

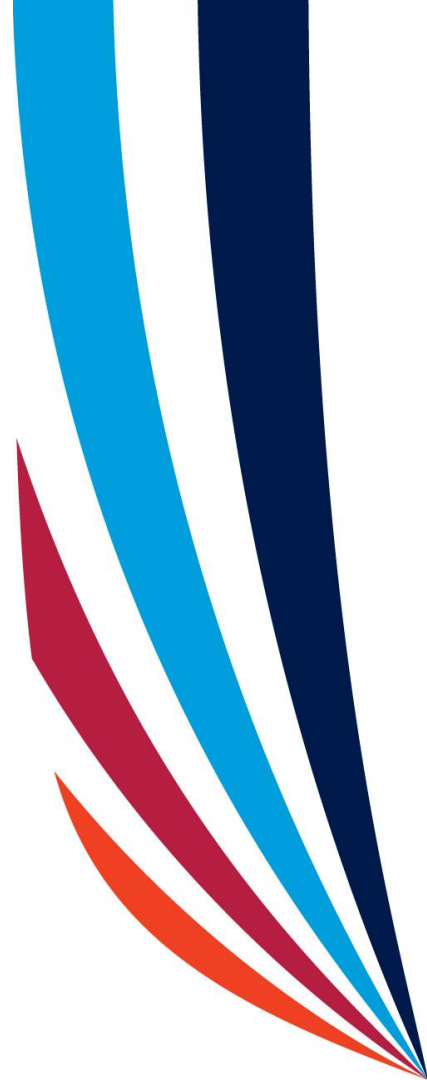
Pre-Season & In-Season Rowing Strength Training

Getting to the championship podium just as strong, fit, and healthy as we start the season

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Key Takeaways

1. How the off-season sets up the in-season
 - a. BRIEF review of basics
2. Pre-season for peak strength and shifting to power focus
 - a. Plyos and the 2:X tempo
3. In-season “maintain +”
 - a. Force, power, muscle, coordination, NOT “strength-endurance”

Periodization Basics



Minimalist: In-Season Only

- Use limited time to do what rowing/erging doesn't
- Teach movements and improve coordination/quality
- Focus on transfer: hip, shoulder, core
- Training options:
 - 30-45' short, circuit-style session
 - 10-15' full-body warmup

5 rounds of 6 exercises
1. Pushup (hands elevated)
2. Bodyweight Row
3. Hinge (bodyweight --> 1DB or 1KB)
4. Core
5. Squat (bodyweight --> goblet)
6. Band Pullapart
REPEAT 5 TIMES (30 mins total)

 [Article: The Minimum Rowing Strength Training](#)



Off-Season: The Set-Up Phase

Teach strength training fundamentals:

Squat

Hinge

Push

Pull

Hip, shoulder, and core

Coaching focus:

Technique

Tempo

Range-of-motion



[Article: The Basics of Strength Training for Rowing](#)



Basic Strength Training Template

Day 1
Full-Body Warmup
A1. Plyometric (Jump/Throw)
A2. Squat
B1. Horizontal Push (eg. pushup)
B2. Horizontal Pull (eg. row)
B3. Hinge (eg. Romanian deadlift)
C1. Lateral/Rotational Hip
C2. Shoulder
C3. Core

45-75 mins total session length

~10 mins to prepare

← Power/coordination (3-6 x 2-4 reps) →

← Power/strength (3-5 x 3-8 reps) →

← Muscle/balance (3-4 x 8-15 reps) →

← Fill sport gaps (2-4 x 10-20 reps) →



Day 2
Full-Body Warmup
A1. Plyometric (Jump/Throw)
A2. Hinge
B1. Overhead Press (eg. 1-arm DB)
B2. Vertical Pull (eg. chin-up)
B3. Single-Leg Squat (eg. lunge)
C1. Lateral/Rotational Hip
C2. Shoulder
C3. Core

