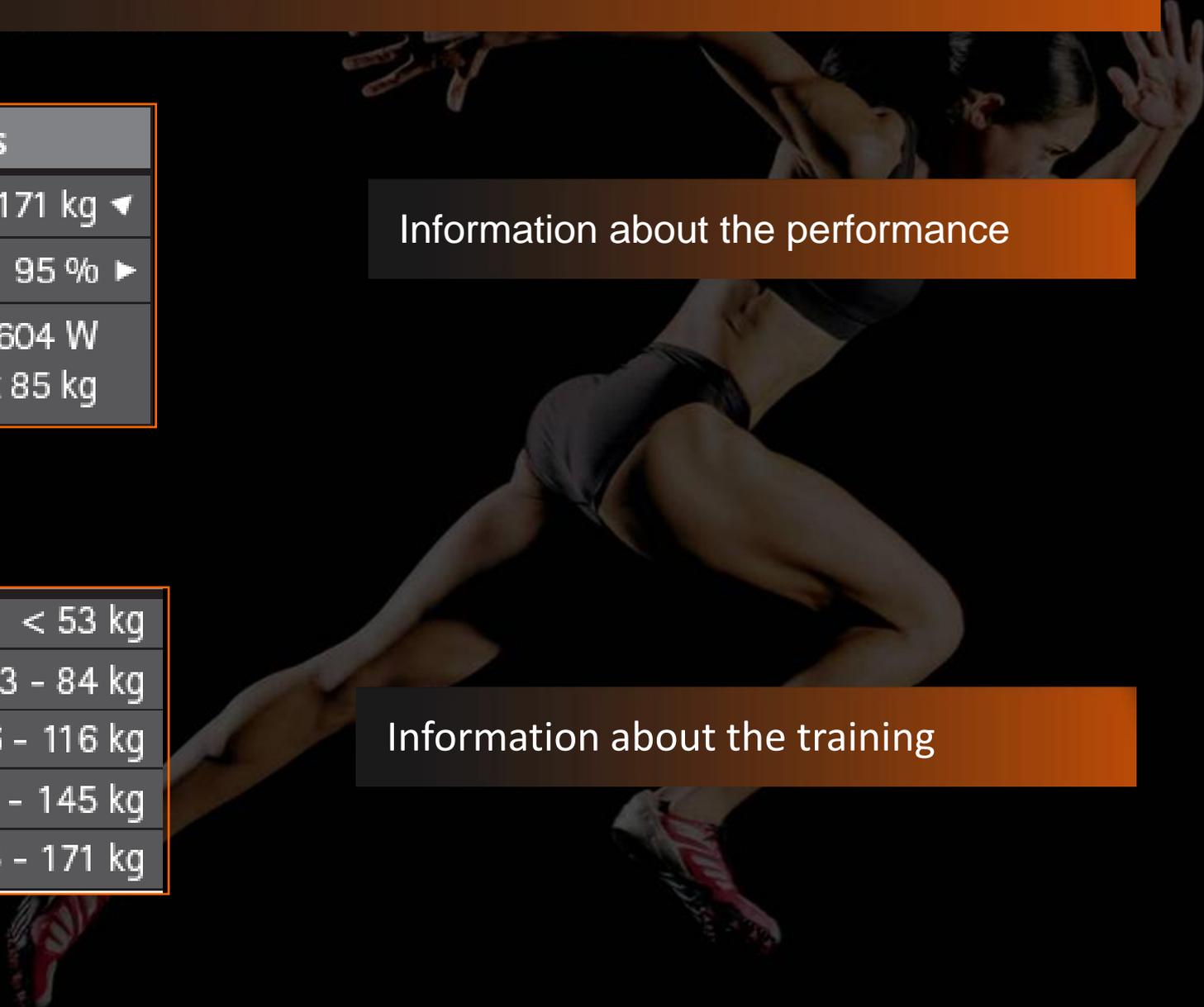
Module puissance-force

|	3 séances par semaine		
	Semaine1	Semaine 2	Semaine 3
Séries	4	5	6
Nbr. rép	6	5	4
Pause	2 min	2 min	2 min
Charge	**profil**	**variable**	**variable**
Vitesse exécution	profil	profil	profil

Construction de la séance:

Concentrez-vous d'abord sur l'enchaînement, puis sur les autres exercices que vous aurez choisis en respectant les pauses. Attention la réception des sauts se fait toujours de manière bien amortie (voir DVD).
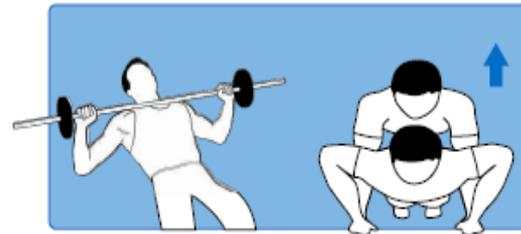
Enchaînement membres inférieurs

