

LEADOUT

THE BETTER YOU GET, THE MORE FUN IT IS

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Let's Do Shots!

Energy gels offer a burst of fuel when you need it most. Here's how to squeeze more power out of each packet. BY JENNIFER WARD BARBER

30
TO
60

grams of
carbohydrates
you need per
hour on the bike



+ H₂O ALWAYS DRINK EIGHT TO 16 OUNCES OF PLAIN OR ELECTROLYTE-ENHANCED WATER WITH A GEL. THIS DILUTES THE CARB CONCENTRATION TO A LEVEL THAT YOUR BODY CAN ABSORB WITHOUT CAUSING BELLY WOES.

LABEL CHECK

Look for gels that contain multiple carbohydrate sources, such as fructose, maltodextrin, and organic dried cane syrup. The variety of carbs delivers energy at different rates, leading to fewer blood sugar spikes and GI issues.

20
TO
25

grams of
carbohydrates
in most energy-
gel packets

DIY ENERGY GEL



THIS HOMEMADE GEL OFFERS 119 CALORIES AND 30 GRAMS OF CARBOHYDRATES PER ONE-OUNCE SERVING AND COSTS ABOUT \$0.50 PER OUNCE. YIELDS 14 OUNCES.

1/2 C AGAVE NECTAR
3/4 C BROWN RICE SYRUP
1/2 C RAW HONEY
1/2 TSP FINE-GRAINED SEA SALT
OPTIONAL: 1 BANANA, PEELED

COMBINE IN A BLENDER OR FOOD PROCESSOR. IF ADDING THE BANANA, PUREE WITH AGAVE NECTAR FIRST, THEN BLEND WITH REMAINING INGREDIENTS. WITHOUT THE BANANA, GEL WILL KEEP AT ROOM TEMPERATURE ALMOST INDEFINITELY. OTHERWISE, REFRIGERATE AND USE WITHIN SEVEN TO 10 DAYS.

FOUR PLACES TO STASH IT

(1) JERSEY POCKETS (2) HELMET (3) SPORTS BRA
(4) LEGS OF YOUR CYCLING SHORTS

WASTE LESS Buy gel in bulk or make it yourself and fill a reusable. Try GU Energy's 15-serving gel pouch and five-serving flask; or EFS Liquid Shots, sold in five-ounce, dishwasher-safe flasks that can be refilled from 32-ounce packages.



What's Your Main Squeeze?

LOVE YOUR DAWN PATROLS?
Try Kona-Mocha EFS Liquid Shot, Clif-Shot Mocha

DIEHARD FOODIE?
Try Hammer Gel Nocciola (Hazelnut-Chocolate), GU Maple Bacon

NATURAL-FOODS DEVOTEE?
Try Honey Stinger Gold, Untapped All Natural Maple Syrup

VEGAN AND/OR GLUTEN-FREE?
Try Hüma Mangoes Gel, Raspberry Vega Endurance Gel



Catch All the ZZZ's

Sleep is crucial to your recovery, immune system, mood, and overall performance on the bike. Here's how to get better shut-eye. BY AC SHILTON

COUNTDOWN TO BEDTIME

3-4 HOURS BEFORE BED

Finish your workout. Your body needs time to bring its core temperature down—which causes sleepiness—and stop producing the endorphins that make you feel alert and awake.

1.5 HOURS BEFORE BED

Stop rehydrating. You don't want to be up all night running to the bathroom.

1 HOUR BEFORE BED

Turn off your devices. The light makes your body think that the sun is rising, which blocks the production of melatonin, a hormone that sends the message that it's time to hit the sack.



STOP COUNTING SHEEP

IF YOU CAN'T SLEEP, DON'T JUST LIE THERE AND STRESS. GET UP AND DO SOMETHING RELAXING LIKE TAKING A BATH, OR STAY IN BED AND VISUALIZE SOMETHING POSITIVE AND CALMING, SAYS CHRIS WINTER, MD, A SPECIALIST IN SLEEP MEDICINE IN CHARLOTTESVILLE, VIRGINIA.