Pre-Season: Catch-Up or Ramp-Up

Catch-up: Teach any missing strength training fundamentals

Ramp-up: Increase intensity and build to a peak

Volume, Intensity, Rate Progression

	Volume <i>Total sets/reps</i>	Intensity <i>Proximity to 1RM</i>	Rate <i>Power/Rate of Force</i>
Off-Season <i>(Build)</i>	Higher	Lower	Slower
Pre-Season <i>(Peak)</i>	Moderate	Higher	Faster
In-Season <i>(Maintain +)</i>	Lower	Moderate	Fastest

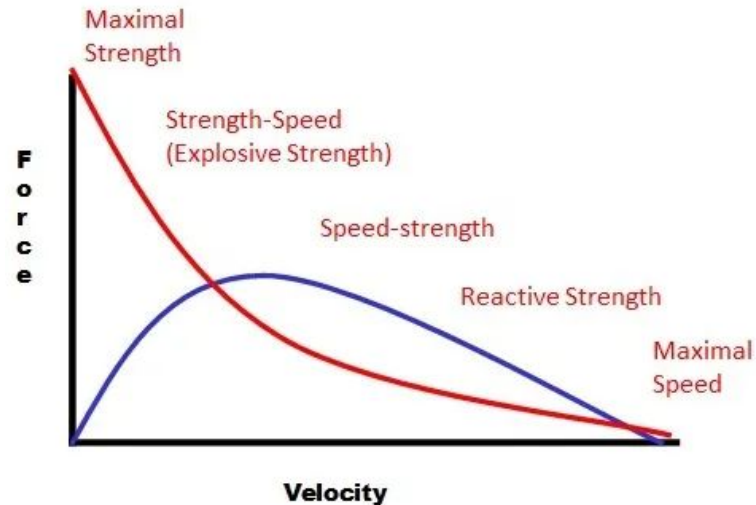
Explosive Intent Tempo

“2:X” tempo

- Same controlled lowering
- More accelerated lifting

Sets of 2-4 reps with a weight typical of 6-8 reps

Force-Velocity Curve



Velocity-Based Training

2:1 tempo = 0.5-0.75m/s

- Off-season focus
- Base strength and muscle

2:X tempo = 0.75-1.0m/s

- Pre/in-season focus
- Rate of force development

[!\[\]\(339a16584d5da0f0a3ca4e9ec17bf6a1_img.jpg\) Series: Velocity-Based Strength Training for Rowing](#)



Plyometrics

 [Video: Plyos for Rowers](#)



**2-Leg
Vert/Broad
Counter/Non**

**1-Leg
Vert/Broad/Lat
Counter/Non**

**Seated
Jump**

**Backwards
Overhead
Counter/Non**

**Forwards
Overhead
Counter/Non**

Keys for Plyos

1. Coordination and full power
2-3x/wk, 1-3 plyos/session
3-6 sets of 2-4 reps
1:4+ work-to-rest ratio
2. Teach and coach landing before jumping
Hinge position, foot balance, knees in-line
3. At the start of a session
Power → Strength → Hypertrophy/Aerobic

NOT

Daily

For endurance: 10+ reps

As punishment

On concrete boathouse floors

In a circuit

At the end of a session



**NOT ACTUALLY TRAINING
POWER/COORDINATION**

Example Pre-Season Program

Day 1
Full-Body Warmup
A1. Plyometric (Jump/Throw)
A2. Squat
B1. Horizontal Push (eg. pushup)
B2. Horizontal Pull (eg. row)
B3. Hinge (eg. Romanian deadlift)
C1. Lateral/Rotational Hip
C2. Shoulder
C3. Core

~10 mins to prepare

← Power/coordination (3-6 x 2-4 reps) →

← 4-6 x 2-3 OR Alternating Weeks →

← Muscle/balance (3-4 x 8-15 reps) →

← Fill sport gaps (2-4 x 10-20 reps) →

Day 2
Full-Body Warmup
A1. Plyometric (Jump/Throw)
A2. Hinge
B1. Overhead Press (eg. 1-arm DB)
B2. Vertical Pull (eg. chin-up)
B3. Single-Leg Squat (eg. lunge)
C1. Lateral/Rotational Hip
C2. Shoulder
C3. Core

Example Pre-Season Program

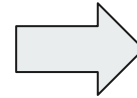
Week A			Week B	
Day 1			Day 1	
A1. Plyo	3-6 x 2-4		A1. Plyo	3-6 x 2-4
A2. Squat	4-6 x 2-3 (2:X)		A2. Squat	3-5 x 3-6 (2:1, RPE7-8)
Day 2			Day 2	
A1. Plyo	3-6 x 2-4		A1. Plyo	3-6 x 2-4
A2. Hinge	3-5 x 3-6 (2:1, RPE7-8)		A2. Hinge	4-6 x 2-3 (2:X)

Olympic Lifts?



