

## Robotic Radical Prostatectomy (Removal of the Prostate)

In many cases of prostate cancer, surgical removal of the entire prostate gland (radical prostatectomy) is the preferred treatment. Traditionally, prostatectomy has been accomplished by making an incision in the lower abdomen. Evolution in the surgical technique over the past twenty years has improved the ability to cure the cancer while reducing potential complications such as blood loss, incontinence, and erectile dysfunction. At UCSF we have extensive experience with radical prostatectomy and have achieved excellent results in all aspects.

Improvements in technology and surgeon experience have led to the development of minimally invasive (laparoscopic) operations, where the procedure is visualized with a small telescope and performed through several small incisions. Operations which are routinely performed in this manner at UCSF include removal of the adrenal and kidney. More recently, we have used this approach to perform radical prostatectomy. The operation has been greatly facilitated with the use of the state-of-the-art robotic system (daVinci Surgical System, Intuitive Surgical). It provides a magnified, three-dimensional view during the operation and maintains surgeon dexterity through its robotic arms. A comparison of the two procedures is summarized in the table below.

The robotic technique at UCSF has been refined greatly based on our long experience with open surgery. Currently, the majority of radical prostatectomies at UCSF are performed using the robotic technique. This is based on what appears to be similar rates of cancer control (cure), a slightly quicker recovery, similar preservation of urinary control and, perhaps, somewhat better nerve preservation (better enabling return of potency). Some patients, however, may be better served by the open technique. Such patients include those with higher volume disease where the open approach may facilitate a slightly better lymph node dissection and intraoperative assessment of the margins (edges) of resection.

|                  | <u>Traditional prostatectomy</u> | <u>Robot-assisted prostatectomy</u> |
|------------------|----------------------------------|-------------------------------------|
| Operative time   | 2.5-3 hours                      | 3-3.5 hours                         |
| Blood loss       | 450-600 cc                       | 100-200 cc                          |
| Visualization    | 2.5-4.5x magnification           | 4-10x magnification                 |
| Transfusion rate | 2%                               | 2%                                  |
| Incision size    | 9 cm (one)                       | One 2.5 cm & four 1 cm              |
| Pain             | Limited                          | Likely reduced                      |
| Hospitalization  | 1-2 days                         | 1-2 days                            |
| Catheterization  | 7-10 days                        | 7-10 days                           |
| Continence       | > 92%                            | > 92%                               |



Physicians performing a procedure using the daVinci Surgical System.