

# Action Photography

# What is Action Photography?

- Action photography is about capturing subjects in motion
  - Sports
  - Wildlife
  - Kids



# Two Types of Motion

- Suspended Motion
  - Freezes the action to reveal details not otherwise visible
- Motion Blur
  - Emphasize the feeling of motion
- The photographic difference is due to shutter speed



# Shutter Priority

- The easiest camera mode that gives you control over the shutter speed is Shutter Priority
  - Typically named S, but Tv on Canon cameras
  - You choose shutter speed and ISO, camera chooses aperture for proper exposure
    - ISO: sensitivity to light
    - Aperture: How much light the lens lets in
      - Small number (e.g., f/2.8) produces small depth of field
      - Large number (e.g., f/16) produces large depth of field
  - You can also let the camera choose ISO by using Auto ISO
  - Sometimes, the camera's exposure needs to be fine-tuned using exposure compensation (EC)
    - Underexposed: increase exposure with positive EC
    - Overexposed: decrease exposure with negative EC



# Effects of Shutter Speed

- Fast shutter speed
  - Freezes action
  - Reduces light getting to sensor, so wider aperture (small number) and higher ISO needed
- Slow shutter speed
  - Motion in image is blurred
  - Increases light getting to sensor, so narrower aperture (large number) and lower ISO needed



# What If You Don't Like the Chosen Aperture?

- Since you choose the ISO, you can affect the aperture chosen
  - If you want more depth of field (the f-number is too small), increase the ISO
  - If you want less depth of field (the f-number is too large), decrease the ISO

For example, you choose  $S = 1/1000$  and  $ISO = 100$ , camera chooses  $f/5.6$ . If you want more depth of field, set  $ISO = 800$  and camera will choose  $f/16$

# What Shutter Speed Do I Need?

Shooting Scenario	Minimum shutter speed to freeze motion
Handheld shooting of fixed subject	1/60s
More forgiving handheld shooting of mostly fixed subject / Landscapes	1/125s
Street photography / Models that move a lot	1/250s
Slow sports	1/500s
Faster sports/people running	1/1000s
Fast cars/Birds flying	1/2000s
Very fast sports/fast-moving animals	1/4000s

# How About for Blurring Motion?

Shooting Scenario	Shutter Speed	Example
Panning Cars	1/15s—1/60s	
Waterfalls	1/8s—2s	
Blurring Water	1/2s—5s	
Fireworks	2s—8s	
Stars	10s—25s	
Star Trails	15 minutes and up	

## These Are Just Guidelines

- With digital cameras, you can review your shots after you take them
  - Check that pictures intended to be sharp are sharp
    - If not, use a faster shutter speed and re-shoot
  - Check that the amount of motion blur is what you want
    - If not, adjust to faster or slower shutter speed as needed
  - Also check exposure and focus!

# What About Focus?

- If you can predict where your subject will be, pre-focus there and don't change the focus when you shoot
- For fast moving subjects, will likely need to use auto focus
  - Switch from single-shot to continuous AF
  - If your camera has AF tracking, use that feature to track your subject around the frame



# What About Timing the Action?

- Know your subject
  - Predict what will happen when
- Shoot a burst of shots encompassing the action so you can pick the one shot that best shows it
  - Cameras have a shutter lag, so you'll need start shooting just before the action you want to capture (this is why you need to know your subject)
  - Set your camera to Continuous Shooting mode with a high frame rate



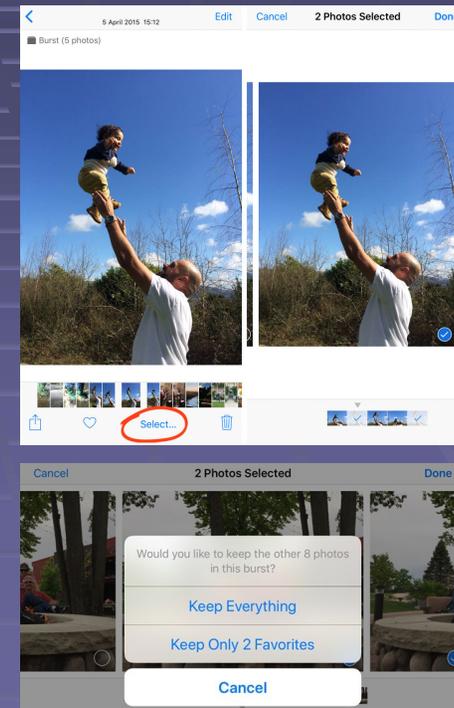
# Smart Phones

- You don't need a big camera to capture action
- Many smart phones have a “burst mode”
  - On iPhone, slide shutter button left and hold
  - The shutter button will show a running count of the pictures taken



# Bursts

- The burst is stored in your main photo library and also in a special album called Bursts
- Tap the burst you are interested in and use the Select... button to open the burst. Swipe left and right to review them.
- Select the ones you want to keep and tap Done. A screen appears allowing you to save all or just the images selected.



## Motion Blur on a Phone

- The standard phone app does not allow selecting the shutter speed
- Some phones have a Pro mode that will allow this. For those that don't, you will need a separate app
  - Lightroom
  - Camera+

# Workshop — Wednesday February 8

- Shooting in Shutter Priority
  - Freezing action
  - Motion blur