HARD DAYS = RESTLESS NIGHTS

A study of elite cyclists found that during three weeks of high-intensity training, they logged only 6.9 hours of sleep nightly, but during an easy week, they averaged 7.3 hours. "You're amped up because you put in a big effort and your dopamine levels [a neurotransmitter that signals pleasure and increases attention] are up, so you're going to feel very awake," says Winter.

Roll Over!

Start the night on your nondominant side (if you're right-handed, lie on your left). "Your nondominant side is less sensitive," says Nick Littlehales, a sleep coach in Nottingham, United Kingdom, who has worked with Team Sky. This way, you're less likely to notice the aches of a hard day's training.

PRERACE JITTERS?

At least your competitors are probably tossing and turning too. A 2015 study published in the *Journal of Sports Sciences* found that cyclists logged significantly less sleep time the night before a race than they did during training. Another study found that one night of poor sleep did not compromise riders' anaerobic abilities. However, it did slow their reaction times—something to be aware of if you're going to be riding in a pack.

SEVEN

The minimum number of hours a night that the average adult should snooze, to avoid the health risks associated with chronic sleep deprivation.

90

The number of minutes in your body's natural sleep cycle, which includes the deep sleep state during which you produce the growth hormone crucial for recovery. If you can't fit seven straight hours of sleep into your schedule, try to split your night into 90-minute sleep increments, says Littlehales. You'll wake up feeling rested, even if you've slept for only a few total hours.

This is Way Easier Than You Think

A solid track stand can help you stay clipped in—and take off faster—while waiting at red lights or stop signs. Perfect it with this four-step drill from Colby Pearce, a coach and former U.S. Olympian track cyclist. **BY JASON SUMNER**



Look ahead, find your balance point, and channel your inner bike messenger.



STEP 1 Pedal in a medium-low gear on a quiet stretch of road, in a parking

lot, or on grass. Start on a slight uphill grade; it's easier to learn on. Point your bike sideways, perpendicular to the slope. Grip your hoods lightly with your fingers on the brakes, and keep your body weight centered over the bike. Start gently rolling to a stop.



STEP 2 As you slow down, stand up and turn your front wheel to a 30-degree angle

from the top tube, pointing your wheel uphill.



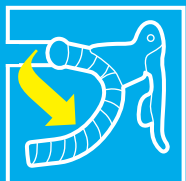
STEP 3 While turning your wheel, rotate your cranks so that your pedals

are level, and the uphill side is forward. Look ahead, not down, which can throw off equilibrium. Fix your gaze on something stationary.



STEP 4 Find your balance point, and slowly rock back and forth by applying

subtle pressure to your forward crank, then easing off. Avoid touching your brakes once your initial momentum has been stopped. If you feel your bike rolling backward or downhill, push harder on the forward crank. If you start leaning forward too far, ease pressure off that crank. And if you feel yourself losing your balance, ride it out and try again.



Q/A

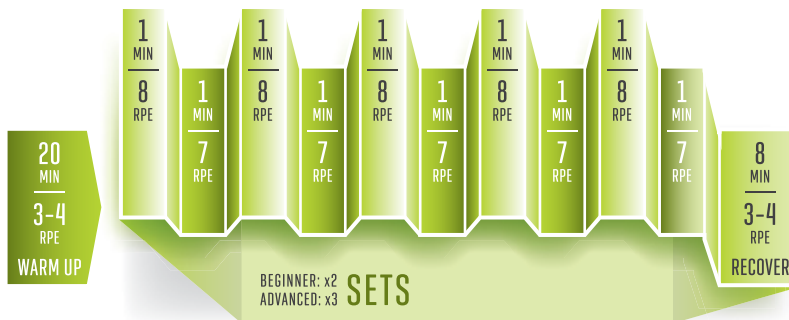
Riding in the drops scares me. How do I get comfortable gettin' low? It helps to understand that you actually have more control in the drops when you are descending and cornering. Your center of gravity is lower, and you have a better hold on the handlebar and the brakes. (Note that braking will feel different, like you have to pull the levers farther.) Practice moving your hands to the drops one at a time until you're more comfortable, says Missy Erickson, a five-time national track champion. Then you can go for two at once. "Stay relaxed, keep your upper body loose, and don't forget to breathe." Core strength is key, too, she adds. "The stronger your core, the more stable you will be when you transition." See our workout on page 30 to shore up your midsection.

