

Forbes List of Healthiest Sports

In 2003 Forbes first published their list of the 10 healthiest sports, based on a calculation using four physiological components of fitness, plus injury risk and energy expenditure.

Top 10 List of Healthiest Sports

The sport of squash was found to be the healthiest sport, according to Forbes and the calculations based on expert feedback. It is not clear if other sports were also compared and these were the top sports. There are many other sports that should be considered. It is also hard to believe that they rated the injury risk of boxing less than for running and basketball. Anyway, again an interesting exercise, and squash is a worthy winner of the healthiest sport.

rating	Sport	cardio endurance	strength	muscle endurance	flexibility	calories rating (cal)	injury risk	total
1	SQUASH	4.5	3	5	3	5 (517)	2	22.5
2	rowing	5	4	5	3	2 (302)	3	22
3	rock climbing	1	5	4	5	5 (475)	2	22
4	swimming	4.75	3	5	3	2 (345)	3	20.75
5	cross-country skiing	5	3.5	5	3	2 (345)	2	20.5
6	basketball	4	3	5	4	2 (302)	1	19
7	cycling	5	3	5	4 (or 1?)	4 (431)	1	19 *
8	running	5	3	4	1.5	4 (431)	1	18.5
9	modern pentathlon	4.5	3	5	3	1 (264)	2	18.5
10	boxing	3.5	3	5	2	2 (302)	2	17.5

note: on all published lists, cycling is listed in 7th position. However, using the data supplied by Forbes, their total rating adds up to 22 which would put them in equal second place. We believe that the flexibility score is wrong and should be 1 instead of 4, and the position in the table is correct.

Method

They chose to compare the sports based on four basic physiological components of fitness: cardiorespiratory endurance, muscular strength, muscular endurance and flexibility, which is just a sample of the 15 factors of success in sports. For each component they asked fitness experts (coaches, personal trainers, competitors and exercise physiologists) to rate them on a scale of 1 to 5, with 5 being “excellent,” 4 being “darn good,” 3 being “good,” 2 being “not bad” and 1 being “nothing special.” Injury risk was rated on a scale of 1 to 3, with 3 being “low,” 2 being “so-so” and 1 being “high.” The energy expenditure rating was based on the calories expended by a 190-pound person over 30 minutes (rates from ACSM), and rated on a scale of 1 to 5, with 5 being 450+ calories, 4 being 400-450 calories, 3 being 350-400 calories, 2 being 300-350 calories and 1 being 250-300 calories. Calorie burn; whenever possible, we selected the rate for “moderate” or similar intensity. The scores for each component was tallied to arrive at an individual rating for each sport.

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Squash

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- 1) Cardiorespiratory Endurance: **4.5**
 - 2) Muscular Strength: **3**
 - 3) Muscular Endurance: **5**
 - 4) Flexibility: **3**
 - 5) Calories/30 minutes (517): **5**
 - 6) Injury Risk: **2**
- OVERALL SCORE: 22.5**

The preferred game of Wall Street has convenience on its side, as 30 minutes on the squash court provides an impressive cardiorespiratory workout. Extended rallies and almost constant running builds muscular strength and endurance in the lower body, while lunges, twists and turns increase flexibility in the back and abdomen. "For people just getting into the game, it's almost too much to sustain, but once you get there, squash is tremendous," says Paul Assaiante, head coach of the five-time defending national intercollegiate champion men's squash team at Trinity College in Hartford, Conn. Assaiante recommends a regimen of yoga, sprinting and distance running for preparation. Be wary of groin pulls, torn Achilles tendons and your opponent's racquet.

Rowing

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- 1) Cardiorespiratory Endurance: **5**
 - 2) Muscular Strength: **4**
 - 3) Muscular Endurance: **5**
 - 4) Flexibility: **3**
 - 5) Calories/30 minutes (302): **2**
 - 6) Injury Risk: **3**
- OVERALL SCORE: 22**

One of the few non-weight-bearing sports, rowing works wonders for cardiorespiratory health, muscular strength and endurance. Sliding seats in rowing shells and on rowing machines provide a total-body workout, building lean muscle throughout. "Most good oarsmen are strong but thin," says Steve Wagner, head coach of the men's crew at Rutgers University, who notes that proper technique in the legs, backs and arms, not strapping shoulder muscles, is the most important part of rowing. While Wagner notes that most rowing injuries occur "outside of the boat," those suffered inside are typically minor, such as tendonitis or overextended back muscles. Plus, it's a great argument for investing in waterfront property.

