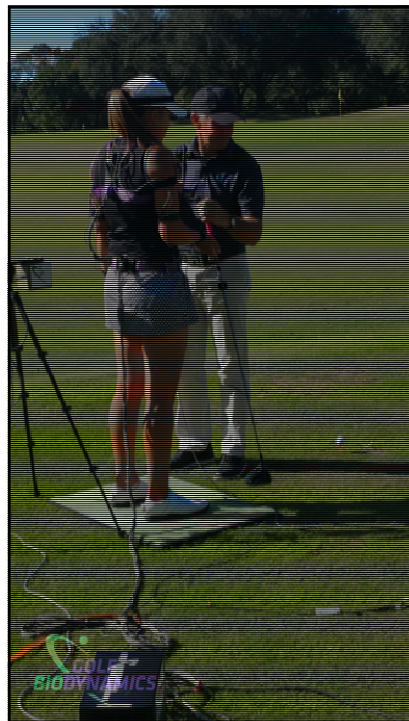




# Developing an effective golf swing: teenagers to adulthood

Dr. Robert J. Neal

1

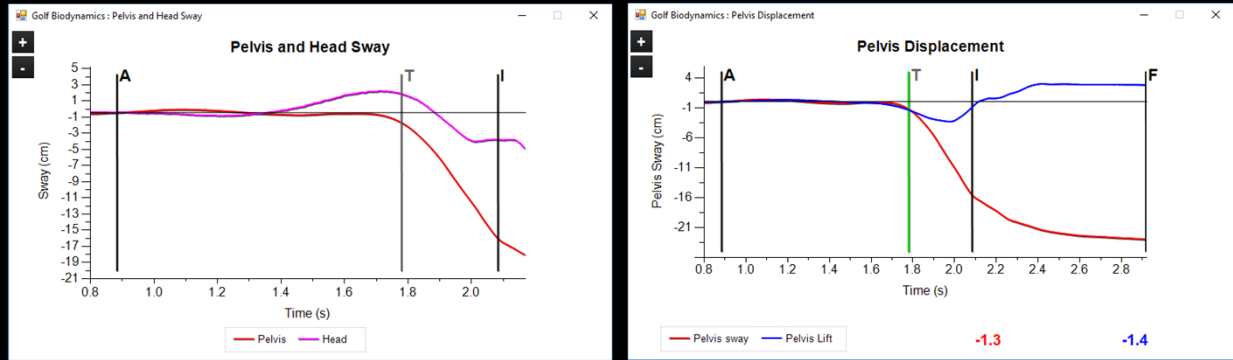


## RJN's key fundamentals

- Setup fundamentals
- Takeaway hand & club head path
- Backswing
  - Loading
  - Head/pelvis sway
  - UT bend
  - Spine angle
  - Secondary spine angle
- Transition
  - Early lateral with lower body
  - Correct sequence
  - Left wrist flexion (shaft shallowing maneuver)
- Downswing
  - Lateral separation (lower/upper body)
  - Pelvis shift & lift
  - Kinematic sequence
  - Stretch-shortening cycles (core & lead shoulder joints)
- Impact
  - Pelvis rotation and tilt
  - UT rotation, bend and tilt
  - Lead arm connection

