

Sports Photography Buying Guide



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The five specifications to look for in a camera for sports photography*

First, is good high ISO performance, and ideally you'll get a camera that you're comfortable shooting at at least ISO 3200.

- Being able to shoot at higher ISOs will make it easier for you to use the shutter speeds you'll need for sharp action photos.
- This does not mean you need a full frame camera

Second, you want a good frame rate. Ideally something capable of 6 frames per second or faster.

- The frame rate is how many photos the camera is capable of taking per second when shooting in burst mode.
- The more photos you can take in a single second, the better your chance of capturing exactly the shot you want.

Third, you need a camera with a good buffer, ideally one capable of shooting at least 5 seconds at your full frame rate.

- In many ways this is more important than your frame rate, because it dictates how long your camera can shoot at its maximum frame rate.
- To evaluate the buffer, you need to know how many RAW files it can hold, how many JPEG files it can hold, and what the camera's frame rate is.

To figure out the RAW buffer, take the total number of RAW files the buffer can hold and divide that number by the camera's frame rate.

For example, if the camera has a RAW buffer of 10 photos, and a frame rate of 5 frames per second, the camera has a RAW buffer of 2 seconds. ($10 / 5 = 2$ seconds)

To figure out the JPEG buffer, take the total number of JPEG files the buffer can hold and divide that number by the camera's frame rate.

So if that same camera has a JPEG buffer of 20 photos, and the same frame rate of 5 frames per second, the JPEG buffer for the camera is 4 seconds. ($20 / 5 = 4$ seconds)

Fourth, you'll want to check the camera's write speed. Ideally it will have a write speed of at least 95 MB/s (megabytes per second)

- The write speed determines how quickly the camera can clear out the buffer.
- If the camera has a big buffer and a fast frame rate but can't clear that buffer very quickly, it will slow down your shooting.

Example: The Pentax K-3 has a maximum write speed of 35 MB/s (megabytes per second).

The K-3's RAW files are around 35 MB, which means it takes 1 second to transfer one RAW file from the camera's buffer to the memory card.

With a full buffer of 24 RAW files, it would take 24 seconds to entirely clear the buffer.

Finally, you want a camera with a fast and accurate auto focus system.

This is a bit difficult to quantify. Generally speaking, all DSLRs and mirrorless camera's have auto focus systems that are capable of capturing sharp action photos, especially if you're selecting a camera that meets or comes close to the other specifications listed above.

If you need to try to quantify the Auto Focus capability, check these two things:

- How many focus points does the camera have
- How many of those focus points are cross type

**Keep in mind that these are not hard/fast rules. Depending on your budget and needs you may choose a camera that does not meet all of these criteria. There's nothing wrong with that as long as you're making an informed buying decision.*

PRINT THIS PAGE FOR EASY REFERENCE

Printable Reference

What to look for in a camera for sports photography*

- Ability to shoot at ISO 3200 or higher
- Frame rate of 6 FPS or faster
- Buffer that can sustain your frame rate for 5 seconds or longer
- Write speed of 95 MB/s or faster
- Fast and accurate focus system

**For a more detailed explanation of these specifications see pages 3-4 of this guide.*

Short list of cameras to consider**

- Pentax K-50: \$399.95 ([amazon link](#))
- Sony a6000: \$548 ([amazon link](#))
- Canon 7D: \$899 ([amazon link](#))
- Nikon D7200: \$1096.95 ([amazon link](#))
- Canon 7d Mk II: \$1499 ([amazon link](#))
- Nikon D500: \$1996 ([amazon link](#))

***For a detailed look at the specifications of these cameras see pages 6-8 of this guide.*

Lens Options***

- 70-200mm f2.8: \$769-\$1999 ([amazon link](#))
- 300mm f4: approx. \$1300+ ([amazon link](#))
- 150-600mm f5-6.3: \$1000 - \$2000 ([amazon link](#))

****For a more detailed look at the lenses see page 9 of this guide.*

Other Items to Consider****

- Memory Cards (32GB or larger): \$15+ ([amazon link](#))
- Monopod: \$45 ([amazon link](#))
- Op/Tech Utility Camera Strap: \$24.43 ([amazon link](#))
- Black Rapids RS Sport Strap: \$74.95 ([amazon link](#))

*****For a detailed look at these accessories see pages 10 of this guide.*

Camera Recommendations

Camera recommendations and prices are body only as of 01/14/2016 as priced on amazon.com

Under \$500

Pentax K-50

Price: \$399.95 ([amazon link](#))

Pros:

- Great shots at ISO 6400
- 6 frames per second burst mode
- Good Auto focus system with 11 focus points (9 cross type)

Cons:

- Small buffer (6 RAW photos for 1 seconds of sustained 6fps shooting, 20 JPEG photos for 3.3 seconds sustained burst shooting)
- Slow write speed

For under \$500 there will be compromises, but with great performance at higher ISOs and a decent frame rate, the K-50 is a good choice for sports photography.

Under \$1000

Sony a6000

Price: \$548 ([amazon link](#))

Pros:

- Great ISO performance at 12,800
- 11 frames per second burst mode
- Good JPEG and RAW buffer (79 JPEG photos for 7.1 seconds of sustained 11 fps shooting. 65 RAW photos for 5.9 seconds of sustained 11 fps shooting)
- Great auto focus system with 179 phase detect auto focus points

Cons:

- Electronic viewfinder has a tiny bit of lag

The Sony a6000 has fantastic features at an amazingly low price. The 11 fps burst rate is fantastic with a very good buffer to back it up and a very well regarded focus system. The biggest drawback is the electronic viewfinder has a tiny bit of lag, so learning to anticipate the action will be critical when working with this camera.

