What is claimed is:

1. A method implemented in a system including an image capture device for using color images to assess a wound of a patient, comprising:

during an initial registration stage:

(a) displaying first messages which indicate parts of the patient's body as one or more baseline regions to be imaged, and capturing one or more first images containing the one or more baseline regions which are parts of the patient's body;

(b) storing, in a database, the one or more first images and/or color data of the one or more first images;

during a wound assessment stage subsequent to the initial registration stage:

(c) retrieving, from the database, the one or more first images and/or color data of the one or more first images;

(d) displaying second messages which indicate the same one or more baseline regions of the patient's body to be imaged, and capturing one or more second images containing the same one or more baseline regions of the same patient's body;

(e) capturing a third image containing the wound and its surrounding area on the same patient's body;

(f) calculate color compensation data by comparing color data of the second images and corresponding color data of the first images, and compensating color values of the third image based on the calculated color compensation data, the first, second and third images having been captured from the same patient's body; and

(g) assessing the wound using the compensated third image containing the wound and its surrounding area.

2. The method of claim 1, wherein step (f) comprises:

either calculating first average color values of the one or more baseline regions using the retrieved one or more first images, or retrieving first average color values of the one or more baseline regions from the database;

calculating second average color values of the one or more baseline regions from the one or more second images;

calculating average white balance values using the first average color values and the second average color values; and

compensating color values of the third image using the average white balance values.

3. The method of claim 1or 2,

wherein in step (a), each of the captured one or more first images include a color checker imaged together with the baseline region, the color checker being a physical object having a plurality of color patches with known color values;

the method further comprising:

during the initial registration stage, after step (a):

calculating a color balance which adjusts color values of the patches of the color checker in the one or more first images to the known color values of the corresponding patches of the color checker;

compensating color values of the one or more first images using the calculated color balance; and storing the color balance in the database; and

during the wound assessment stage, before step (f):

retrieving the color balance from the database;

compensating color values of the one or more second images using the retrieved color balance; and

compensating color values of the third image using the retrieved color balance.

4. The method of any one of claims 1 to 3,

wherein step (a) includes, for each first image, designating a region of the first image as the baseline region, either by receiving a user input that designates the region, or by automatically selecting the region using a 3D image generated from the first image, the selected region being a flat region of the first image as determined using the 3D image;

wherein step (b) includes storing, in the database, locations of the designated baseline regions of the first images; and

wherein step (d) includes, for each second image, designating a region of the second image as the baseline region, either by receiving a user input that designates the region, or by automatically selecting the region using a 3D image generated from the second image, the selected region being a flat region of the second image as determined using the 3D image.

5. The method of any one of claims 1 to 4, further comprising, during the wound assessment stage, after step (d) and before step (e):

calculating a color difference value between each baseline region in the one or more first image and the corresponding baseline region in the one or more second images; and

based on the calculated color difference values, determining whether to accept the one or more second images or to display an instruction to repeat step (d) to re-capture the one or more second images.

6. The method of any one of claims 1 to 5, further comprising: during the initial registration stage:

capturing a fourth image containing the wound and its surrounding area; designating one or more regions of the surrounding area of the fourth image as secondary reference regions; and

storing, in the database, the fourth image and locations of the designated secondary reference regions of the fourth image.

7. The method of claim 6, further comprising:

during the wound assessment stage, before step (f): retrieving, from the database, the fourth image and the locations of the designated secondary reference regions of the fourth image;

based on a comparison of the third image and the fourth image and based on the locations of the designated secondary reference regions of the fourth image, determining one or more regions of the surrounding area of the third image as secondary reference regions corresponding to the secondary reference regions of the fourth image;

calculating a color difference value between each secondary reference region of the third image and the corresponding secondary reference region of the fourth image; and based on the calculated color difference values, determining whether to accept the third image or to display an instruction to repeat step (e) to re-capture the third image.

8. The method of claim 6 or 7,

wherein the step of capturing a fourth image includes generating a 3D image containing the wound and its surrounding areas, and

wherein the designating step includes: based on the 3D image, automatically selecting one or more regions in the fourth image as the secondary reference regions, the selected regions being on a same plane as the wound as determined using the 3D image.

9. The method of any one of claims 6 to 8, wherein step (e) includes: overlaying on a viewfinder of the image capture device an indication of a boundary of the wound in the fourth image and an indication of the locations of the secondary reference regions of the fourth image.