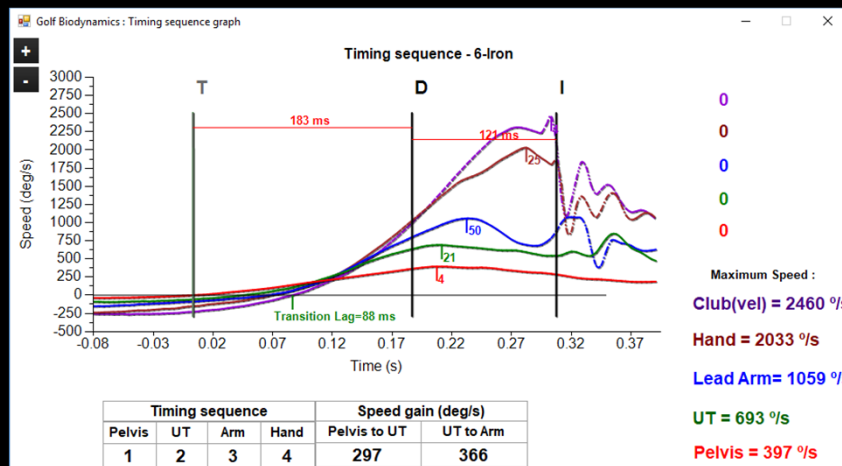
2

# Excellent patterns (6-iron)



3

# Kinematic sequence



4

# Sohal - animation

2016

2018



5

# Sohal

2016

2017

2018

Alignment		
	Corridor	You
Pelvis (Hips)	0 to 8 °	0 Open
UT (Shoulders)	5 to 12 °	10 Open
Bending		
	Corridor	You
Pelvis (Hips)	13 to 26 °	21 Forward
UT (Shoulders)	27 to 40 °	28 Forward
Head	35 to 55 °	27 Forward
Tilting		
	Corridor	You
Pelvis (Hips)	0 to 3 °	-2 Left
UT (Shoulders)	7 to 13 °	12 Right
Head	-3 to 10 °	4 Right

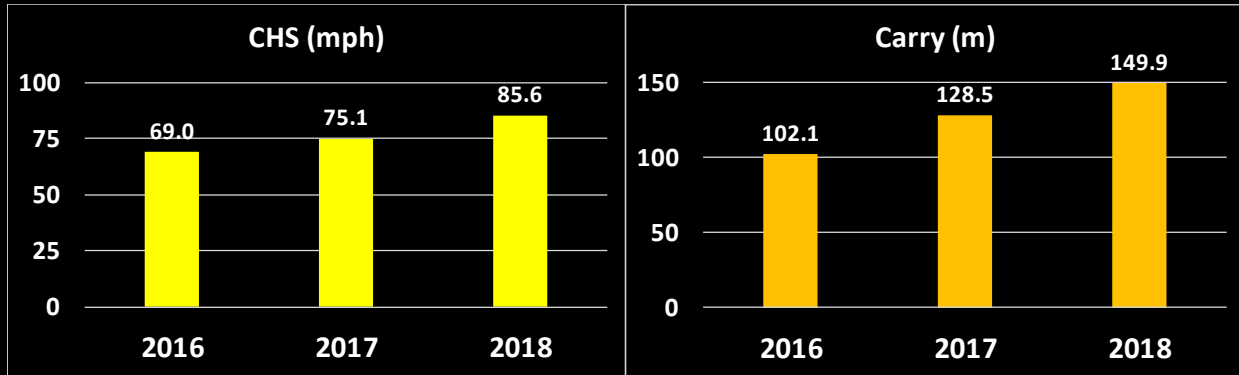
Alignment		
	Corridor	You
Pelvis (Hips)	0 to 8 °	5 Open
UT (Shoulders)	5 to 12 °	21 Open
Bending		
	Corridor	You
Pelvis (Hips)	13 to 26 °	23 Forward
UT (Shoulders)	27 to 40 °	43 Forward
Head	35 to 55 °	59 Forward
Tilting		
	Corridor	You
Pelvis (Hips)	0 to 3 °	2 Right
UT (Shoulders)	7 to 13 °	14 Right
Head	-3 to 10 °	9 Right

Alignment		
	Corridor	You
Pelvis (Hips)	0 to 8 °	3 Open
UT (Shoulders)	5 to 12 °	21 Open
Bending		
	Corridor	You
Pelvis (Hips)	13 to 26 °	23 Forward
UT (Shoulders)	27 to 40 °	44 Forward
Head	35 to 55 °	46 Forward
Tilting		
	Corridor	You
Pelvis (Hips)	0 to 3 °	1 Right
UT (Shoulders)	7 to 13 °	18 Right
Head	-3 to 10 °	11 Right



