

## Clinical Photography Gear Recommendations

*N. Mark, JKL Software/Lightwriters, February 2016*

Camera recommendations can get pretty overwhelming with all the choices today! However, these are my recommendations for the best gear. While there are some cheaper choices, they are designed for the hobbyist in mind and does not always offer the best longevity or features for working with macro lenses.

With this setup, you'll have a small (and reasonably affordable) high-resolution camera with a real macro lens and true ring light together. There are higher resolution cameras (such as the 5DMarkIII), but unless you are printing the shots at 20x30" sizes, the higher resolution will only result in having to upgrade computers to store those big files. There are more expensive lenses, such as the 100/2.8L IS USM, but they aren't necessary for this purpose.

I would recommend an entry-level "full-frame" camera, which offers cleaner images and a larger viewfinder which makes the camera easier to use. However, "cropped" bodies aren't exactly a slouch, and do offer the user a bit of savings overall.

I recommend the true ring lights instead of the "twin-light" setup for most users (Canon has the MT-24EX as their twinlight). Twin-lights are harder to use as the heads have to be aimed and focused accurately to get a good shot. If the user forgets to tilt in/out, the light will miss the target. If they don't get them evenly spread, there will be random shadows appearing.

With a true ring, the only adjustment the user has to make is turning the ring around the lens to determine if they want a left-right light pattern (general shots or full mouth intraoral) or up-down light pattern (occlusal plane shots). The Canon MR-14EX II also has a "focusing light" which allows the user to add extra light in dark places to help get focus nailed down. This works by double-tapping the shutter button and engages a set of tiny LEDs on the ring head. When

using it as a "normal" flash, this light is good out to 20 feet or so from the subject, so it will work nicely for full length postural shots.

I'm not a "brand stickler", but the reason I don't recommend Nikon or Sony is that they don't have a usable Ring light! Nikon's R1 or R1C1 is a twin-light design, and is lower powered than the ring systems. Each head has it's own little batteries and if you have a separate Commander (some Nikon cameras use the onboard, popup flash as the Commander), there's yet another battery. Those little batteries limit the useable range and power of the flashes. For "experienced" macro people, such as insect or flower shooters, who have all the time in the world to tweak and configure the flash heads, that system is perfect. But for dental staff who need to get the shot quickly, accurately, and the first time, I'd recommend a ring system. Plus, the pack-cabled-to-head systems offer more power and light output.

Sony has a ring design, the HVLR1, but it's not a flash - it's an LED ring. It's not bright and limited to about 1-3 feet max for usable light. Great for a ladybug or looking at pistils in flowers, not so good for a full mouth shot.

There's all sorts of third-party, knockoff brand ring lights, but those should be avoided. They are either 1) LED and low powered, 2) unreliable and makes the staff fumble getting them to work right, or 3) generic and doesn't work with the automated features of the camera so there's more fumbling from the user.

Also, avoid the turnkey kits that are offered by many camera shops – they are in the best interest of making a great profit in a niche market to the shops, not to get you the best quality imaging!

The following is a list (as of the date marked) that would be a good starting point. Also consider getting a good roll of **Savage seamless background paper (arctic white, soft gray, or studio gray, 53" x 36' rolls)** if you don't have a suitable background.

(As of February 10, 2016)

## CANON

Full Frame, \$2,700

- **Camera:** Canon 6D - \$1,399
  - [http://www.bhphotovideo.com/c/product/892349-REG/Canon\\_8035b002\\_EOS\\_6D\\_Digital\\_Camera.html](http://www.bhphotovideo.com/c/product/892349-REG/Canon_8035b002_EOS_6D_Digital_Camera.html)
- **Lens:** Canon 100/2.8 USM -\$599
  - [http://www.bhphotovideo.com/c/product/194451-USA/Canon\\_4657A006\\_100mm\\_f\\_2\\_8\\_USM\\_Macro.html](http://www.bhphotovideo.com/c/product/194451-USA/Canon_4657A006_100mm_f_2_8_USM_Macro.html)
- **Flash:** Canon MR-14EX II - \$549
  - [http://www.bhphotovideo.com/c/product/1030212-REG/canon\\_9389b002\\_mr\\_14ex\\_ii\\_macro\\_ring.html](http://www.bhphotovideo.com/c/product/1030212-REG/canon_9389b002_mr_14ex_ii_macro_ring.html)
- **Batteries:** Canon LP-E6N - \$65
  - [http://www.bhphotovideo.com/c/product/1081825-REG/canon\\_9486b002\\_lp\\_e6n\\_battery\\_f\\_7d\\_mark.html](http://www.bhphotovideo.com/c/product/1081825-REG/canon_9486b002_lp_e6n_battery_f_7d_mark.html)