Get the Power to Gun It!

Crush the fast starts at your next race or hammerfest with these three explosive interval workouts **BY AC SHILTON**

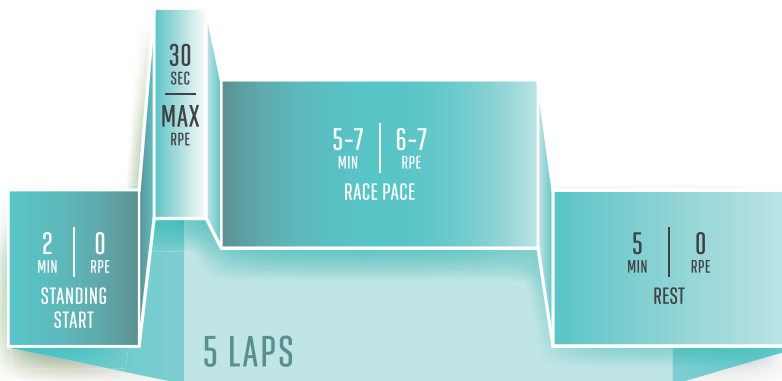
OVER-UNDER

Warm up with 20 minutes of easy spinning at a rate of perceived exertion (RPE) of 3 to 4 on a scale of 1 (very light effort) to 10 (maximum). Push yourself to right above lactate threshold (RPE of 8) for one minute—you should be able to say only three or four words at a time. Then ride for one minute just below threshold; you should still be working hard, at an RPE of 7. Spin easy for eight minutes between sets.



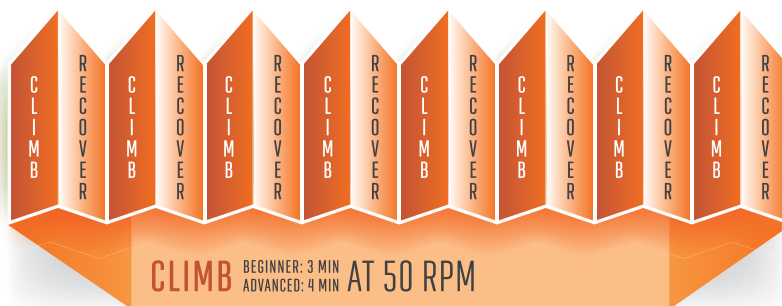
DRESS REHEARSAL

Set up a loop course on grass or dirt that takes five to seven minutes to complete. If you're training for 'cross, try to include run-ups and barriers. Designate the start line, then sit on it for two minutes, as you would before a race. Sprint off the line, going all out for 30 seconds. Then, settle into your race pace: a hard but sustainable effort (RPE of 6 or 7). Do five laps, with five minutes of rest, plus the two minutes of sitting on the start line, between each. You can also do this drill on the road: Start from a standstill, sprint for 30 seconds, then settle into race pace.



SIT AND SUFFER

To build pure power, find a hill that takes you three to four minutes to climb. As you approach the base, shift into a hard gear so that you can stay seated and grind with your cadence at around 50 rpm max. Use the descent to recover, then head back up again. Do eight reps. Beginners, find a three-minute-long climb; advanced riders, do a four-minute-long ascent. (Flatlanders can do this on a trainer set to max resistance to replicate the hill.)