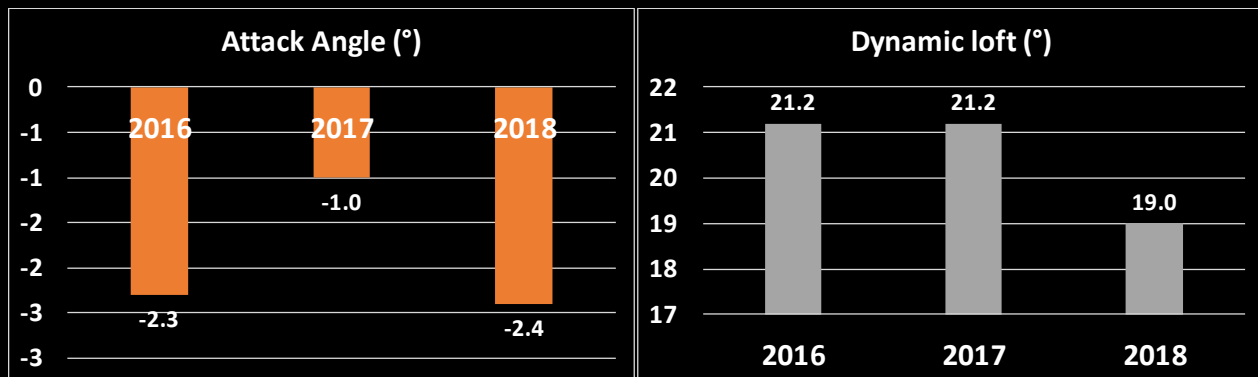
6

## Sohal



7

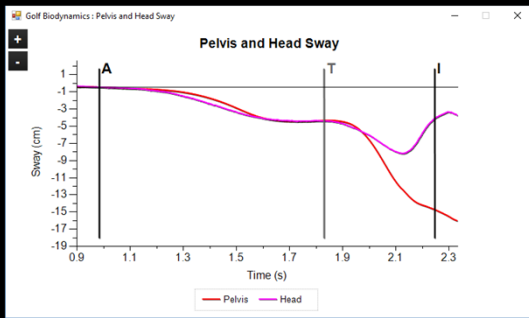
## Sohal



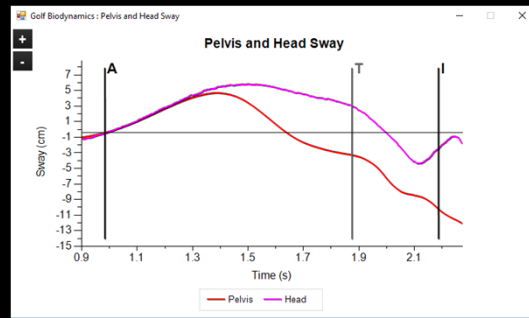
8

# Sohal

2016



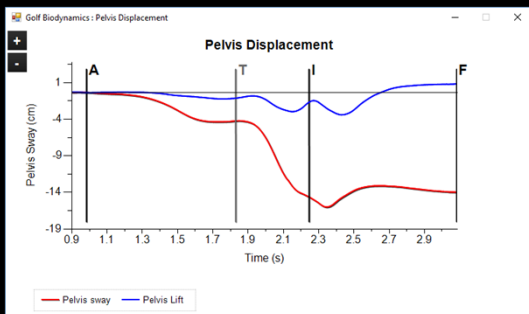
2018



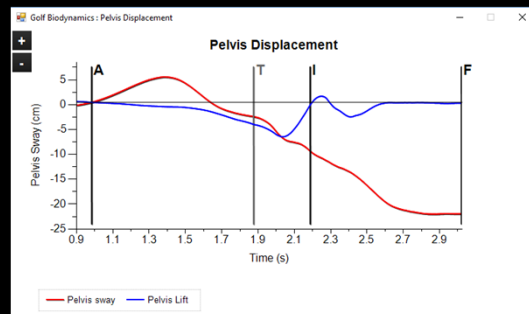
9

# Sohal

2016



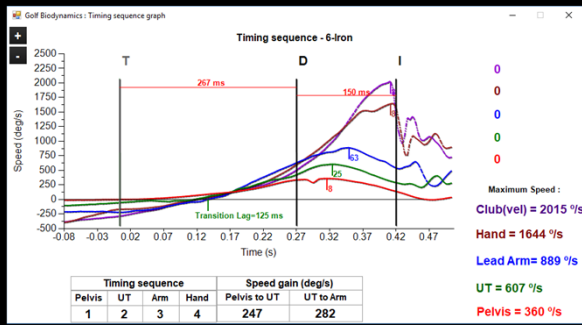
2018



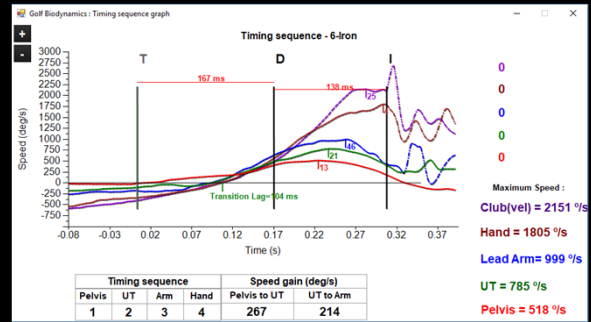
10