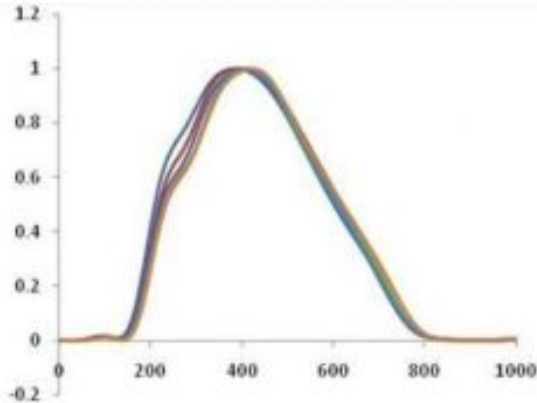
Olympic Lifts?

- Higher teaching time investment
- Non-zero injury risk
- Improve athleticism – at what cost?



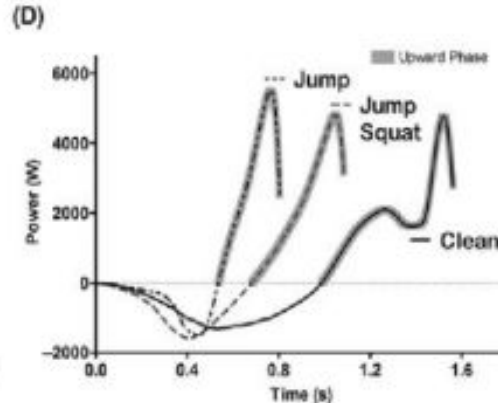
2:X tempo + Plyos

Rowing Stroke



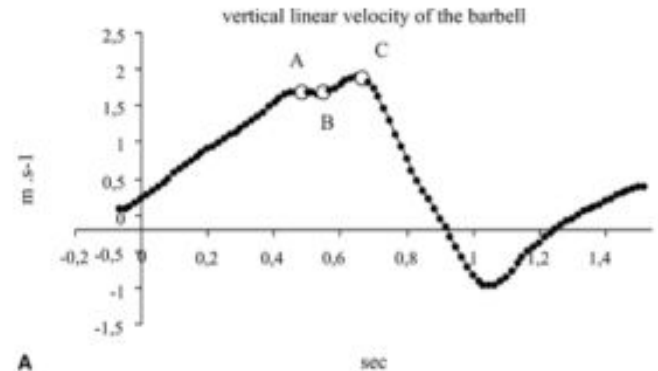
World Rowing, 2016. "What rowing force curves reveal about rowers."

Olympic Clean



MacKenzie, S. (2014). "A biomechanical comparison of the vertical jump, power clean, and jump squat." *Journal of Sports Sciences*.

Olympic Snatch



Gourgoulis et al., 2009. "Unsuccessful vs. successful performance in snatch lifts: a kinematic approach." *Journal of Strength & Conditioning Research*.

In-Season: Maintain and Perform

#1: Availability > Ability

#2: Maintain +

Less work to maintain than gain

#3: Get out of the way of the sport (don't get fancy)

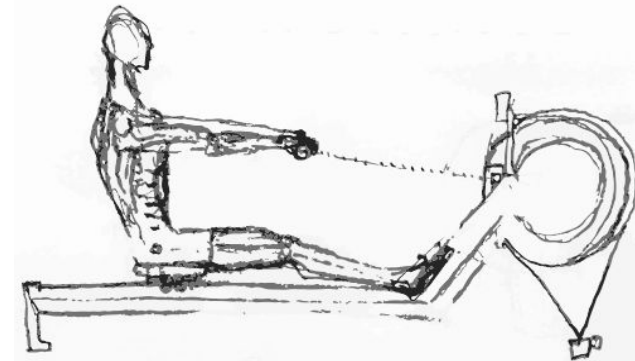
Volume, Intensity, Rate Progression

	Volume <i>Total sets/reps</i>	Intensity <i>Proximity to 1RM</i>	Rate <i>Power/Rate of Force</i>
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Pre-Season <i>(Peak)</i>	Moderate	Higher	Faster
In-Season <i>(Maintain +)</i>	Lower	Moderate	Fastest

