

BLADDER/RECTAL RADIATION SUBSEQUENT TO PROSTATE GLAND REMOVAL (A Physicians Perspective)

The bladder does move down after prostatectomy. The prostatic urethra runs the entire length of the gland and is thus removed with prostatectomy and creates a gap -- between the bladder/bladder neck and the membranous urethra (the urethra that is surrounded by the urethral sphincter). The sphincter itself and the pelvic floor muscles are relatively immobile as they are attached to the bony pelvis. The membranous urethra can move some, but not a lot -- perhaps 1/2 inch. The remainder of the distance -- which varies from 1.5-3 inches -- is 'made up' by bringing the bladder neck down to meet the urethra. Thus the change is immediate and permanent, but not a big move and for patients that do not have cancer recurrence, the bladder movement itself is not of significance. Indeed women with pelvic prolapse (cystoceles) often have significant movement of the bladder and it rarely causes symptoms until the bladder starts falling out the vaginal opening.

What about when a man ends up needing post-op radiation? Well, the indication for this is when there is either extra-capsular extension (ECE) or positive surgical margin(s) (PSM) --- plus either a rising or detectable PSA or high risk disease. Either way, there is cancer left in the pelvis and usually in this situation, it is a marker of more aggressive cancer that needs to be treated aggressively. Thus with more dangerous disease and more risk of mets/death of CaP, the risk/benefit analysis is shifted a bit. This is different than in a primary treatment scenario and needs to be considered as such. Where do PSM and ECE occur? ----- The most common locations are along the neurovascular bundle (which lie right along the rectum), Denonvilliers fascia (the thin layer between the back wall of the prostate and the front wall of the rectum-- very thin, about thickness of a napkin and directly on the rectum), the apex (next to the sphincter), or the bladder neck. Typically all of these areas will need to be targeted with radiation and so the area of 'innocent' bladder that will get radiation is going to be fairly small. Additionally, with today's radiation and computer technology, there is much less 'collateral damage' than in the past. Currently the areas that get targeted for radiation need to be targeted in order to be effective.

From my perspective from operating on prostates and studying lots of anatomy drawings, I think that most drawings do not/cannot really convey the very, very, close 3d anatomy of the prostate to the bladder/rectum/neurovascular bundles (NVBs)/sphincter. I think that few people except for the urologic surgeon who literally peels prostates off the rectum and teases the tissue paper thin NVBs away from the gland truly can appreciate this anatomy - and the way it can move, especially based on how much stool or gas is in the rectum. I think that is one of the great advantages of fiducials/gold marker seeds in some forms of radiation -- tracking the prostate in real time during treatment.

(For those experiencing bladder, urethral, pelvic pain and frequent urination, please visit:
<http://tinyurl.com/yzmzf2a>)