# Sohal

2016



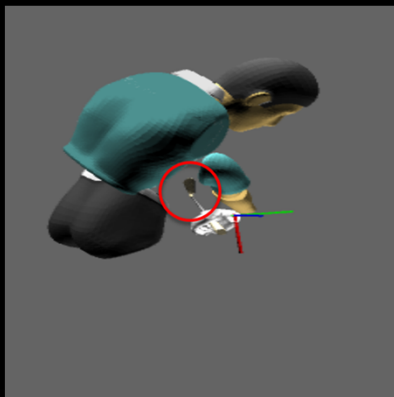
2018



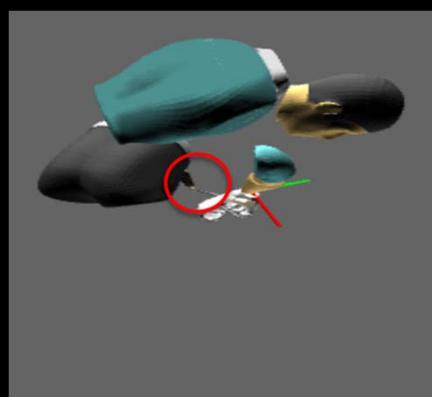
11

# Sohal (release pattern)

2016

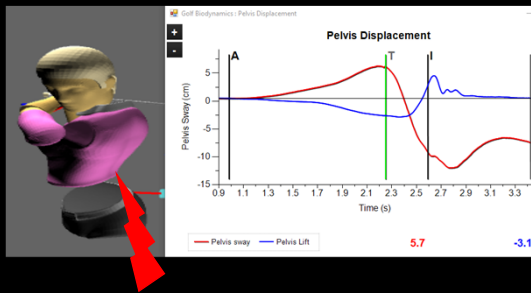


2018



12

## Pedersen

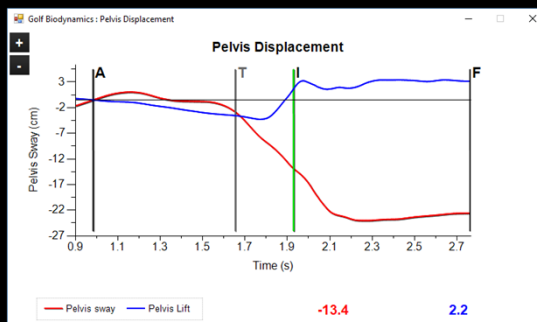


- UT bend at TOB =  $-25^\circ$
- Poor core control
- Excessive lower body sway
- Arching of lower back
- Eventually led to back injury