10. A computer program product comprising a computer usable non-transitory medium having a computer readable program code embedded therein for controlling an image capture device, the computer readable program code configured to cause the image capture device to execute a process for using color images to assess a wound of a patient, the process comprising: during an initial registration stage:

(a) displaying first messages which indicate parts of the patient's body as one or more baseline regions to be imaged, and capturing one or more first images containing the one or more baseline regions which are parts of the patient's body;

(b) storing, in a database, the one or more first images and/or color data of the one or more first images; during a wound assessment stage subsequent to the initial registration stage:

(c) retrieving, from the database, the one or more first images and/or color data of the one or more first images;

(d) displaying second messages which indicate the same one or more baseline regions of the patient's body to be imaged, and capturing one or more second images containing the same one or more baseline regions of the same patient's body;

(e) capturing a third image containing the wound and its surrounding area on the same patient's body;

(f) calculate color compensation data by comparing color data of the second images and corresponding color data of the first images, and compensating color values of the third image based on the calculated color compensation data, the first, second and third images having been captured from the same patient's body; and

(g) assessing the wound using the compensated third image containing the wound and its surrounding area.

11. The computer program product of claim 10, wherein step (f) comprises:

either calculating first average color values of the one or more baseline regions using the retrieved one or more first images, or retrieving first average color values of the one or more baseline regions from the database;

calculating second average color values of the one or more baseline regions from the one or more second images;

calculating average white balance values using the first average color values and the second average color values; and

compensating color values of the third image using the average white balance values.

12. The computer program product of claim 10 or 11, wherein in step (a), each of the captured one or more first images include a color checker imaged together with the baseline region, the color checker being a physical object having a plurality of color patches with known color values;

the process further comprising:

during the initial registration stage, after step (a):

calculating a color balance which adjusts color values of the patches of the color checker in the one or more first images to the known color values of the corresponding patches of the color checker;

compensating color values of the one or more first images using the calculated color balance; and storing the color balance in the database; and

during the wound assessment stage, before step (f):

retrieving the color balance from the database;

compensating color values of the one or more second images using the retrieved color balance; and

compensating color values of the third image using the retrieved color balance.

13. The computer program product of any one of claims 10 to 12, wherein step (a) includes, for each first image, designating a region of the first image as the baseline region, either by receiving a user input that designates the region, or by automatically selecting the region using a 3D image generated from the first image, the selected region being a flat region of the first image as determined using the 3D image;

wherein step (b) includes storing, in the database, locations of the designated baseline regions of the first images; and

wherein step (d) includes, for each second image, designating a region of the second image as the baseline region, either by receiving a user input that designates the region, or by automatically selecting the region using a 3D image generated from the second image, the selected region being a flat region of the second image as determined using the 3D image.

14. The computer program product of any one of claims 10 to 13, wherein the process further comprises, during the wound assessment stage, after step (d) and before step (e):

calculating a color difference value between each baseline region in the one or more first image and the corresponding baseline region in the one or more second images; and

based on the calculated color difference values, determining whether to accept the one or more second images or to display an instruction to repeat step (d) to re-capture the one or more second images.

15. The computer program product of any one of claims 10 to 14, wherein the process further comprises:

during the initial registration stage:

capturing a fourth image containing the wound and its surrounding area; designating one or more regions of the surrounding area of the fourth image as secondary reference regions; and

storing, in the database, the fourth image and locations of the designated secondary reference regions of the fourth image.

16. The computer program product of claim 15, wherein the process further comprised:

during the wound assessment stage, before step (f): retrieving, from the database, the fourth image and the locations of the designated secondary reference regions of the fourth image;

based on a comparison of the third image and the fourth image and based on the locations of the designated secondary reference regions of the fourth image, determining one or more regions of the surrounding area of the third image as secondary reference regions corresponding to the secondary reference regions of the fourth image; calculating a color difference value between each secondary reference region of the third image and the corresponding secondary reference region of the fourth image; and

based on the calculated color difference values, determining whether to accept the third image or to display an instruction to repeat step (e) to re-capture the third image.

17. The computer program product of claim 15 or 16, wherein the step of capturing a fourth image includes generating a 3D image containing the wound and its surrounding areas, and

wherein the designating step includes: based on the 3D image, automatically selecting one or more regions in the fourth image as the secondary reference regions, the selected regions being on a same plane as the wound as determined using the 3D image.

18. The computer program product of any one of claims 15 to 17, wherein step (e) includes: overlaying on a viewfinder of the image capture device an indication of a boundary of the wound in the fourth image and an indication of the locations of the secondary reference regions of the fourth image.