Exercices complémentaires

adduction

Keep position up
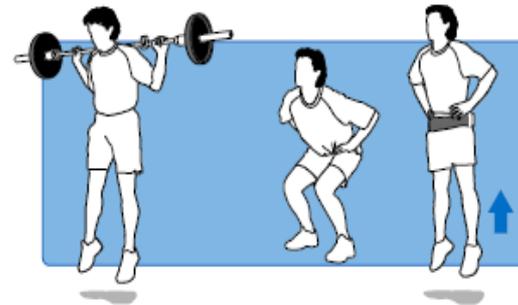
Squat sauté: Fléchir à 90˚ poussée max
Saut détente sj: de la position basse, poussée max.
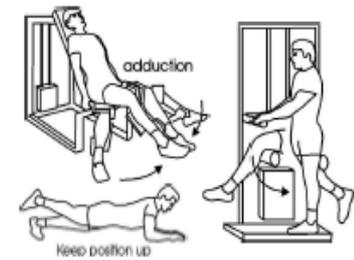
Enchaînement membres supérieurs

Exercices complémentaires

neutral grip

Elbow 15˚
Pronation grip

Développé-couché: De position basse, propulser la barre avec la vitesse max
Appui facial sauté
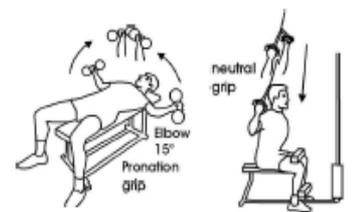
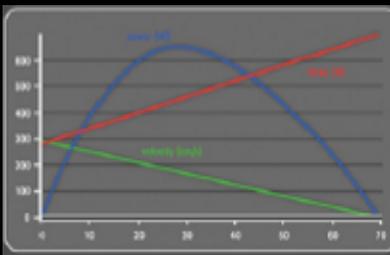View & save the
results on the Web
platform
or PRO software