Cropped, \$2,100

- **Camera:** Canon 70D - \$999
  - [http://www.bhphotovideo.com/c/product/986389-REG/canon\\_8469b002\\_canon\\_eos\\_70d\\_dslr.html](http://www.bhphotovideo.com/c/product/986389-REG/canon_8469b002_canon_eos_70d_dslr.html)
- **Lens:** Canon 100/2.8 USM -\$469
  - [http://www.bhphotovideo.com/c/product/371176-USA/Canon\\_0284B002\\_EF\\_S\\_60mm\\_f\\_2\\_8\\_Macro.html](http://www.bhphotovideo.com/c/product/371176-USA/Canon_0284B002_EF_S_60mm_f_2_8_Macro.html)
- **Flash:** Canon MR-14EX II - \$549
  - [http://www.bhphotovideo.com/c/product/1030212-REG/canon\\_9389b002\\_mr\\_14ex\\_ii\\_macro\\_ring.html](http://www.bhphotovideo.com/c/product/1030212-REG/canon_9389b002_mr_14ex_ii_macro_ring.html)
- **Batteries:** Canon LP-E6N - \$65
  - [http://www.bhphotovideo.com/c/product/1081825-REG/canon\\_9486b002\\_lp\\_e6n\\_battery\\_f\\_7d\\_mark.html](http://www.bhphotovideo.com/c/product/1081825-REG/canon_9486b002_lp_e6n_battery_f_7d_mark.html)

## General, \$115

- **Flash batteries:** 12x AA Panasonic Eneloop PRO - \$18/set of 4 - get 3 sets, don't get the knockoffs!
  - [http://www.bhphotovideo.com/c/product/1148532-REG/panasonic\\_bk\\_3hccce\\_4be\\_eneloop\\_xx\\_aa\\_4.html](http://www.bhphotovideo.com/c/product/1148532-REG/panasonic_bk_3hccce_4be_eneloop_xx_aa_4.html)
- **AA charger:** Maha/Powerex MH-C801D - \$61, don't get the knockoffs!
  - [http://www.bhphotovideo.com/c/product/883786-REG/Powerex\\_MH\\_C801D\\_8\\_Cell\\_1\\_Hour\\_Charger.html](http://www.bhphotovideo.com/c/product/883786-REG/Powerex_MH_C801D_8_Cell_1_Hour_Charger.html)

## NIKON

Full Frame, \$2,577

- **Camera:** Nikon D610 - \$1,496
  - [http://www.bhphotovideo.com/c/product/1008264-REG/nikon\\_d\\_610\\_digital\\_slr\\_body.html](http://www.bhphotovideo.com/c/product/1008264-REG/nikon_d_610_digital_slr_body.html)
- **Lens:** Nikkor 60/2.8G ED -\$597
  - [http://www.bhphotovideo.com/c/product/545660-USA/Nikon\\_2177\\_AF\\_S\\_Micro\\_Nikkor\\_60mm\\_f\\_2\\_8G.html](http://www.bhphotovideo.com/c/product/545660-USA/Nikon_2177_AF_S_Micro_Nikkor_60mm_f_2_8G.html)
- **Flash:** Nissin MF18 Macro- \$439
  - [http://www.bhphotovideo.com/c/product/832690-REG/Nissin\\_NDMF18\\_N\\_MF18\\_Macro\\_Flash.html](http://www.bhphotovideo.com/c/product/832690-REG/Nissin_NDMF18_N_MF18_Macro_Flash.html)
- **Batteries:** Nikon EN-EL15- \$45
  - [http://www.bhphotovideo.com/c/product/735929-REG/Nikon\\_27011\\_EN\\_EL15\\_Lithium\\_Ion\\_Battery\\_1000mAh.html](http://www.bhphotovideo.com/c/product/735929-REG/Nikon_27011_EN_EL15_Lithium_Ion_Battery_1000mAh.html)

Cropped, \$2,177

- **Camera:** Nikon D7200- \$1096
  - [http://www.bhphotovideo.com/c/product/1127271-REG/nikon\\_1554\\_d7200\\_dslr\\_camera\\_body.html](http://www.bhphotovideo.com/c/product/1127271-REG/nikon_1554_d7200_dslr_camera_body.html)
- **Lens:** Nikkor 60/2.8G ED -\$597
  - [http://www.bhphotovideo.com/c/product/545660-USA/Nikon\\_2177\\_AF\\_S\\_Micro\\_Nikkor\\_60mm\\_f\\_2\\_8G.html](http://www.bhphotovideo.com/c/product/545660-USA/Nikon_2177_AF_S_Micro_Nikkor_60mm_f_2_8G.html)
- **Flash:** Nissin MF18 Macro- \$439
  - [http://www.bhphotovideo.com/c/product/832690-REG/Nissin\\_NDMF18\\_N\\_MF18\\_Macro\\_Flash.html](http://www.bhphotovideo.com/c/product/832690-REG/Nissin_NDMF18_N_MF18_Macro_Flash.html)
- **Batteries:** Nikon EN-EL15- \$45
  - [http://www.bhphotovideo.com/c/product/735929-REG/Nikon\\_27011\\_EN\\_EL15\\_Lithium\\_Ion\\_Battery\\_1000mAh.html](http://www.bhphotovideo.com/c/product/735929-REG/Nikon_27011_EN_EL15_Lithium_Ion_Battery_1000mAh.html)