Canon 7D

Price: \$899 ([amazon link](#))

Pros:

- Good at ISO 3200
- 8 frames per second burst mode
- Good JPEG Buffer (126 JPEG photos for 15.75 seconds of sustained 8fps shooting)
- Great auto focus system with 19 focus points, all cross type

Cons:

- High ISO performance could be better
- Average write speed of 53 MB/s
- Low RAW buffer (15 RAW photos for 1.875 seconds sustained 8fps shooting)

Though an older camera, the 7D offers a great value for the money with a very nice JPEG buffer, a great auto focus system, and decent high ISO performance. The write speed while not fantastic is decent. The low RAW buffer is the biggest drawback to this camera

Under \$1500

Nikon D7200

Price: \$1096.95 ([amazon link](#))

Pros:

- Good performance at ISO 3200
- 6 frames per second burst mode
- Good JPEG Buffer (100 JPEG photos for 16.6 seconds of sustained 6fps shooting)
- Good auto focus system with 51 focus points, (15 cross type)

Cons:

- 40 MB/s write speed could be faster
- Okay RAW buffer (27 RAW photos for 4.5 seconds sustained 6fps shooting)

The D7200 is a good balance of features for sports shooting. While the RAW buffer could be bigger and the write speed could be faster, the D7200 is a very capable camera for sports photography.

Canon 7d Mk II

Price: \$1499 ([amazon link](#))

Pros:

- 10 frames per second burst mode
- Fantastic JPEG buffer (1090 JPEG photos for nearly two minutes of sustained 10fps shooting)
- Great auto focus system with 65 focus points, all cross type

Cons:

- ISO performance is not bad at 3200, but could be better
- Okay RAW buffer (31 RAW photos for 3.1 seconds sustained 10fps shooting)

The 7D Mk II was created and caters to sports shooters with a fast 10 fps, an incredible JPEG buffer and great auto focus. The camera is held back somewhat by the average ISO performance and decent but not amazing RAW buffer.

Under \$2000

Nikon D500

Price: \$1996 ([amazon link](#))

Pros:

- Initial reviews indicating excellent high ISO performance at 12,800
- 10 frames per second burst rate
- Amazing RAW buffer (200 RAW photos for 20 seconds of sustained shooting at 10 fps)
- Great auto focus with 153 focus points (65 cross type)
- Super fast write speeds with newer XQD memory cards

Cons:

- Requires XQD memory card to take advantage of write speed and buffer capacity

The just announced Nikon D500 is the flagship D5 with a crop sensor, and is perhaps the ultimate sports photography camera.

Lenses

Lens recommendations and prices accurate as of 01/14/2016 as priced on amazon.com

In a lens for sports and action photography, you're looking for two main things:

1. A fast/large maximum aperture
2. Enough focal length to be able to frame your subject(s)

Best All Around Sports Lens

70-200mm f2.8

Price: \$769 - \$1999 ([amazon link](#))

Perhaps the best all around sports and action photography lens benefits include:

- Fast f2.8 constant aperture
- Versatile zoom range
- Fast and accurate auto focus.

Other Lenses to Consider

300mm f4

Price: approx. \$1300+ ([amazon link](#))

Sometimes 200mm isn't long enough, in that case a 300mm f4 prime lens might be just what you need. Though not as fast, the f4 aperture is still workable.

150-600mm f5-6.3

Price: \$1000 - \$2000 ([amazon link](#))

Though slower in aperture if you absolutely need monster zoom, the 150-600mm f5-6.3 lens will give it to you. This is not the best option for low light sports, but in well lit sporting events, this lens can be a dream to work with

Other Items to Consider

Recommendations and prices accurate as of 01/14/2016 as priced on amazon.com

Memory Cards

Price: \$15+ ([amazon link](#))

- Minimum of three memory cards
- 32GB or larger
- Write speed equal to or faster than the camera's write speed

Monopod

A monopod can help support the weight of your camera and lens, making shooting a sporting event less fatiguing, can help steady panning shots for better overall photos, and doesn't take up space like a tripod

Recommended option: Dolica 61" Pro Monopod (WT-1010)

Price: \$45 ([amazon link](#))

- Supports up to 20 lbs

Camera Strap

A good camera strap can help you manage your camera and make using it less stressful and fatiguing. Some sort of over the shoulder strap is recommended, though whatever gives you the most comfort is the best option.

Option #1: Op/Tech Utility Strop

Price: \$24.43 ([amazon link](#))

Option #2: Black Rapid RS Sport Strap

Price: \$74.95 ([amazon link](#))

Conclusion

Thank you very much for taking the time to read this guide. Selecting the right gear can be a hugely overwhelming task, and I'm happy to have the opportunity to help you choose a kit so that you can, but purchasing the right gear is only the first step. You also need to know how to use that gear, and I'm here to help you with that to! If you'd like to save yourself a TON of time and learn how to use your camera to capture the amazing sports and action photos, [click here to check out my Guide to Shooting in Manual Mode video Course](#), and then...

**GET OUT THERE
AND TAKE
SOME DAMN
PHOTOS!**