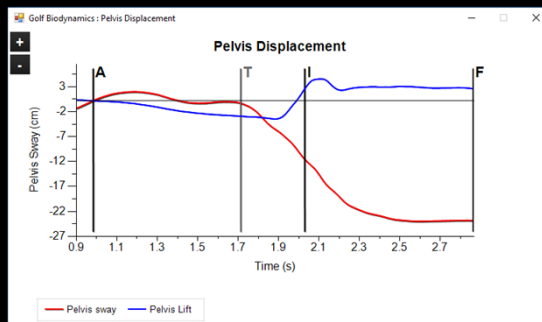
13

## Rosenmueller

2013



2014

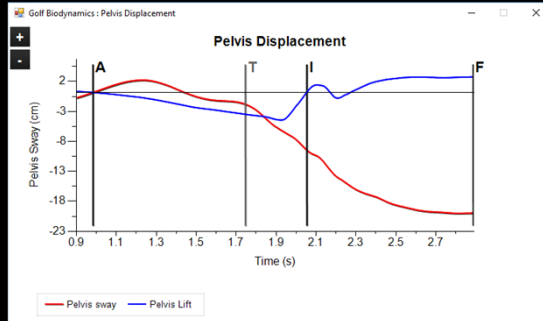
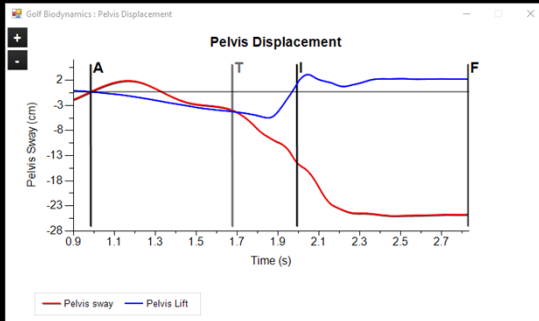


