TOWER JOINT REPLACEMENT CLINIC INC

Optimizing Joint Replacement

Dr. Tower's experience as a surgeon, patient, researcher, and safe health care advocate leads him to believe that the following are critical to minimizing the complications from and optimizing the results of joint replacement:

1. Careful determination of whether a given patient is best served by joint replacement.
2. Careful preparation of an appropriately selected patient for surgery.
3. Performance of the operation by a surgeon who is experienced, skilled, and interested in joint replacement in an operating room that is appropriately equipped and staffed.
4. Selection of proven implants.
5. Use of proven surgical techniques and approaches that are best suited to proven implants.
6. Appropriate post-operative rehabilitation and follow-up.

The best measure of the success of a joint replacement is the chance that a revision operation will not need to be performed over time. Joint replacements generally function well until a complication arises that results in a revision operation. The following are the complications that most commonly mandate a revision operation.

1. Wear or corrosion of the implant that elicits a biologic response that results in loosening of the parts, loss of bone, pain, or damage to the soft tissues around the replaced joint.
2. Infection.
3. Instability of the replaced joint.
4. Fracture of the bone that the implant is fixed to.
5. Implant breakage.

Recently the popularity of new, unproven total joint implants has become the major reason for premature failures of hip replacements. The metal-on-metal hip debacle illustrates the folly of selection of implants that have not stood the test of time. Regulation of medical devices in the United States does not mandate that new implants undergo testing before being allowed onto the market. New implants are aggressively marketed to surgeons and patients as being superior to proven devices without any confirmatory clinical experience.

Most patients implanted with an unproven joint replacement do well over the short term and some falsely attribute their early satisfactory experience to the implant. They promote the novel device to acquaintances, increasing its popularity. Surgeons implanting novel devices are rewarded by increased demand for their services with new devices marketed well to surgeons and patients, despite any evidence that they are an improvement on established technology.

Satisfactory initial recovery from a joint replacement operation generally reflects the health of the patient and is not related to the type of implant used or the manner in which it is implanted. False attribution of early success to a novel implant or surgical technique drives its popularity. In the case of metal-on-metal hip resurfacing and metal-on-metal hip replacement it, took 5 years of clinical experience before it became apparent that the metal-on-metal hips were failing at 10 times the rate of established metal-on-plastic hip designs.

The anterior hip approach is an example of an unproven surgical technique that has become popular despite no evidence of advantage over the time tested posterior approach. Initial claims of quicker patient recovery and a lower dislocation rate have been disproven. Yet, the popularity of the approach persists despite now-proven comparative disadvantages as compared to the posterior approach (greater operating time, greater blood loss, injury to the anterior femoral cutaneous nerve, an increased risk of a wound healing problem and infection in obese patients). Another comparative disadvantage of the anterior approach is that hip implants have been modified to allow easier implantation. The implants most commonly used for the anterior approach are untested and it might not be known for 5 to 10 years whether or not they are as durable as the proven implants commonly used when the posterior approach is utilized.