

Application Notes

VISIA® Complexion Analysis System

Improving the quality and reproducibility of captured images

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Introduction

The scores generated by the VISIA Complexion Analysis algorithms can be influenced by a number of factors including the condition of the skin (cleaned vs. make-up, time of day, etc.), head registration within the booth, facial expression (particularly for wrinkles), stray and fine hairs, glare areas resulting from oily skin, etc.

All of the data for VISIA's percentile scores were gathered from female subjects whose skin was cleaned immediately before the imaging session. If make-up is not removed prior to a client's VISIA session, the results may be skewed and thus not meaningful for comparison purposes.

Some variability in scoring is inherent with the analysis algorithms themselves, currently in the range of +/-8%. Future software upgrades are expected to improve absolute score accuracy and decrease variability. In the meantime, the following tips and suggestions are offered for optimal results.

Recommendations for VISIA imaging

Booth placement

Position the booth away from any strong or variable background lighting source such as a window, door, or overhead lighting. Ideally the opening of the booth should be pointed toward a dark or neutral colored wall with no pattern.

For maximum reproducibility the booth location should be permanent and the unit not moved between sessions in order to maintain a consistent lighting environment.

System preparation

Fluorescent bulb warm-up The fluorescent bulbs in the VISIA Facial Imaging Booth need to warm up for a few minutes before a new imaging session. If Booth Lighting Options is set to Off, Low, or Medium, allow at least a couple of minutes for warm-up. No warm-up time is required if the High setting is selected. The system will not allow an image to be captured if the warm-up time is less than 45 seconds.

Client preparation for VISIA session

Proper skin preparation For the most accurate initial assessment of a client's skin features and for tracking progress of treatment, it is critical that the skin be cleaned just prior to her VISIA session. For repeatable results use client data from "Clean" Skin Condition sessions only. Do not compare "Clean" Skin Condition analysis photos with "Fresh Make-up" or "Other."

The client should be instructed to clean her face just before the imaging session using a non-irritant face cleaner (such as Procter & Gamble's Olay Daily Facial disposable cleansing cloths), dry her face with a lint-free towel (such as Kimberly Clark's KimWipes), and allow for skin hydration to evaporate.

Black collar drape cloth The black collar drape cloth should be draped around the client's neck to minimize stray reflections from clothing that could otherwise skew results, particularly for UV-derived skin features. One of these collar drape cloths is provided to each VISIA owner. Additional ones may be purchased by contacting Canfield Imaging Systems.

Client positioning and image capture

Positioning within the booth The VISIA Facial Imaging Booth should be placed on a surface that is approximately 40 inches off the ground so the client may comfortably approach the booth. An adjustable stool is recommended to accommodate height differences between clients and ensure that the client doesn't have to stretch up or bend down to fit her face into the booth opening.

Make sure that the chin cup and headrest are locked in the correct position for the view you have selected. For example, the chin cup and headrest should be locked into the right-facing position for Left view (images of the left side of the face). If the chin cup and headrest are not in the correct position for the view you have selected, images will be captured with the wrong bulbs turned on, causing analysis errors.

For both the Left and Right views, the client should be seated with her body at a 45° angle to the booth so that she can look directly into the appropriate alignment mirror without turning her head. Straight-on body orientation is for Front view pictures only. Left and Right views are difficult to align from this position.

It is crucial that the client place her chin firmly in the center of the chin cup with her forehead resting against the headrest. Instruct the client to look straight ahead into the appropriate alignment mirror making sure her face is centered in the mirror.

Minimizing variability in facial expressions helps to improve reproducibility (particularly for wrinkles). Encourage the client to hold position in the booth until all of the images have been captured to further ensure consistent registration and reduce session time.

Face alignment in follow-up sessions During follow-up sessions the position of the client's face should match her first session image. To assist with registration, the system superimposes the preview image from this session over the image taken during the original session (i.e., alignment image). A slider control to the right of image allows you to adjust the dominance of the alignment image (slider toward bottom) versus the live preview (slider toward top).

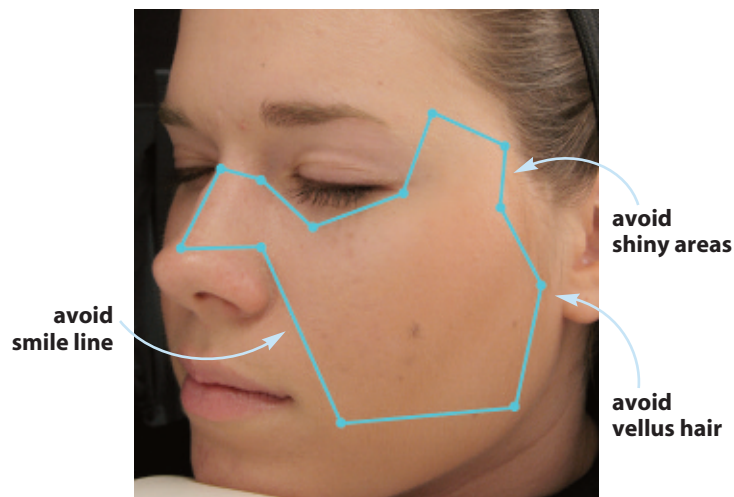
Choose a setting that enables you to see when the live preview matches the alignment image, i.e., only one solid image appears. We suggest that you focus on the nose area and instruct the client to move her head up, down, left, or right as needed for perfect alignment. Directions such as "lean," "point," etc. prefaced with "slightly" or "a bit" can help the client with appropriate movement. If the face is not aligned properly, the mask inherited from the original session image will appear on a different skin sample area and might cause analysis errors.

proper masking technique

Mask creation (initial session) Creating the proper mask is probably the single most important factor in ensuring accurate analysis. An oversized mask will create inconsistencies and skew results.

To ensure optimal masking:

- Exclude highly reflective and shiny areas such as the temple area and the ridge of the nose.
- Exclude fine hair (e.g., vellus hair) on the cheeks and/or beard stubs.
- Leave a modest space below the eye to allow for exclusion of eyelashes when the eyes are closed for the UV picture.



Mask adjustment (during follow-up sessions) Compensate for slight registration variation session to session by readjusting the mask. Click on the arrow buttons to move the mask up, down, left or right. The mask can also be rotated slightly in the clockwise or counter clockwise directions by clicking the corresponding arrows. **Shift** + click on the arrows for larger increments of movement.