The Plastic Surgery Compass: Navigating the Reconstructive Ladder in the Personalized Health Care Era

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Summary: The reconstructive ladder and the reconstructive elevator have withstood the test of time as didactic tools for resident education. Over time, many alternative models have been suggested to incorporate the technological advances in plastic surgery, but none of them have focused on the patient. Changes in practice and the trend toward personalized health care demand a 360-degree evaluation and solution of surgical problems incorporating patient-specific characteristics. We, therefore, suggest the concept of the plastic surgery compass to navigate the ladder. (Plast Reconstr Surg Glob Open 2016;4:e1035; doi: 10.1097/GOX.000000000001035; Published online 21 September 2016.)

The original reconstructive ladder and elevator serve as didactic tools to illustrate the process of decision-making in plastic surgery for residents. Over the years, multiple versions have been suggested, such as the solar system and the clock works. The aim of these new models has been to incorporate recent technological advances in plastic surgery into the ladder. These versions of the ladder have little didactic value. All new surgical techniques can be incorporated into the ladder by adding another rung. The reconstructive stages focus on development of the surgeon rather than surgical decisions. The reconstructive triangle focuses on different techniques at the top of the ladder. Any new versions of the ladder should bring a new perspective to plastic surgery practice for residents. A model should be easy to understand and offer a strong symbolism such as the ladder or elevator does. The authors proposed that compass is the first model to focus on the patient instead of on surgical techniques. The compass is not an alternative model, but rather an extension of the ladder.

Patient safety, personalized health care, quality of life, and patient satisfaction have become increasingly important concepts that make everyday life of the modern plastic surgeon more challenging. These needs to be clearly illustrated to residents.

The plastic surgery compass has 4 poles (Fig. 1): North—procedural complexity, South—risk, West—anatomical problem, East—personal factors.

Procedural complexity—This essentially represents the reconstructive ladder. Are different techniques available? Do they offer solutions with different levels of quality? What is the level of complexity? Do the techniques solve the problem completely or partially? Are any bridges burnt by performing the procedure?

Risk—This entails health evaluations, such as cardiovascular health, body mass index, smoking. The risks and consequences of complications also have to be considered. Significant risk will often translate into a downward movement on the ladder.

Anatomical problem—This involves defining the problem from an anatomical standpoint. What is the level of anatomical/pathological complexity of the problem and what structures are involved? Anatomical problems can translate into movements down or up the ladder.

Personal factors—This involves defining the problem from a patient’s personal standpoint. How does the patient define the problem and what expectations does he have? Would the patient tolerate a partial solution of the problem or a compromise? Assessing compliance, social support, and emotional stability is important. Special issues such as occupational, financial, or insurance issues may be a concern. Patient choice or preference should be involved as long as possible.

All surgeons can remember seeing patients who were satisfied with a suboptimal result in need of a revision and similarly patients dissatisfied with “perfect” results. A common understanding of the problem and its solutions is important.

USING THE COMPASS

The compass is not a new way of practice; it is just a didactic model that illustrates the complex decisions that
As plastic surgeons, we make decisions on a daily basis. Using a stepwise approach, all the benefits, tangible or intangible, can be listed and weighed against each other for each of the possible procedures.

A high-risk health situation will often be compensated for by a simpler and shorter procedure. However, the nature of the underlying anatomical problem may motivate a more complex solution. Smoking cessation, weight loss, and other risk-reducing measurements before a procedure can sometimes be enforced if the situation allows.

A patient with a demanding personal situation and an intricate anatomical problem may be a challenging situation that will require extra support preoperatively and postoperatively. A less complex procedure could be considered in situations where shorter rehabilitation benefits the patients’ personal situation. A more complex procedure may require a higher functional demand, based, for example, on the patients’ occupation.

Using the compass allows for different solutions and plans as long as they result in a balance between all of the different factors. The compass extends beyond just reconstructive surgery and can be used in most areas of plastic surgery.

The symbolism of the compass is manifold. It offers a patient-focused 360-degree evaluation of the problem. The compass is an instrument for navigation that also symbolizes polarity. Certain factors involved in reconstructive planning can be polar opposites, where you as a surgeon may be torn. The ladder has 2 directions—up and down. The compass has 4 poles that each will exert its forces to create an equilibrium or point of balance (Fig. 2).

The compass is, just like the ladder, internationally applicable—it likely will guide toward different solutions in different health systems.

In summary, the compass concept offers a symbolic model that can be used to teach residents how to make patient-focused, well-motivated decisions that adequately solve surgical problems with a reasonable risk level.

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