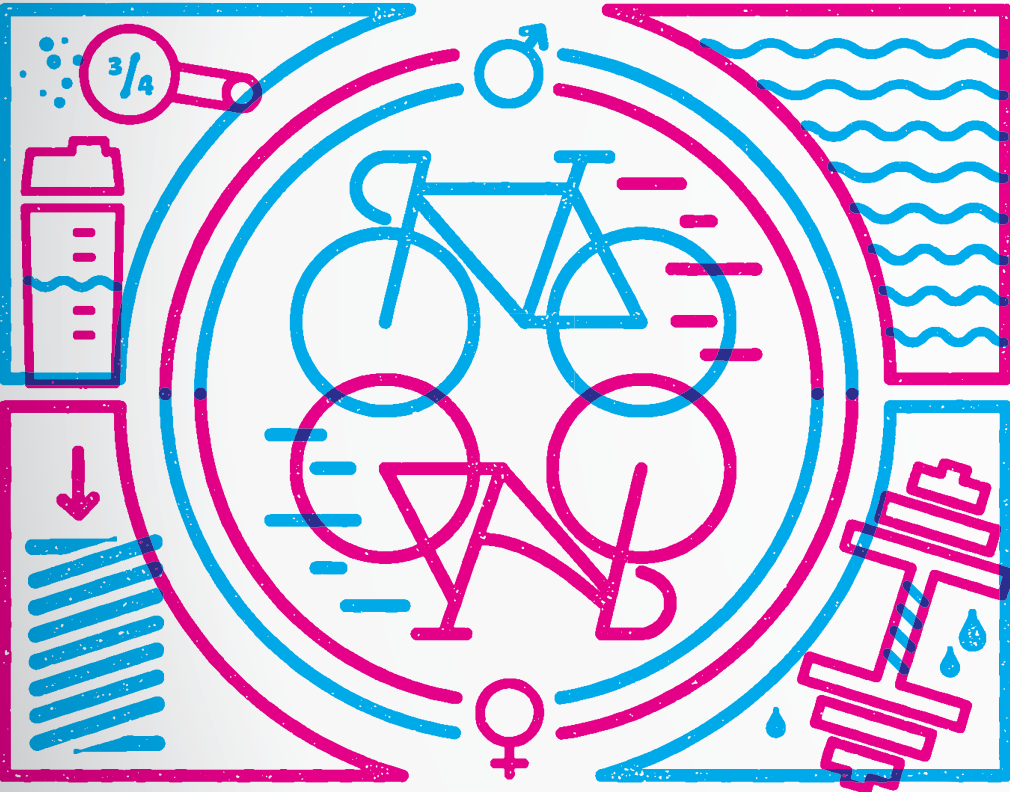
WORKOUTS BY TODD HUNTER, USA CYCLING—CERTIFIED COACH IN CARY, NORTH CAROLINA

ASK A COACH



Q/A

Can I split up my weekday training ride between the two legs of my commute and get the same effect as one longer ride? Go ahead and use your commutes to get your shorter rides, says Jason Boynton, MS, exercise physiologist and USA Cycling Level 1 coach based in Perth, Australia. Technically, two short rides are not exactly the same as one longer one of the same total time and distance: You'll have a very long rest in between, and spend more of your miles in warm-up mode. But the difference in the training effect is minimal, he says. Just don't split up your weekend long rides, since you need to practice fueling and know how your body will handle the extended saddle time. And try to still get at least one day off a week to avoid overtraining.



Men and Women Are Not Created Equal

Yeah, we just said that. When it comes to training, you should approach these four aspects differently.

BY SELENE YEAGER

1 Postride Meals

- Men should down a protein drink or bar (aim for 25 grams) within 30 minutes of finishing an intense session. After that, you have three to six hours to get carbs into your system.
- Women have a much shorter recovery window, and your bodies are also more prone to breaking down muscle tissue during hard exercise. Eat 30 grams of protein within 30 minutes of completing a hard workout, then take in carbs within the next 90 minutes.

2 Strength Training

- Men are born with more upper-body muscle, too much of which isn’t a big asset on the bike. You can stick to mostly lower-body and core work.
- Women are born with less upper-body muscle and tend to have a weaker core—both of which affect bike handling and stamina. Along with leg work, bang out full-body moves like push-ups to build and maintain lean muscle head to toe.

3 Hydration

- Both sexes can follow the latest recommendations published in the *Clinical Journal of Sport Medicine* by simply drinking on the bike when you feel thirsty.
- Women should also “prehydrate” during the days just before their period, when hormones can cause blood-plasma volume to drop up to 8 percent before you turn a single pedal stroke. Before long rides, take in some salty liquids (sodium helps you absorb fluids) like chicken broth, miso soup, or a prehydration beverage like OSMO Preload.

