



**Medical Photography task force
Teleconference
24 June 2016 • 10:00 (EDT)**

The meeting was called to order at 10:00 am (EDT) by Phil Green, ICC Technical Secretary.

After a sound check, Dr Green handed over the meeting to Dr Penczek, who introduced the latest version of the medical photography workflow document [see attached].

Dr Penczek reported that the document was making good progress, and he was looking forward to comments on it. The work was on track to be completed by the November 5 meeting of the MIWG in San Diego. The following principal changes had been made since the previous version:

- The document title had been changed to 'Improving Color Image Quality in Medicine Photography' as this better reflected the content.
- References had been added
- Factors contributing to colour error, contributed by Elizabeth Krupinski, had been added.
- Example images provided by Yves Vander Haeghen had been added.

The need to obtain approval for use of the images was noted, and it was agreed not to make the document public in the meantime.

Lighting in general should be diffuse for best color accuracy. It was noted that directional lighting can provide texture information. But Dr Penczek mentioned that imaging texture information was not the scope of this document.

Dr Vander Haeghen had also contributed on colour correction and Figure 7 on workflow.

It was agreed that the white point of the image encoding should be D65, using a Colorimetric rendering intent. It was noted that camera RAW formats are vendor-specific and not interchangeable, unless encoded as DNG. Converting from RAW to 16-bit TIFF using ddraw avoids the restrictions of using rendered JPEG files. This makes calibration more straightforward, but there is a need for an interface tool for the command-line ddraw executable.

Detailed content had been moved into appendices on 'Flowchart of Camera Image Capture and Color Correction Workflow' and 'Recommended Color Image Capture and Color-correction Procedure'. The main document has an intended readership of practical clinicians.

The meeting felt that that the summary/conclusion section needed expanding, especially on RAW format and white point, and that key points should be listed. Colour management should be introduced in the document, but the full detail added as an appendix and terminology should be clarified.

The meeting discussed the images in the document, including the before and after images provided by Dr Vander Haeghen. He suggested he could simulate images for different colour balance. Alternatives might be needed for images where no permissions were available.

The meeting discussed publication of the final document. Dr Penczek reported that he was aiming for wider publication than just the ICC web site. Dr Bilissi had suggested the Journal of Visual Communication in Medicine in an email. Dr Krupinski suggested the Journal of Digital Imaging was also good, as well as IEEE journals on telemedicine and e-health, and the SPIE Journal of Medical Imaging. Dan Rhoads suggested the Journal of Dermatology.

Dr Penczek thanked the attendees for the participation and closed the meeting at 11:00.

Action items from the meeting:

- MIWG-2016-17** Add a summary of key points to the guidelines (Penczek)
- MIWG-2016-18** Obtain permissions to use clinical images in guidelines document (Vander Haeghen)
- MIWG-2016-19** Write shorter section on colour management for the guidelines and an appendix containing the full details (Green)