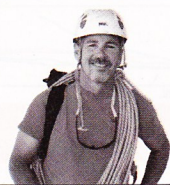


Skills



EXPERT Rick Green, ACA-certified canyoneering instructor and guide, wilderness first responder, SAR member, and owner of outfitter Excursions of Escalante (excursionsofescalante.com), boasts several first descents of X-rated (extreme) canyons and one XX (life-threatening).

Master Class: Explore Slot Canyons

Use canyoneering techniques to hike, scramble, and swim through a red-rock wonderland.



CORE KNOWLEDGE

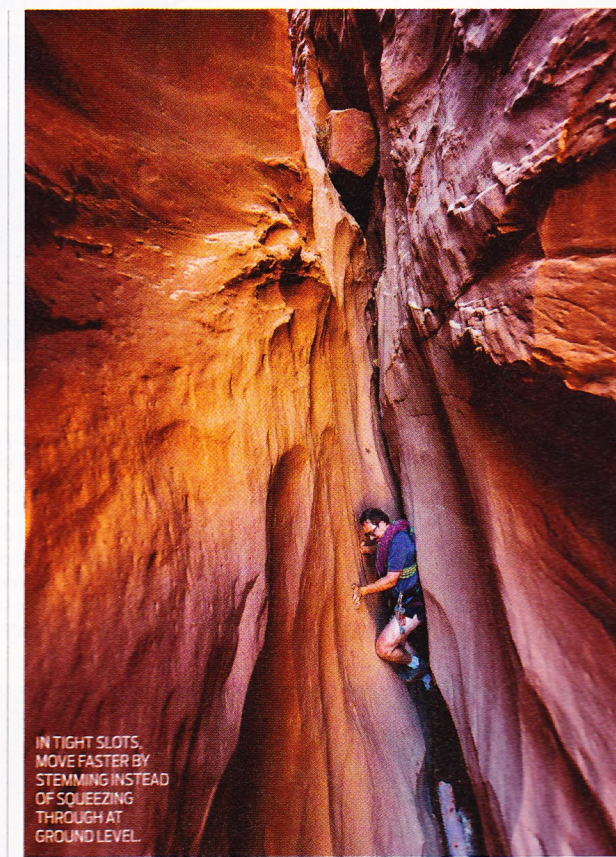
Master the Moves

Canyoneering often requires full-body contact with the route. Use these key skills to get down drops and around obstacles.

→Downclimbing
“Too much emphasis is placed on rappelling, when the ability to safely and efficiently move down through the canyon without ropes is what you’ll need the majority of

the time,” Green says. To downclimb short drops, face forward, away from the rock, and descend with flat feet or crabwalk. Push against the walls for stability rather than pulling down on rocks, which can break off. For steeper drops that require using hand- and foot-holds, face inward.

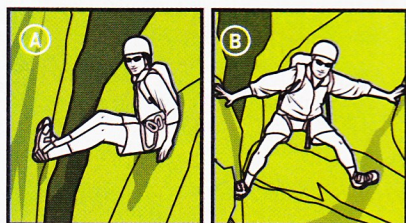
→Smearing “Jumping is not allowed” in steep, narrow canyons, Green says, as the risk of injury is too high. Use friction to ease yourself down and through tight spaces: Twist your body between rocks,



IN TIGHT SLOTS, MOVE FASTER BY STEMMING INSTEAD OF SQUEEZING THROUGH AT GROUND LEVEL.

jamming your heels and forearms into cracks to maximize resistance to gravity.

→Stemming The technique has many variations (chimneying, bridging), but the concept is easy: Use oppositional forces to climb over a hole or through a narrow crack or small pothole. To avoid a deep crack or small pothole, create a bridge with your body—back (or hands) against one wall and feet against the other (A). Push against both walls to maintain grip as you move across. Or climb over obstacles by placing a hand and foot on either side of a slot (B).



Choose a Canyon

The American Canyoneering Association’s (ACA) rating system measures a canyon’s difficulty and potential hazards.

4 B II R

1 Technical class

I is hiking; 2 adds scrambling; 3 requires rappels and ropework; and 4 has advanced, multipitch rappels.

2 Water An A means the canyon is normally dry. B is water with little current, and C means waterfalls and wading/swimming.

3 Time I (hours), II (half day), III (full day), IV (long day), V (two days), and VI (two+ days).

4 Additional risk (exposure, loose rock, etc.) G (beginner), PG (intermediate), R (risky), X (extreme), and XX (life-threatening).

Gear Up

Pack
Look for one that’s narrow, reinforced with PVC or ripstop fabric, and waterproof or equipped with drain holes. Green’s pick: Imlay Canyon Gear Kolob (\$215; imlay-canyongear.com).

Drybags
Pack gear into a few 15- to 25-liter bags if your trip includes swimming. We like Outdoor Research’s lightweight, durable options (\$15 and up; outdoorresearch.com).

Footwear
Opt for light hikers with plenty of support and grip. “I really like the 5.10 Canyoneer 2,” Green says. (\$155; fiveten.com)

Harness
Make sure it’s comfortable and fits you well. Green’s favorite: Black Diamond’s BOD (\$49; blackdiamondequipment.com).

Wetsuit
“When there’s a lot of swimming involved, I wear a wetsuit,” Green says. “They provide buoyancy and protect your skin from rocks.” The thicker the wetsuit, the warmer—and less agile—you’ll be (3mm to 5mm works for most trips).

