Powerful Inter-muscular Co-ordination

Pressing movements

Pulling movements

Trunk Strength/Stability

Leg Strength
Triple Extension

Hip Extension
Hamstring-Glutes

Single leg-imbalances
Overview
ROWING: STRENGTH-ENDURANCE SPORT

• How we use strength and conditioning programmes (Land/Water)
• Main components of a program
• Example of exercises
• Principles of Training
• Putting it all together
Why do gym training?

- **Strength training as basis for rowing performance**
- Improve muscular endurance
- Improve strength
- Improve power
- Gain muscle mass
- Address areas of weakness / imbalances (antagonisten) and prevent injury
Principles of Training

- Overload
- Progression
- Specificity
- Variation
- Individuality
- Reversibility
Bilateral Leg Exercises

Leg Press
Back Squat
Front Squat
Single leg Exercise

Step Up
Split Squat
Single Leg Squat
Lunge
Hip Extension

Back Ext
Deadlift
Goodmorning
Pulling Exercises

Bench Pull
Bent Over Row
Single Arm DB Row
Supine Pull Up
Pull Up
Pressing Exercises

Press Up
Bench Press
Swiss Ball DB Press
Shoulder Press
Trunk Exercises

Plank
Side Plank
Opposite Arm and Leg Raise
Glute Bridge
Leg Ext
V-Sit Hold
Russian Twist
Wipers
Power Clean

Technique - Clean

170.0 kg
Category -85

START 1st PULL 2nd PULL DROP RECEIVING and SQUAT

Muscules tight
Back flat
Shoulders above the bar
Feet hip width apart
Foot tips under the bar
Arms straight

No rising of the buttocks (parallel back shift)
Knees move backwards
Back flat
Arms straight

Explosive hip and knee extension
Full body extension, shrug
Arms remain straight
Reaching maximum velocity (V max.)

Quick drop under the bar
Active arm pull
Pull close to the body, do not swing the bar
Jump into squat
Feet move low above ground

Immediately ground contact
Elbows up, fast
Active break of the falling bar
Feet shoulder width apart
Stable squat position, muscles tight

Bar moves behind the vertical line (from start)
Do not move around the knees (1st pull)
No bar swing during 2nd pull

Klaus Bartonietz
Günter Renner
Ph D
Coach
# Strength Training Continuum

<table>
<thead>
<tr>
<th>Reps</th>
<th>Strength</th>
<th>Power</th>
<th>Hypertrophy</th>
<th>Endurance</th>
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<td>1-5</td>
<td>3-12</td>
<td>8-15</td>
<td>15+</td>
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<td>95-85%</td>
<td>80-30%</td>
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<td>3-5min</td>
<td>3-5min</td>
<td>1min</td>
<td>&lt;60sec</td>
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<td>High</td>
<td>High-Low</td>
<td>Med</td>
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<tr>
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<td>Slow</td>
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<td>High</td>
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<td>48hrs</td>
<td>48hrs</td>
<td>24-48hrs</td>
<td>48-72hrs</td>
<td>24hrs</td>
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Warm Up

- To prepare the body for the session
- Dynamic movements – lunges, squats etc to improve mobility
- Activation exercises for the glutes / core
- Flexibility exercises for ‘tight’ muscles – hip flexors
Strength Session

Power Cleans  4 x 6
Back Squats  4 x 8
Bench Pull   4 x 8
Stiff Leg Deadlift  4 x 8
Bench Press  4 x 8
Step ups    4 x 8
# Strength Session

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<tr>
<th></th>
<th>75%</th>
<th>80%</th>
<th>85%</th>
<th>90%</th>
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<th>97%</th>
<th>100%</th>
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<td>8</td>
<td>5</td>
<td>3</td>
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<td>1</td>
<td>1</td>
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<td>8</td>
<td>6</td>
<td>4</td>
<td>2</td>
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<td>Leg press</td>
<td>&gt;</td>
<td>150Kg</td>
<td>4x15</td>
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Endurance Circuit

Power Cleans 15
Bench Pulls 30
Press Ups 30
Squats 30
Wipers 30
Leg Press 30
Seated Row 30
Bench Press 30
Jumps 20
Plank Hold 1min
Lat Pulldowns 30
Lunges 30
Endurance Circuit

- Bench pulls Rate: >26 52.5 kg 35x  
- Swiss ball angel 2x2.5 kg 20x  
- Squat box- jumps 20x  
- Ergo R:26 <1:35.0 20x  
- Bench press 45 kg 25x  
- Crunch sit ups (leg crossed l+r) 20x  
- Expander 25x  
- Leg press 110 kg 20x  

- Dorsal raises with twist and 3” hold 15 kg 10x  
- Lateral pulls to the neck 50 kg 20x  
- “Windscreen wiper” 7.5 kg 15x  
- Bench pulls Rate: >30 42.5 kg 30x  
- Leg extension 50-60 kg 15x  
- Upper body rotation with 15kg 20x  
- “Dyno” Leg drive 15x  
- D-squats with arm pulls 2x15 kg 20x  

Total: 320 x 4 = 1280 Reps

J. Grobler  
Chief Coach
Concluding Remarks

• Gym training has a variety of purposes

• Train movements not muscles

• Mobility & Posture

• Use your coaching eye