ENERGY SYSTEM DEVELOPMENT

OFF-ICE CONDITIONING

Twenty short, high-intensity sessions built to make you the player who doesn't slow down — first shift to last.

SESSIONS	PER SESSION	TARGET
20	12–18 MIN	JULY CAMP



WELCOME TO THE MINNESOTA WILDERNESS
ENERGY SYSTEM DEVELOPMENT PLAN

How you train this summer decides how you arrive in July. Read it. Do the work.

At the Minnesota Wilderness we take great pride in our players being among the fittest in the NAHL. Talent and dedication will carry you a long way — but our collective ability to **out-work, out-last and out-skate** the opposition is what powered a record-breaking regular season and a run to the Robertson Cup Final.

This booklet contains the off-ice conditioning plan we'd like you to follow: **20 individual short sessions** — usually 12–15 minutes each — designed to raise your ability to play at a high intensity, shift after shift.

Hockey at the highest level demands a level of fitness not seen in other sports. The players who can consistently go hard, shift after shift, are the ones who win games, play deep into the playoffs and earn college recognition.



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MAIN CAMP & FITNESS TESTING

Your numbers are measured, graded and shared with the coaching staff. Train so they read in your favor.

All returning, tendered and drafted players attending the Minnesota Wilderness main camp in July will take part in a day of **mandatory fitness testing** — think of it as the NHL-style combine that top draft picks attend. Your performance is monitored and graded, and the results are shared with the team's coaching staff.

TESTS INCLUDE

01 ANAEROBIC POWER

WINGATE-STYLE ASSAULT BIKE

Typically 3–5 rounds of 20–30 second all-out efforts. This plan is built to prepare you for exactly this.

02 STRENGTH

UPPER BODY ASSESSMENT

A measure of upper-body strength relative to your size and position.

03 STRENGTH

LOWER BODY ASSESSMENT

The engine for your skating stride — tested for strength and output.

04 STABILITY

CORE BODY ASSESSMENT

The link that transfers power from your legs into every stride, shot and check.

TWO ROUNDS, COMPARED

JULY · MAIN CAMP

ROUND ONE

Every attendee is tested and graded. Results go straight to the coaching staff.

LATE AUGUST · PRE-SEASON

ROUND TWO

Players invited to pre-season camp test again. Your August numbers are compared directly to July's — graded once more for the coaches.

YOUR PLAN, OR OURS

Following this plan is not mandatory — but it is highly encouraged. If you'd rather follow your own program, we encourage you to share it with us so we can give you our thoughts.

QUESTIONS

424-634-1672

Contact John via text or call

WHY WE TRAIN OUR ENERGY SYSTEMS

The best players go hard shift after shift after shift. That comes down to three energy systems working together inside your body.

Train all three and you become a player who goes as hard in the third period as they do in the first. Know them — then train them.

SYSTEM 01

PHOSPHOCREATINE

0–10 SEC

Powers your explosive burst — the first step out of the gate.

RECOVERS	Fully reloads in 60–90 sec of rest.
USE IT	Every sprint and every gap close.

SYSTEM 02

GLYCOLYTIC

10–60 SEC

Drives sustained high intensity once your burst fades.

FEEL	Creates the leg-heavy 'burn' late in a shift.
USE IT	Full-shift, sustained pressure.

SYSTEM 03

AEROBIC

60 SEC +

The between-shift recovery engine that resets you.

RECOVERS	Restores PCr faster while you're on the bench.
USE IT	Every minute you're not on the ice.

THE KEY WORD IS TOGETHER

During a shift, **PCr fires first**. When it starts to fade, **glycolysis** kicks in and drives you through the rest of the shift. On the bench, your **aerobic system** goes to work recovering you — so PCr is fully loaded again before your next shift.

HOW THEY WORK TOGETHER

EVERY SINGLE SHIFT

One shift, three systems, handing off in sequence — then recharging on the bench.