4 Flexibility

- Men have tighter hamstrings, which can make it hard to get aero and still generate a lot of power. Do exercises that stretch hamstrings and strengthen the glutes (which help the hamstrings).
 - Women tend to be more flexible. But wider hips can make inner thighs tighter and outer glutes weaker, and reduce stability in the saddle, causing knee and hip pain. Strengthen the outer glutes and stretch the inner thighs.
- Go to [BICYCLING.com/men/vswomen](https://www.bicycling.com/men/vswomen) for flexibility moves.

ASK AN EXPERT



Q/A

I hear people say it’s okay to gain a little weight during the off-season. But what’s a healthy amount?
It’s good to take a break and let your body and mind recover during the months when you’re not riding as much, but gaining too much weight may make it difficult to get back on track when you’re ready to return to regular riding, says Christopher Rosimus, performance nutritionist for ONE Pro Cycling. A moderate amount of weight gain for someone with a slighter build is about 3 percent of your weight during your peak riding months (4.5 pounds for a 150-pound rider) and up to 4 percent for those with more powerful or muscular body types, says Rosimus. To ward off those winter pounds, bump up your protein intake during the off-season and limit carbohydrate intake to about 150 grams on days you don’t ride.



Your Ride on Weed

Now that pot is legal for certain uses in almost half the US, you might be wondering about the drug's reported exercise benefits. Here's what to know about riding high. **BY SELENE YEAGER**

Don't harsh my mellow

Pot affects your amygdala—the part of your brain that regulates fight-or-flight response. “It turns down the anxiety and nerves associated with competition,” says Brian R. Christie, PhD, neuroscience program director at University of Victoria in British Columbia. “It can put you in that calm flow state that generally kicks in only after you're engaged in really high-intensity exercise.” But it doesn't calm everyone down—research shows that people who are prone to panic actually have increased anxiety when they light up.

18.9

MARIJUANA USERS IN THE US,
UP FROM 14.4 MILLION IN 2007

COMFORTABLY NUMB By reducing inflammation, marijuana can “increase pain threshold and decrease perception of pain. So folks feel like they can train longer and harder,” says Christie. Some studies also report that marijuana can improve sleep.



“I DIDN'T INHALE... RECENTLY.”

RACERS, TAKE NOTE: EVEN IF POT IS LEGAL IN YOUR STATE, WADA STILL CONSIDERS IT AN ILLEGAL PERFORMANCE ENHANCER. EVEN OCCASIONAL USE MAY GET YOU BUSTED: IN ONE STUDY OF REGULAR POT SMOKERS, A 35-MINUTE BIKE RIDE TRIGGERED THC—A CHEMICAL IN MARIJUANA—STORED IN THE FAT CELLS TO RELEASE INTO THE BLOODSTREAM.



ROOKIE MOVE

Marijuana can lead to fuzzyheadedness and impaired coordination. Trying it before a ride can be a bad idea.

2 7

times increase in marijuana's potency (as measured by THC levels) since the 1970s, thanks to cross-breeding by growers



cannabinoids

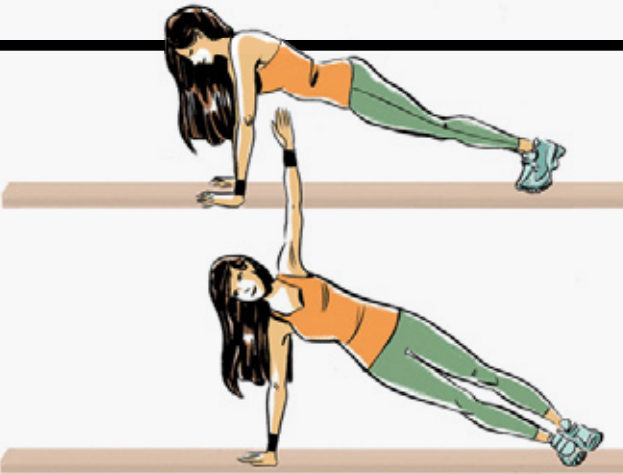
[kə-ˈnā-bə-nɔɪds] The unique chemicals found in marijuana. Delta-9-tetrahydrocannabinol (THC) is the one primarily responsible for getting you high. But 65 others have been identified, and how they react with THC impacts how the weed affects you.