Helmet
Necessary for rappels and a great idea anytime you’re in a slot with potentially loose rock above you. A standard climbing helmet, such as the Petzl Elios (\$65; petzl.com), works well.

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2

NEXT LEVEL

Avoid Flash Floods

→ Storm-caused floods pose one of the biggest risks in narrow canyons. They occur when rain (even miles away) overwhelms the watershed, running off surrounding rock and clay and creating a torrential flow. "The small amount of rain required and the speed and power at which it comes into the canyon have always impressed me," Green says. To avoid them:

» **1. Use NOAA.gov** to get a local forecast as well as view satellite and water vapor images (which show moisture accumulations high in the atmosphere). "I also start watching the weather as soon as I step outside," Green says.

» **2. Size up the watershed** that feeds into the canyon by talking to local guides and looking at maps. Utah's Escalante canyons have small watersheds of rock or clay: "This is terrible for absorption—you may only have a couple of minutes between

the first drops and the actual flood reaching you," Green says. A large watershed means you may be affected by storms that develop out of sight.

» **3. Know your exits.** When rain is even remotely possible, choose canyons with exits every 10 to 15 minutes along the route, Green suggests.

» **4. Heed early warnings.** If you hear thunder, or if water is picking up speed, getting cloudy or muddy, and carrying debris like branches or logs, race to high ground.

3

ADVANCED

Go Deeper

Plan carefully and use good judgment in technical slots.

» Some canyons change depth over time or with varying water conditions. Using maps and recent trip reports, estimate the depth of a canyon so you don't get stuck hanging on the end of a too-short rope. Never pull your rope until

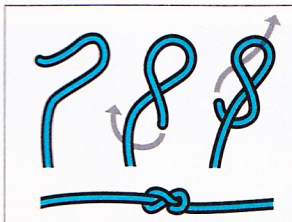
you've located the next anchor down. » Leave nothing to chance. Will your intended route allow you to hike out, or will you have to climb? Can you climb out in the same spot you rappelled in? » Designate a lead swimmer to set anchors and help the group out of potholes. Use your pack as a float or paddleboard on longer swims to conserve energy.

Learn Rope Skills

→ Master basic knots and climbing maneuvers to access intermediate-level canyons. Practice these skills in a safe environment (like a rock climbing gym) with an instructor.

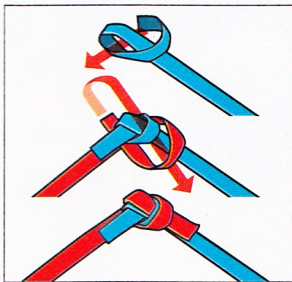
Figure 8 knot

Use it as a stopper knot at the rope's end, add a bight to clip into a harness, or connect ropes with the figure 8 bend variation.



Water knot

Use it for crossing potholes or swimming. A water knot securely connects two pieces of webbing for a pack-toss anchor (see right) or for towing gear.



Rappelling

Use this technique to descend vertical drops. Prerequisite: Know how to set and test anchors, tie into a rope, and use a belay device.

Clip yourself into the rappel line and descend in a slow, controlled fashion (no bounding): Sit back into your harness, bracing your legs against the rock and "walking" down the wall. Keep your brake hand on the rope at all times; grip to control the speed of the rope through your belay device.

Navigate Potholes

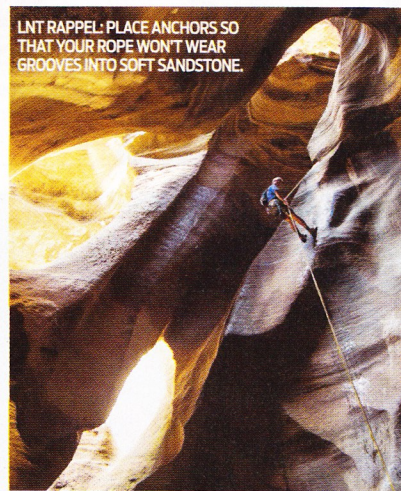
→ Potholes (water-filled pits in the rock) can trap you if their edges are too high and smooth to climb out of once you're down inside them. To get past safely:

First, consider: Do you have to swim, or can you avoid the pothole by hiking around it, smearing, or stemming?

If you must swim, go one at a time. Always keep someone on safe, dry ground with a rope to help people out.

→ Have the first swimmer test the depth and check for underwater hazards. Never jump into a pothole blind.

→ Use the pack toss: Tie a rope to two or three full backpacks (or drybags filled with sand), then throw them across the pothole and over the far edge. A skilled group member then enters the pothole and uses the weighted rope to climb out the other side. After getting out, that member acts as an anchor for the rest of the group.



Inspect Your Anchors

→ Water and erosion can damage fixed anchors, causing them to pull out or break. To make sure yours won't: » Test every anchor before using it by giving it a sharp tug in the direction you will be loading it—there should be no shifting or other movement. » Inspect bolts and screws for signs of corrosion. Tie a loop of rope or webbing to the anchor and step into it (while standing on solid ground or securely roped up) to

test its ability to hold your body weight. » Never trust rope or webbing left by others: Sun, wind, and rain can compromise durability. » Fixed anchors suspicious? Set your own backup anchors. Attach a sling (a loop of nylon webbing) to a natural hole or arch in the rock; anchor off a sturdy tree; jam a log or rock securely in a crack; or use your partner as a bodyweight anchor (always practice anchor skills with a guide or class first).