No “Strength-Endurance”

Train endurance with rowing, erging, and cross-training

- Opportunity cost of training time, energy, recovery
- Injury risk
- Changing needs of modern rowing training



Short vs. Long Racing Season

Short Racing Season

Off/Pre-season goes longer

Alternating design

More build now = more coast later



Long Racing Season

Earlier off/pre-season phases

Think in build/maintain windows

Residual strength effect

Example In-Season Program

Day 1
Full-Body Warmup
A1. Plyometric (Jump/Throw)
A2. Squat
B1. Horizontal Push (eg. pushup)
B2. Horizontal Pull (eg. row)
B3. Hinge (eg. Romanian deadlift)
C1. Lateral/Rotational Hip
C2. Shoulder
C3. Core

~10 mins to prepare

← Power/coordination (3-6 x 2-4 reps) →

← **Alternating OR 2:X Both Weeks** →

← Muscle/balance (2-3 x 6-12 reps) →

← Fill sport gaps (1-3 x 10-20 reps) →

Day 2
Full-Body Warmup
A1. Plyometric (Jump/Throw)
A2. Hinge
B1. Overhead Press (eg. 1-arm DB)
B2. Vertical Pull (eg. chin-up)
B3. Single-Leg Squat (eg. lunge)
C1. Lateral/Rotational Hip
C2. Shoulder
C3. Core

Example “1-and-1” Program

Day 1 (Loaded): Strength/Power

	Sets x Reps (rest)
A1. Plyo (Jump/Throw)	5-6 x 2-3
A2. Squat	3-4 x 3-6 (2-3')
B1. Push Press	2-4 x 3-6
B2. Hinge	2-4 x 3-6 (2-3')
C1. Lateral/Rotational Hip	1-3 x 10-20
C2. Shoulder	1-3 x 10-20
C3. Core	1-3 sets (0-1')

Day 2 (Low-Load): Fill Gaps

	Sets x Reps (rest)
A1. Plyo (Jump/Throw)	5-6 x 2-3
A2. Single-Leg Squat	3-4 x 8-15 (1-2')
B1. Hip/Light Hinge	3-4 x 6-12
B2. Horizontal or Vertical Pull	3-4 x 6-12
B3. Horizontal Push	3-4 x 6-12 (2-3')
C1. Lateral/Rotational Hip	2-4 x 10-20
C2. Shoulder	2-4 x 10-20
C3. Core	2-4 sets (0-1')

Tapering for Racing: Fatigue Masks Fitness!

Short Taper (Minor)

5-day taper

Seat race or local/regional event

Just take the 2nd lift off



Long Taper (Major)

7-21-day taper

Main/peak event

Decrease volume, then intensity, then both

Week 2: Begin taper on Day 2

Week 1: Power only, Day 2 reduce further

Week 0: Day 1 easy/off, Day 2 off

Example Long Taper Program

	Day 1 Main (A)	Day 2 Assistance (B/C)	Day 2 Main (A)	Day 2 Assistance (B/C)
Week 2	Strength (3x5)	Normal (2-3 sets)	Power (5x3)	Normal (2-3 sets)
Week 1	Power (5x3)	Reduced (1-2 sets)	Power (reduced: 3x3)	Reduced (1-2 sets)
Week 0	Power (3x3) or off	Reduced (1 set) or off	Off	Off

More About Strength Training

Email: rowingstronger@proton.me

www.RowingStronger.com

Youtube: [@rowingstronger](https://www.youtube.com/@rowingstronger)

Substack: [@rowingstronger](https://www.substack.com/@rowingstronger)

The “Rowing Stronger” book





USRowing