Myotest offers a convenient web reporting platform
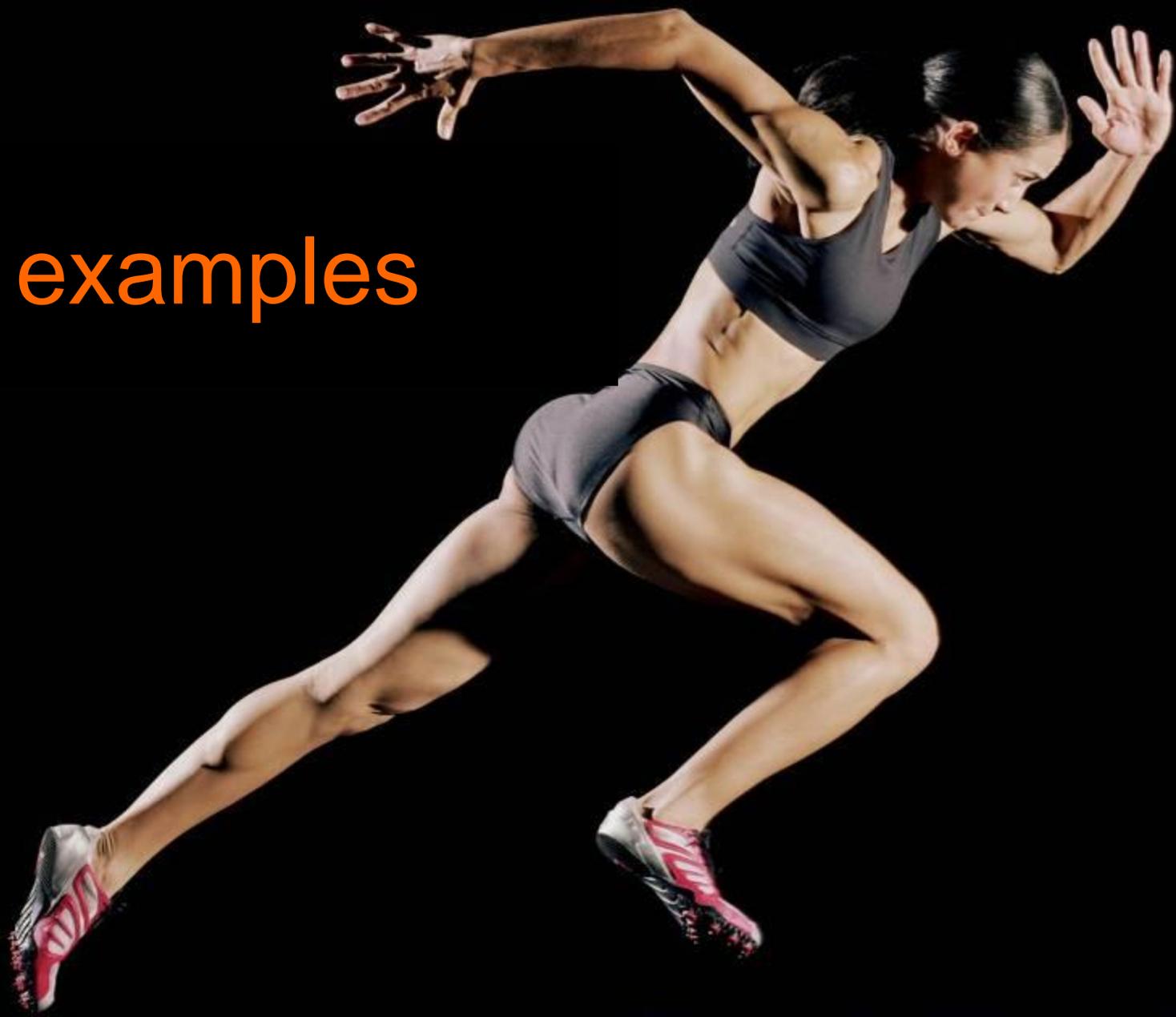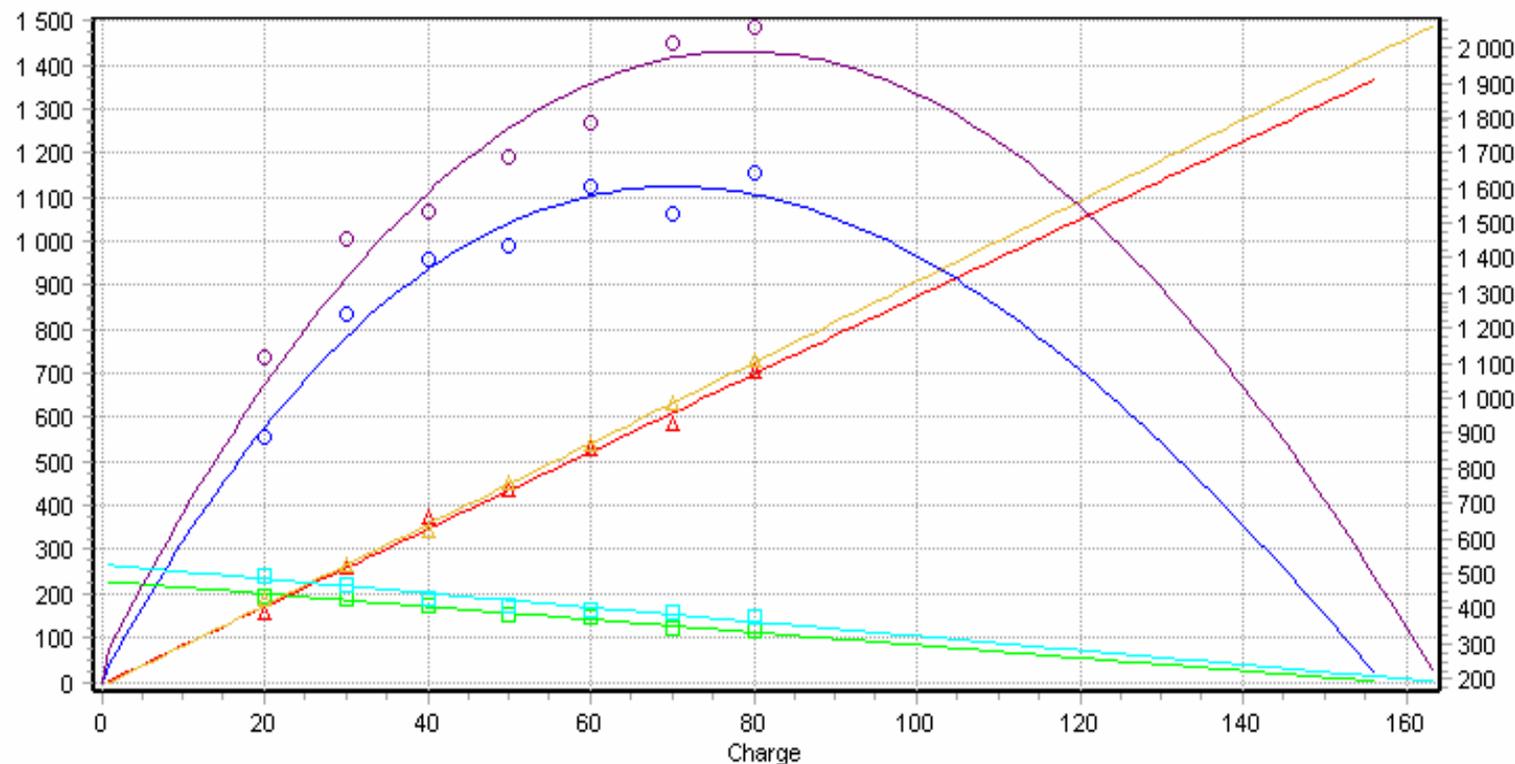
Follow progress (baseline & trackng change)