The Once-a-Week Core Workout

FANTASTIC NEWS FOR CRUNCH HATERS: A study published in the *Journal of Sports Medicine and Physical Fitness* found that doing a short core workout just once a week gives you the same strength benefits as doing it two or three times weekly. This 10-minute routine will work the key muscles that can improve your power and endurance in the saddle. Do 12 reps of each move, one after the next, with no rest. Repeat for another set. Yep, you just got more time to ride. You're welcome.—SELENE YEAGER

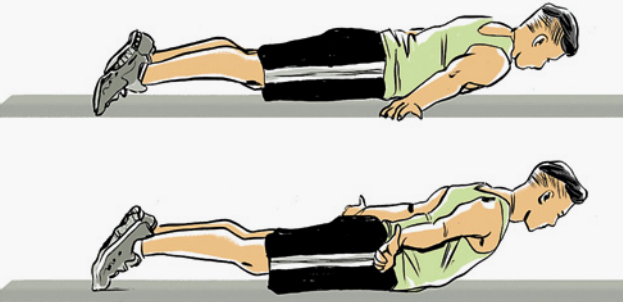
ROTATING SIDE PLANK ▶

Start in a push-up position. Balance on your right hand and extend your left arm toward the ceiling. Place your left foot on top of your right, resting on the edges of your feet. Hold for one to two seconds. Roll back to center, then balance on your left arm so that you are in side plank facing the opposite direction. Hold for one to two seconds; roll back to center. That's one rep.



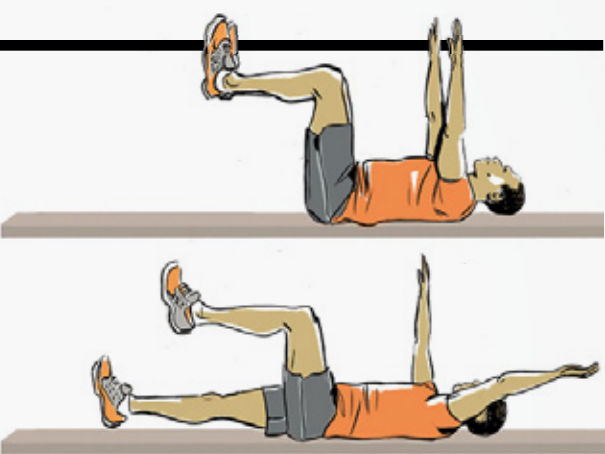
COBRA LIFT ▶

Lie facedown, legs extended, arms out and back about 45 degrees, palms down. Contract your glutes, squeeze your shoulder blades together, press your legs into the floor, and lift as much of your torso up as far as you can (this may be just your chest), rotating your arms so your thumbs point to the ceiling. Keep your neck straight. Pause. Return to start position.



DEAD BUG ▶

Lie on your back, arms extended toward the ceiling, legs perpendicular to the floor. Bend your knees 90 degrees. Brace your core so that your back is flat. Slowly lower your left arm and right leg simultaneously, your arm reaching toward your head and leg straight, until your lower back starts to lift. Return to the starting position and repeat on the opposite side. That's one rep.



SINGLE-LEG BRIDGE ▶

Lie on your back, arms out to your sides, palms down, knees bent, and feet flat on the floor close to your butt. Squeeze your glutes and raise your hips to create a straight line from your knees to your shoulders. Raise and extend your left leg, keeping your hips level. Lower back to start, with your butt on the floor. Repeat on the opposite side. That's one rep.



Instructional: Thomas Pitilli, Candy: Nherwin Ardona

ASK A PRO



Q/A

Do I really need to buy special sport gummies? Aren't they just candy?

Don't ditch the Shot Bloks for the Haribo just yet. Sport gummies have specific ingredients to give you fast energy, says Eve Pearson, RD, CSSD, and owner of Nutriworks, a sports nutrition consulting business where she works with amateur and elite athletes of all types. Pearson says to look for electrolytes and a mix of glucose and fructose—they're the main carbohydrates your body uses during exercise. And eat them primarily when you need quick hits of energy, such as in a race. On endurance rides, stick with real food that provides more, and longer-lasting, fuel. "Most people who are on an endurance ride need between 120 and 360 calories an hour," says Pearson. "If they're just using gummies, they don't eat enough."