

## Steven D. Emmet, M.D.

### New frontiers in medicine

Pioneering physician uses Adobe® Photoshop® CS3 Extended to create rich digital images that enhance patient care and improve peer-to-peer collaboration



Clear, accurate communication is vital to the success of any doctor-patient relationship. Most patients want to know all details about their conditions, treatment options, and of course, the possible outcomes. “When patients fully understand their diagnoses and options, there is often better compliance with treatments and improved results,” says Steven D. Emmet, M.D., a dermatologist in private practice in San Diego, California.

Dr. Emmet uses Adobe Photoshop to enhance patient images and explain conditions visually.



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**Steven D. Emmet, M.D., Dermatology**

In his practice, Dr. Emmet works with patients of all ages with a range of medical conditions, from cancerous lesions to less threatening problems such as acne or psoriasis. “It’s one thing to talk to patients about their conditions, and quite another to add visual elements to discussions,” explains Dr. Emmet. “I find that visuals give patients a level of clarity and even comfort that can otherwise be difficult to achieve with words.”

To create images to share with patients, consulting physicians, and medical journals, Dr. Emmet uses a digital camera to take

pictures—before and after—of areas on a patient’s skin. Then, using Adobe Photoshop CS3 Extended software, he retouches the images to highlight areas of interest and to provide viewers with greater insight into problems.

#### **A pioneer in his field**

Dr. Emmet’s use of Adobe Photoshop CS3 Extended to capture and communicate images of patient conditions has gained the attention of dermatologists worldwide, earning him a reputation as a leader in integrating digital imaging into dermatology practices. He frequently lectures in Asia, Europe, and the Middle East, and his work is published in medical journals.

Before treating patients, Dr. Emmet captures digital images of the affected areas, with the goal of helping the patient better understand the condition. Most images are enhanced using Adobe Photoshop CS3 Extended in much the same way they would be processed in a darkroom. The powerful Adobe software is used to adjust hue and saturation, edit

With Adobe Photoshop, Dr. Emmet can highlight areas and point out specifics, giving patients insights that can be difficult to achieve with words alone.



levels and gradients to correct color, and then sharpen key portions of the image to bring salient elements into sharper focus.

“Adobe Photoshop CS3 Extended is an amazing tool,” says Dr. Emmet. “Within minutes, I can bring new richness and depth to medical images. Even the smallest details can be made clearer and more accessible with the software.” Upon completing treatments with patients, Dr. Emmet captures a series of digital images to show the results. The final images are also retouched using Photoshop CS3 Extended.

### Improving physician collaboration

An important advantage of capturing and communicating patient conditions in high-quality digital images is that obtaining second opinions from physicians is easier and more reliable than ever. Rather than trying to describe irregular lesions or unusual skin reactions by phone, Dr. Emmet can e-mail images to consulting doctors. The images arrive in seconds—as opposed to taking a day or longer when sent by mail—and can be reviewed in detail on screen.

The streamlined sharing of retouched digital files enables Dr. Emmet to work with peers across town or around the world. “I can quickly collaborate with expert dermatologists worldwide, whether they are in downtown San Diego or in Sapporo, Japan. All relevant detail can be highlighted using Adobe Photoshop and viewed easily on screen,” he says.

An added benefit of having the digital images on hand is the ability to deliver approved, press-ready images to medical publications. This is particularly useful when other care providers and readers want to see more detail on rare or difficult-to-diagnose conditions. Dr. Emmet simply converts images retouched in Photoshop CS3 Extended to Adobe Portable Document Format (PDF) for easy, predictable viewing and publishing.

### A versatile tool

Dr. Emmet’s first encounter with Adobe software was his use of Adobe Photoshop Elements to retouch pictures that he took as an avid photographer. “I immediately saw the benefits of using Photoshop not just for my personal photos but also in my medical practice,” he says.

### Company

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### Challenges

- Improve patient understanding of medical conditions
- Enhance collaboration among physicians
- Accelerate sharing of new findings

### Solution

- Use Adobe Photoshop CS3 Extended to retouch digital images of dermatological problems to clearly communicate conditions to patients and collaborating physicians
- Use Adobe Photoshop CS3 Extended to enhance digital images for publishing in medical journals

### Benefits

- Enhance doctor-to-patient communication
- Improve patient compliance with treatments
- Expand network of physicians available for second opinions due to easy sharing of quality digital images
- Improve collaboration among physicians
- Deliver professional-quality images for publication in medical journals

### Toolkit

- Adobe Photoshop CS3 Extended
- Custom PC running Microsoft® Windows® XP

Dr. Emmet processes photos by adjusting their hue and saturation, correcting color, and then sharpening key portions of the image to bring them into focus.



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After pushing the capabilities within Adobe Photoshop Elements, Dr. Emmet adopted the full version of Adobe Photoshop software—a decision that enhanced the quality and value of the digital images he captures. He is now moving to Photoshop CS3 Extended, a version of Photoshop with features specifically designed for medical professionals. Within Photoshop CS3 Extended, he relies on several capabilities such as Levels, Hue and Saturation, Curves, and Gradients to bring greater clarity to images. Also, by using Layers within Photoshop, he can organize his work and edit images in non-destructive ways.

“It’s great to see Adobe focusing on providing features in Photoshop CS3 Extended that are useful for scientists and physicians like me,” says Dr. Emmet. “When I’m working on photos of skin diseases, cleaning up the color, enhancing certain areas and de-emphasizing others, it’s all easier in Photoshop CS3 Extended due to interface and performance enhancements.”

#### **Transforming communication and collaboration**

By leveraging the power of Adobe Photoshop CS3 Extended software, Dr. Emmet has transformed how he communicates with patients and other physicians, and has improved the quality of images he provides to medical journals. “Adobe Photoshop CS3 Extended is an excellent tool for doctors that is relatively easy to use and offers real returns to practices,” he says. “By using Adobe Photoshop CS3 Extended to create quality digital images, physicians can share more information faster and enhance the quality of care patients receive.”



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