14

# Rosenmueller

2015

2017

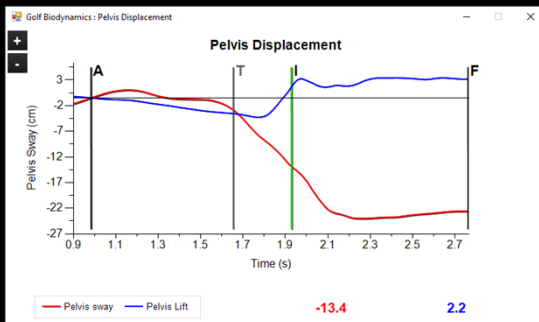


15

# Rosenmueller

2018

2019



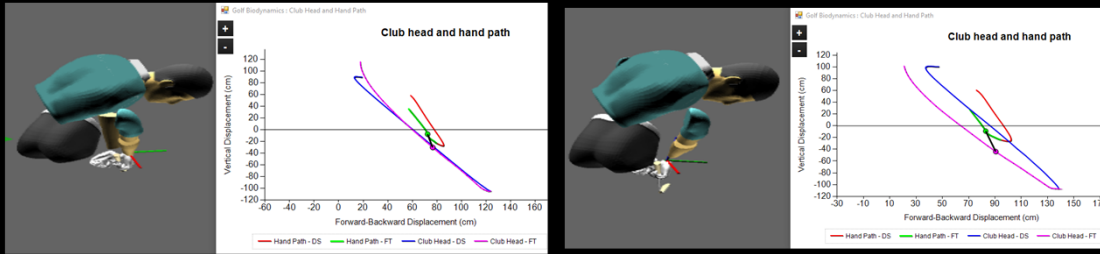
16



# Rosenmueller

2013

2014

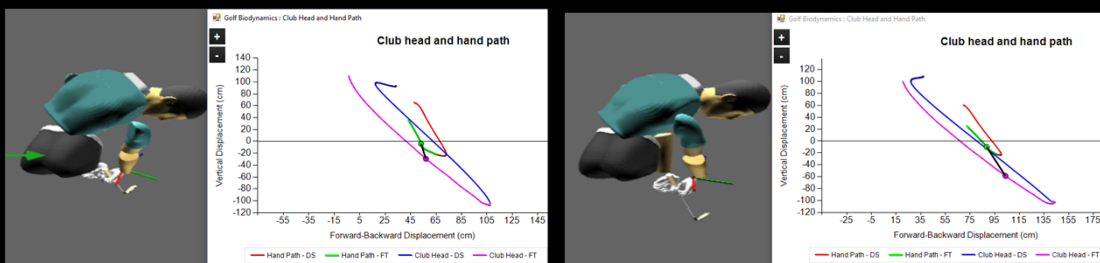


17

# Rosenmueller

2015

2017

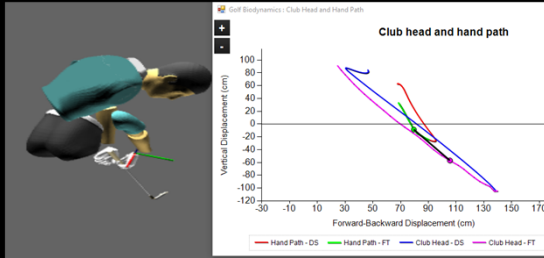


18

# Rosenmueller

2018

2019

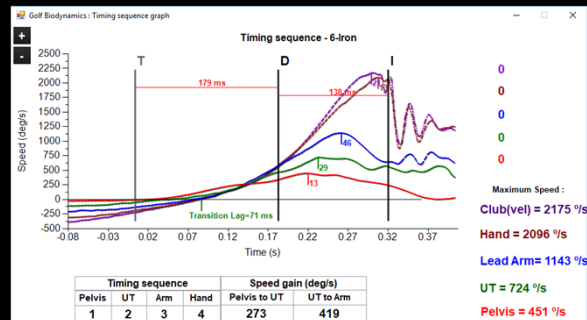
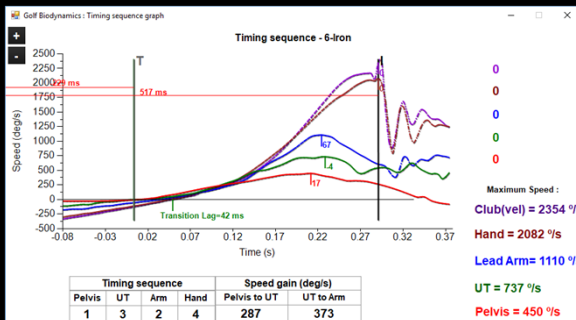


19

# Rosenmueller

2013

2014

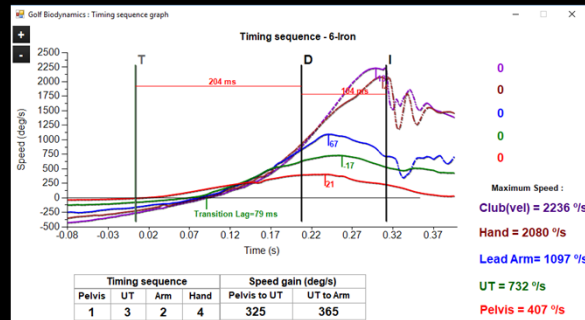
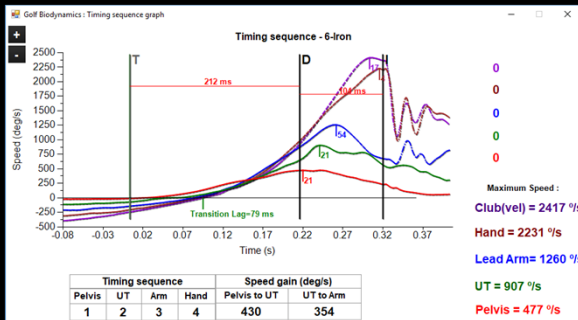