PUCK DROP
SHIFT STARTS
You jump the boards loaded and ready.
ALL CHARGED

FIRST 10 SEC
MAX BURST
Explosive jump — PCr fires first.
PCR

10–45 SEC
SUSTAINED PUSH
Glycolysis drives you through the shift.
GLYCOLYTIC

90–130 SEC
BENCH TIME
Aerobic engine recovers and reloads PCr.
AEROBIC

BACK ON ICE
FULL POWER
Tank refilled — you go again.
ALL CHARGED

PCR 0–10 sec burst **GLYCOLYTIC** 10–60 sec push **AEROBIC** 60 sec+ recovery

THE AEROBIC SYSTEM IS YOUR CHEAT CODE

A STRONGER AEROBIC ENGINE RELOADS PCR FASTER ON THE BENCH.

More available PCr means **more explosive power** when you jump over the boards. This is why aerobic conditioning directly improves your sprint game — the two are linked. Build the engine, and your burst lasts all game long.

THAT 'BURNING' FEELING IS TRAINABLE

The heavy legs late in a shift? That's your glycolytic system being overwhelmed. **High-intensity interval training** teaches your body to clear that burn faster — so you keep driving hard when opponents are slowing down.

TRAIN EACH SYSTEM — THE REAL BENEFITS

Every type of effort upgrades a specific system — and shows up on the ice in a specific way.

SYSTEM	TRAIN IT WITH	YOUR BODY ADAPTS	ON-ICE BENEFIT
PCR	Max sprints (3–10 sec) with full rest	Improves PCr storage & availability	**Same first step on shift 20 as shift 1**
GLYCOLYTIC	Hard intervals (11–60 sec efforts)	Delays the dreaded 'burn'	**Stay powerful deep into every shift**
AEROBIC	Steady skating & tempo runs	Faster PCr recovery on the bench	**Arrive fresh every shift, every period**

THE BOTTOM LINE

01

Short, **max-effort sprints** with full rest build a bigger PCr tank — high-quality efforts shift after shift.

02

High-intensity intervals train your body to handle and clear the 'burn' faster.

03

Aerobic work recharges your PCr faster on the bench — it directly powers your explosiveness.

04

All three systems are **trainable**. Consistent, structured work upgrades the biology behind how hard and how often you go.

THE GOAL

BE THE PLAYER WHO DOESN'T SLOW DOWN.

Elite players aren't gifted with endless energy — they've trained their energy systems to work together efficiently. Develop all three and you become the player every team wants: explosive, relentless, and dangerous every time you touch the ice.

HOW TO USE THIS PLAN

Energy System Development — 20 sessions, done in order. Read this page once before you start.

THE GROUND RULES

1. Do the sessions **in order** — start with Session 01 and work through to 20.
2. It's fine to **swap one session** for a longer 30–40 min easy run, bike or swim. Keep the effort at a 3–4 / 10.
3. We recommend an **assault bike**, but a jump rope, rowing machine, spin bike or treadmill all work.
4. A **heart-rate monitor** helps you learn how your body responds to hard work, but it isn't required.
5. No monitor? Use a simple **1–10 effort scale**. Most hard efforts should sit at 8–9 / 10; easy work at 1–2 / 10.

⚠ STOP & SEEK HELP

If at any point during a session you feel unwell, light-headed or unnaturally short of breath, stop immediately and seek medical attention.

EFFORT SCALE — RPE 1–10

1	2	3	4	5	6	7	8	9	10

EASY · RECOVERY — HARD EFFORTS

READING THE SESSIONS

WU Warm-up

:05 Seconds (mm:ss)

6× Reps in a set

CD Cool-down

HR Heart rate

ACTIVE REC. Recovery while moving

STEP COLORS

- SET — Max-effort work block
- SET — Finisher / second block
- WU — Warm-up
- CD — Cool-down

QUESTIONS
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THE SESSIONS 01 – 08

Build the base. Short max efforts with full recovery — quality over everything.