Rock Climbing

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- 1) Cardiorespiratory Endurance: **1**
 - 2) Muscular Strength: **5**
 - 3) Muscular Endurance: **4**
 - 4) Flexibility: **5**
 - 5) Calories/30 minutes (475): **5**
 - 6) Injury Risk: **2**
- OVERALL SCORE: 22**

Provided you don't tumble to your death, climbing is excellent for everything but cardiorespiratory health. It's anaerobic, relying upon bursts of energy to get from one rock hold to the next. While that won't do much for your heart, it's great for strength, endurance and flexibility everywhere else. "Climbers develop long, lean muscles from stretching, then contracting," says Ivan Greene, who runs the climbing program at the Chelsea Sports Center in New York. Though weight training and pull-ups are good preparation, the only way to develop grip strength is to grab a rock. Don't let the slow pace fool you. Notes Greene, "At the end of a long day of climbing, I feel like I've been wrestling Mack trucks."

Swimming



- 1) Cardiorespiratory Endurance: **4.75**
 - 2) Muscular Strength: **3**
 - 3) Muscular Endurance: **5**
 - 4) Flexibility: **3**
 - 5) Calories/30 minutes (345): **2**
 - 6) Injury Risk: **3**
- OVERALL SCORE: 20.75**

The importance of technique can't be overstressed in this total-body winner, which scores in particular for cardiorespiratory health and overall muscular endurance. "It's difficult for people to maintain proper technique for 30 minutes straight," notes Michael Collins, a coach with Irvine Novaquatics, a Masters Swimming group (usms.org) in Irvine, Calif. "Without good form, many swimmers just coast through their workouts without getting any of the benefits of strength training or weight loss." Collins recommends interval training—swim two lengths, break to catch your breath, repeat—to maximize those benefits, as well as supplementing with core exercises, weight training and yoga to help maintain body alignment and awareness.

Cross-Country Skiing



- 1) Cardiorespiratory Endurance: **5**
 - 2) Muscular Strength: **3.5**
 - 3) Muscular Endurance: **5**
 - 4) Flexibility: **3**
 - 5) Calories/30 minutes (345): **2**
 - 6) Injury Risk: **2**
- OVERALL SCORE: 20.5**

Though there's not much new or sexy about cross-country skiing, for a total-body workout it's tough to beat. Shushing through snow taxes every large muscle group, while varying terrain and conditions provide great interval training. "Just the process of the body warming itself in cold weather fires up metabolism and increases calorie burn," notes Gregory Florez, a personal trainer and CEO of the online coaching outfit Fitadvisor.com who teaches cross-country skiing near Salt Lake City. Though the legs remain in a steady range of motion, there's good flexibility for the thighs, back and shoulders. Of course, you can't always count on the weather, but that's what stationary NordicTracks are for.

Basketball



- 1) Cardiorespiratory Endurance: **4**
 - 2) Muscular Strength: **3**
 - 3) Muscular Endurance: **5**
 - 4) Flexibility: **4**
 - 5) Calories/30 minutes (302): **2**
 - 6) Injury Risk: **1**
- OVERALL SCORE: 19**

Like an impenetrable zone defense, basketball has just about everything covered. Continuous movement works the cardiorespiratory system and melts calories, while quick anaerobic bursts of jumping, directional changes and fast-breaks build strength and endurance. Even flexibility can improve through hands-up defense and lunges for loose balls. The downside, alas, is the high rate of injury from stops, starts, twists and turns. And yet, "basketball doesn't have to be high risk," says E.J. "Doc" Kreis, the speed-strength and conditioning coach for the UCLA Bruins. "Most of what you see is knee and back problems from older athletes who've been away for a while and try to jump back in." Kreis recommends a holistic approach of preparatory conditioning work with an emphasis on weight training and "a healthy mind."