20

# Rosenmueller

2015

2017

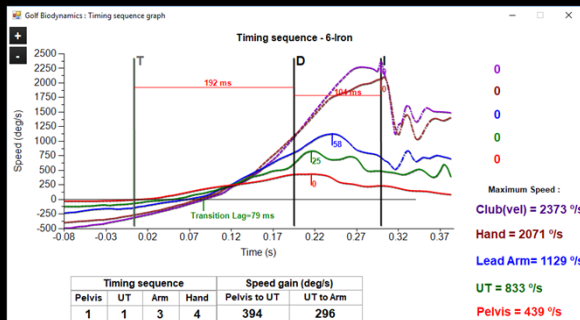


21

# Rosenmueller

2018

2019



22

# Long Term Athletic Development (LTAD)

**FUNdamental stage [FUN];** (Females [6-8 years]; Males [6-9 years])

**Learn to Train stage [L2T];** (Females [8-11 years]; Males [9-12 years])

**Train to Train stage [T2T];** (Females [11-15 years]; Males [12-16 years])

**Train to Compete stage [T2C];**  
(Females [15-21+ years]; Males [16-23+ years])



23

## Philosophy

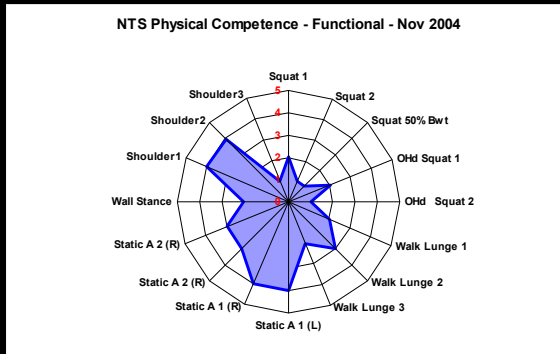
- "Don't let your learning lead to knowledge, let your learning lead to action". *Jim Rohn*
- Only prescribe exercises that you know and would use yourself
- Rolling, dynamic warm-up, followed by your resistance training and a cool down
- **Assess before you plan a program**
- We train movements not muscles
- Quality is more important than quantity
- Stability first; strength follows
- Strength before speed and power
- Grip loose during the workouts
- Endurance is necessary



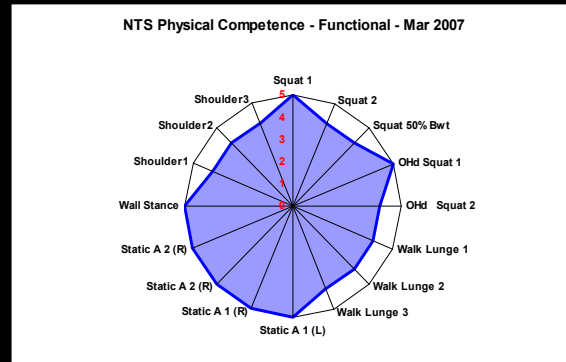
24

## Physical competency testing

2004



2007



25

## The basics of training

- No training accidents!
- Train to prevent accidents
- Train to improve performance
- Free weights whenever possible (limited machines)
- Train multi-joint movements
- Instability leads to stability
- Progression – master the steps along the way
- Complex movements



26

## Core exercise examples



27

## Back stability/strength



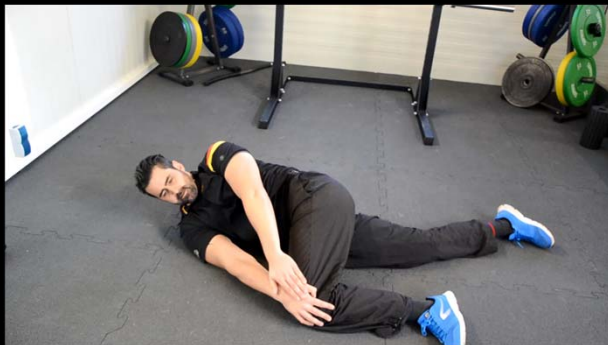
28

# Single-leg stability



29

# Flexibility



30

Thank you for your attention

---



31