PHASE 01 · PCR & GLYCOLYTIC BASE

ASSAULT BIKE · OR EQUIVALENT

SESSION 01 — 12:30 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	3 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (4 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

SESSION 02 — 13:00 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	3 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (5 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

SESSION 03 — 12:30 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	3 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (4 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

SESSION 04 — 16:00 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	4 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (6 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

SESSION 05 — 12:30 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	3 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (4 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

SESSION 06 — 16:00 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	4 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (6 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

SESSION 07 — 16:00 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	4 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (6 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

SESSION 08 — 12:30 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	3 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (4 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

THE SESSIONS 09 – 16

Raise the volume. Longer sets and tighter recovery push the glycolytic system.

PHASE 02 · GLYCOLYTIC CAPACITY

ASSAULT BIKE · OR EQUIVALENT

SESSION 09 — 18:20 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm.	3:00
SET	5 sets × (5 × :10 max / :10 active recovery) — 1:00 active recovery between sets	
SET	6 × :05 max / :15 active recovery	
CD	Easy cool-down.	2:00

SESSION 10 — ✦ 16:00 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	4 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (6 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

SESSION 11 — 15:30 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	4 sets × (8 × :05 max / :10 active recovery) — :30 active recovery between sets	
SET	1 set × (6 × :10 max / :10 active recovery)	
CD	Easy cool-down.	2:00

SESSION 12 — 17:00 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm.	3:00
SET	4 sets × (9 × :05 max / :10 active recovery) — 1:00 active recovery between sets	
CD	Easy cool-down.	2:00

SESSION 13 — 15:30 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	4 sets × (8 × :05 max / :10 active recovery) — :30 active recovery between sets	
SET	1 set × (6 × :10 max / :10 active recovery)	
CD	Easy cool-down.	2:00

SESSION 14 — 17:00 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm.	3:00
SET	4 sets × (9 × :05 max / :10 active recovery) — 1:00 active recovery between sets	
CD	Easy cool-down.	2:00

SESSION 15 — 11:35 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm.	2:30
SET	4 sets × (8 × :05 max / :05 active recovery) — :45 active recovery between sets	
CD	Easy cool-down.	1:30

SESSION 16 — 17:00 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm.	3:00
SET	4 sets × (9 × :05 max / :10 active recovery) — 1:00 active recovery between sets	
CD	Easy cool-down.	2:00

THE SESSIONS 17 – 20

Sharpen up. The final block keeps you fast and powerful into camp.

PHASE 03 · PEAK & SHARPEN

ASSAULT BIKE · OR EQUIVALENT

SESSION 17 — 11:35 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm.	2:30
SET	4 sets × (8 × :05 max / :05 active recovery) — :45 active recovery between sets	
CD	Easy cool-down.	1:30

SESSION 18 — 15:30 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	6 sets × (6 × :05 max / :05 active recovery) — :30 active recovery between sets	
SET	4 × :15 max / :45 rest between efforts	
CD	Easy cool-down.	2:00

SESSION 19 — ✦ 13:30 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm entering sets.	2:00
SET	3 sets × (6 × :05 max / :10 active recovery) — 1:00 easy spin between sets	
SET	1 set × (4 × :10 max / :20 active recovery)	
CD	Easy cool-down.	2:00

SESSION 20 — 14:00 TOTAL

WU	Warm-up — include short 2–3 sec bursts to spike HR. Overall ≈ 6/10, ~175 bpm.	3:00
SET	4 sets × (9 × :05 max / :05 active recovery) — 1:00 active recovery between sets	
CD	Easy cool-down.	2:00

SEE YOU IN JULY

OUT-WORK. OUT-LAST. OUT-SKATE.

Twenty sessions stand between you and the player who steps onto camp ice ready to compete from the first whistle. Do the work — we'll see it in your numbers.