Cycling

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- 1) Cardiorespiratory Endurance: **5**
 - 2) Muscular Strength: **3**
 - 3) Muscular Endurance: **5**
 - 4) Flexibility: **4**
 - 5) Calories/30 minutes (431): **4**
 - 6) Injury Risk: **1**
- OVERALL SCORE: 19**

With major benefits for cardiorespiratory health, body composition and muscular endurance, this non-weight bearer is the aerobic activity of choice for many who want to avoid the injury risks of running. Funny, then, that cycling has one of the highest injury rates of any sport—accounting for more than 500,000 emergency room visits each year, according to the National Center for Injury Prevention and Control. While most of those are suffered by the 15-and-under set, the potential severity of tumbling off a bike shouldn't be underestimated. Nor should the hazards of unpadded bike seats. As with running, cycling won't do much for leg flexibility or upper-body strength, so plan on supplementing with some cross-training.

Running

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- 1) Cardiorespiratory Endurance: **5**
 - 2) Muscular Strength: **3**
 - 3) Muscular Endurance: **4**
 - 4) Flexibility: **1.5**
 - 5) Calories/30 minutes (431): **4**
 - 6) Injury Risk: **1**
- OVERALL SCORE: 18.5**

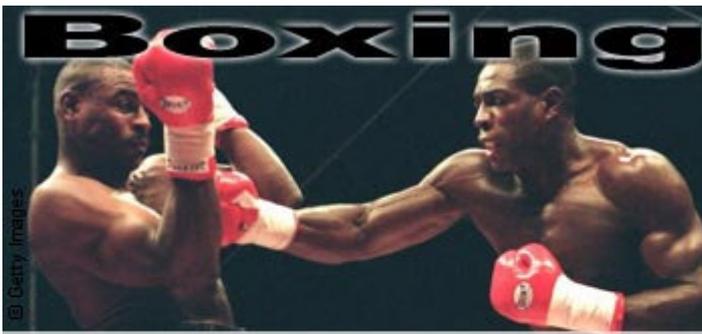
The ur-sport offers splendid benefits for cardiorespiratory endurance, the lower body and the circumference of waistline—provided you do some distance. "Long-distance runners burn plenty of calories, but if you do a few miles a day a few times a week, you won't lose much weight," notes Suzelle Snowden, a program director for former Olympian Jeff Galloway (www.jeffgalloway.com), who now operates training programs across the country. Running provides little flexibility for the legs and nothing for the upper body, so supplementing with cross-training such as swimming or weight training is key. So too is moderation, as injuries like stress fractures, shin splints and dreaded "IT Band Syndrome"—overworking the iliotibial band that stabilizes the knee—have stopped plenty in their tracks.

Modern Pentathlon



- 1) Cardiorespiratory Endurance: **4.5**
 - 2) Muscular Strength: **3**
 - 3) Muscular Endurance: **5**
 - 4) Flexibility: **3**
 - 5) Calories/30 minutes (264): **1**
 - 6) Injury Risk: **2**
- OVERALL SCORE: 18.5**

From the precision of pistol shooting to the balletic endurance of fencing to the lower-body demands of equestrian jumping, this holdover from the 1910s challenges as few sports do. Modeled on what a liaison officer might face behind enemy lines, modern pentathlon isn't as trendy as triathlon, but it has merits. Swimming (200 meters) and running (3,000 meters) offer cardiorespiratory benefits, while round-robin swordplay tests flexibility and endurance. Shooting from 10 meters demands focus—and you can't get much healthier than on the right end of a gun. Horse jumping, meanwhile, "is always the critical event," says Elaine Chervis, owner of the Cheyenne Fencing Society in Denver. "Horses are chosen by lot, and riders have 20 minutes to get intimate with an unpredictable beast." Sounds like good training for cold calling, at least.



1	Cardiorespiratory Endurance:	3.5	OVERALL SCORE: 17.5
2	Muscular Strength:	3	
3	Muscular Endurance:	5	
4	Flexibility:	2	
5	Calories/30 minutes (302):	2	
6	Injury Risk:	2	

If you don't mind the occasional fat lip, the "sweet science" is a knockout for cardiorespiratory fitness and muscular endurance. Indeed, dancing around the ring for a few rounds "is like nothing you've ever felt in your life," says Devon Cormack, a three-time World Kick Boxing champ and boxing coach at Gleason's Gym in Brooklyn, N.Y., who admits he tries to "take the wind out of students in the ring." Actual time inside the ropes is just part of the boxing regimen, which includes running, rope jumping and punching mitts with a trainer and against the bag. Though punches have more to do with alignment and efficiency than strength, your upper body will get a good workout. Watch out for ruptured biceps, strained rotator cuffs—and that roundhouse right!