

Scar Management

Apart from the physiology and cell biology of scars and scar maturation, the whole perception of scars is quite a complex topic. In some cultures, scarring is an integral part of life and is used for tribal markings, and personal identification. Even in the Western culture, different people have different perceptions of scarring. To a young teenage male, a facial scar might be a trophy to be proud of, whereas to another individual, especially to a young female, a facial scar might be a devastating life event. Understanding the whole process of visual perception can provide valuable insight to guide reconstruction and should be fitted in to the whole psychosocial and psychological management of scars.

Perception is an active process. We perceive rather than receive information. The practical outworking of this can sometimes be seen when someone is looking for a lost object in a crowded drawer or cupboard. If the person knows that the object is in there, they are much more likely to find it, than if they do not really believe that it is in the area being searched. Likewise, when we search a field of view with our eyes, our brain looks for unimportant background signals that can be discarded and ignored. Simultaneously, our brains distinguish target signals that our eye and mind strive to locate and recognize. As one views a face, the eye movements tell an important tale about the cognitive processes going on to process the information. Compare Figure [1-3-A] to [1-3-B]. As one views a face, the eye moves from fixation point to fixation point in large, erratic movements (Figure [1-3-B]). These fixation points cluster about the angles at the junctions of facial features that inform us of shape and spatial relationships. Our eyes make repeated fixation sequence scan paths over

background material, seeking specific information. We select only those paths of our view that are important to the task at hand. Our brain has the ability to respond to what is needed, and to disregard irrelevant things. Thus perception in active process involving selection, allows us to respond rapidly to important events. Most notable is a change in the environment - the unexpected. The greater or more sudden the change, the more likely that we will observe it to our utmost capacity. On the other hand, the features we perceive most readily are those that we see daily and habitually. By necessity, we tend to overlook unimportant detail and classify objects into broad categories based on appearance. Even when scanning deliberately, there is much that we tend to overlook or that we appreciate incompletely or inaccurately. We consciously see the unexpected, and we unconsciously assume the expected. The ability to see the unexpected and assume the expected, allows the reconstructive surgeon to control what is and what is and what is not seen. Our eyes normally pass over the smooth, flat, expansive surfaces of the face, [lighting] on the ridges and valleys that form facial parts. We see colour, texture or contour changes, or the absence of a featural unit because it surprises they eye in its normal unconscious scanning pattern and causes it to stop on the unexpected. We see the unexpected, but tend to disregard what is normal or what simulates normal - the expected.

By judicious planning, the surgeon should position scars so that they simulate the ridges and valleys of normal facial contour. Thus a good scar is one that is perceived as normal facial fold or contour line. Scar contracture, under the control of the [myofibroblasts] acts to distort the surface contour of the scar. [Centripitor trapdoor] contraction or scar inversion can produce obvious contour deformities across an area that is otherwise flat. In addition, skin grafts or even a times, flaps, may discolour and lead to a colour discrepancy on an area that is normally bland. The whole concept of regional units and regional subunits in reconstruction, has been popularized to try to hide scar contours or even reconstructed areas in a contained normal anatomical sub-unit, so that

mid-field colour discrepancy or contour discrepancies are eradicated. To this end, a whole area can be reconstructed with a foreign tissue, and yet this is rendered invisible to the scanning eye by the fact that it is hidden within a normal anatomical sub-unit/unit.

This whole principle is drawn upon when one undertakes to revise a scar. The W-plasty is a very useful tool to manipulate scar, as it manages to rearrange scar direction, flatten out scar contour changes and blend colour changes without significantly increasing the bulk of the scar and achieve the aim of camouflaging the final result.

The Z-plasty is also a useful tool at times, although it does have the disadvantage of significantly increasing the bulk of scar, and increasing the length of scar, and as such, should be used judiciously. The scar maturation process can be speeded up by using a combination of hydrocolloid dressings and silicone dressings and if abnormal scarring is developing, intralesional steroid injections may also be used judiciously. Laser is rarely used for scar touch-ups or revisions, and pigment changes to date have been difficult to mask, except with surgical make-up. However, there appears to be some headway in this area, with the advent of the spray on cultured skin, which may have a role to play in reintroducing pigment cells into areas rendered hypopigmentary as a result of scars, for whatever reason.



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