Compare results with friends, team, or other like athletes (global database)

Compare your profile with the elite level

Athlete examples

Légende
- lineTrendForce1
- lineTrendPower1
- lineTrendSpeed1
- △ pointsForce1
- ○ pointsPower1
- □ pointsSpeed1
- lineTrendForce2
- lineTrendPower2
- lineTrendSpeed2
- △ pointsForce2
- ○ pointsPower2
- □ pointsSpeed2

Charge

Infos sur le profil 1 | Infos sur le profil | info c

Nom du profil	Profil demi squat
Date	17/05/06
Nom	Anne-Sophie Koehn [?]

Commentaires

La régularité est bonne et les capacités de
forces excellentes pour ton âge.
L'accent est à mettre sur la puissance vitesse
soit avec des charges de 47 à 70 kg
Conseil pour l'entraînement:
sem 1 (3x sem) : 6 séries de 6 rep avec 50 kg,
saut sur caisson de 20 cm.
sem 2 (3x sem) : 6 séries de 5 rep avec 60 kg,

Valeurs estimées 1

Vitesse Max. [cm/s]	229		
Force Max. Isom. [N]	1921		
Charge Max. (1RM) [kg]	150	à 10 [cm/s]	
Puissance Max. [W]	1123	à [kg] :	70

Valeurs estimées 2

Vitesse Max. [cm/s]	266		
Force Max. Isom. [N]	2071		
Charge Max. (1RM) [kg]	158	à 10 [cm/s]	
Puissance Max. [W]	1431	à [kg] :	78

Différence

Vitesse Max. [cm/s]	37	à [%] :	14
Force Max. Isom. [N]	150	à [%] :	7
Charge Max. (1RM) [kg]	8	à [%] :	5
Puissance Max. [W]	308	à [%] :	22

Test 1 ...   Imprimer

Test 2 ...   ✖ Fermer

| | Nom: | Date de nais.: | 27/04/1991 |
| | Prénom: | Poids [kg]: | 59 |

Puissance [W]

2006   2007   2008
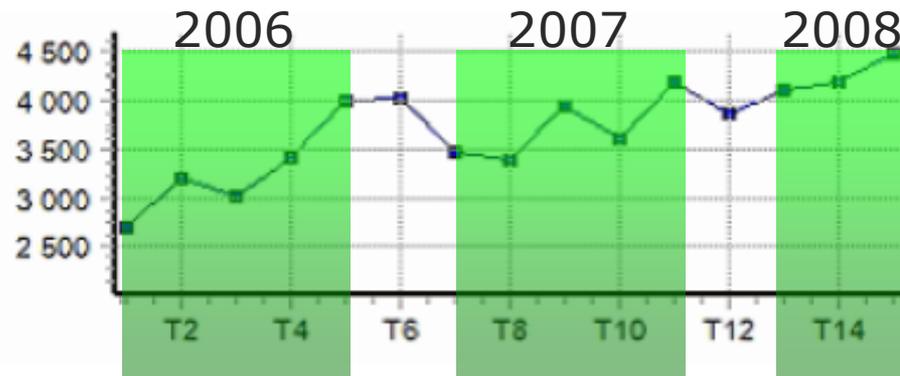
Légende :
■ Valeur

Description	Valeur
1	2697
2	3198
3 cmj 2 jambe s	3023
4 cmj 2 jambes	3413
5 cmj 2 jambes	4015
6 cmj 2 jambes	4041
7 cmj 2 jambes	3479
8 cmj 2 jambes	3387
9 cmj 2 jambes	3941
10 cmj 2 jambes	3611
11 CMJ	4187
12 Protocol Détente - 5 sauts CMJ	3857
13 Protocole Détente - 5 sauts CMJ	4122
14 Protocole Détente - 5 sauts CMJ	4191
15 Protocole Détente - 5 sauts CMJ	4486

Key features for the coach & physio

- Follow up from rehabilitation to the training
- Identify the muscle profile of the athlete
- Estimate the 1 RM with lighter loads
- Understand use the correct training loads and bar velocity (speed or power training)
- Measure a specific physical characteristic
- Check the quality & efficiency of the training

www.myotest.com