The management of prostate cancer (PCa) is controversial and is under intense public scrutiny. PCa deserves the limelight because it is the most common cancer diagnosed and the second most common cause of cancer mortality for men living in the developed world. Its impact on the health and well-being of men and the economics of health care policy is astounding. In addition, there is a paucity of level 1 evidence to definitively influence guidelines for screening, diagnosis, or treatment. It is unimaginable that in 2012, there are no contemporary randomized studies comparing functional or oncologic outcomes following radical prostatectomy (RP) versus radiation therapy and only one published randomized study with long-term follow-up comparing RP and watchful waiting (WW).

Unlike other common yet deadly cancers of the lung and the pancreas, the natural history of PCa is often protracted and the impact of treatment often requires decades to elucidate. Because of this protracted natural history, even properly designed studies would be relegated to historical interest as advances in the field change the diagnostic and treatment standards of care. Moreover, complications of RP affecting quality of life (QoL) are common, even when RP is performed by experienced surgeons. Although there are validated instruments for capturing continence and sexual function pre- and postoperatively, there are no accepted end points for defining how treatment affects QoL.

PCa is the only malignancy for which the tumor is not visualized, palpated, or imaged. Based on an elevated nonspecific serum tumor marker, between 10 and 12 tissue cores are randomly targeted in a “systematic” manner. We have reported that half of the “low risk” cancers that are deemed candidates for active surveillance based on preoperateriskstratificationhavehigh-riskcharacteristics on surgical pathology that might have triggered immediate intervention had they been known at diagnosis [1].

PCa is “big business” for tertiary centers or large urology groups, so there is a powerful disincentive to conduct and report credible outcome studies related to complications or QoL, as these might dissuade patients from undergoing lucrative procedures. The literature is teeming with methodologically flawed outcome studies in which the treating surgeon or radiation oncologist collects, records, and analyzes the data, likely biasing the published results. This approach has resulted in a paucity of level 1 evidence and the many controversies surrounding the management of localized PCa that have led to a public that is increasingly skeptical about the motives behind treatment recommendations and the veracity of counseling regarding complications associated with treatment.

Boorjian and colleagues [2] have nicely reviewed the literature related to the long-term functional and oncologic outcomes following RP. Based on my introductory comments, one would expect that many of the answers to fundamental questions related to these outcomes would be tenuous at best. In this editorial, I will offer selective contrary perspectives. The authors acknowledge that due to space limitations, they had to be selective in citing articles [2]. I would offer one criticism of this review: Many of the articles reporting QoL outcomes were methodologically flawed and other higher-quality studies were omitted. I will highlight some of the references of superior quality that were overlooked.

I believe we can definitively state that RP decreases PCa mortality and the development of metastasis relative to WW. The observed decreases in cancer-specific mortality...
and development of metastasis are likely to show an even greater difference with longer follow-up (reference 6 in Boorjian et al. [2]). Another important and often overlooked benefit of RP over WW is preventing exposure to androgen deprivation therapy (ADT). In the Scandinavian trial (reference 6 in Boorjian et al. [2]), RP reduced exposure to ADT by 40% compared to WW (63.4% vs 39.6%). I am amazed that the public and the policy experts seem outraged by the ravages of RP yet are very accepting of the even worse morbidity of ADT. Boorjian et al. confound the survival benefit of RP by referencing and not discussing the major study design flaws of VACURG (reference 7 in Boorjian et al.) and PIVOT (reference 8 in Boorjian et al.), which were interpreted to show no survival benefit of RP.

The authors conclude there are no functional or oncologic advantages for robotic RP versus open RP, but they present only one study examining oncologic outcomes and suggesting an advantage for the robotic approach (reference 118 in Boorjian et al. [2]). Due to limited follow-up, oncologic outcomes are often based on intermediate outcomes such as surgical margins. The most credible comparison of margin status between open and robotic RP, reported by Williams et al. [3], was omitted. Why is the study by Williams et al. the most credible? First, open and robotic RP were performed by skilled and experienced surgeons. Second, the same pathologists reviewed both sets of specimens. Third, the RP's were performed during the same era. Fourth, the manuscript was co-authored by both an open and a robotic surgeon. The multivariate analysis suggested that surgical technique was an independent predictor of margin status and that robotic RP was associated with a 60% greater likelihood of a positive surgical margin.

I would like to refer the reader to several articles on QoL outcomes based on my unique and robust data set that unfortunately were overlooked by Boorjian et al. [2]. Beginning in October 2000, all of my patients undergoing open RP were invited to participate in an institutional review board–approved prospective and longitudinal outcome study. Of the 1800 consecutive men who have since undergone open RP, 1760 (98%) signed informed consent to participate in the study. The men completed the American Urological Association Symptom Index (AUA-SI), the UCLA Prostate Cancer Index, and the International Index of Erectile Function at baseline and throughout their follow-up. The questionnaires are returned to data managers whose sole responsibility is to manage the database. At 24 mo, only 6% of men have been lost to follow-up. The surgeon is totally disengaged from data acquisition, entry, and retrieval. Experts in male sexual health and continence have full access to this database and publish studies without censorship by the surgeon.

In addition to credibly reporting the impact of open RP on lower urinary tract symptoms (LUTS) [4], continence [5], and potency [6], these analyses also examined risk factors associated with incontinence and erectile dysfunction (ED). Based on this data set, we reported that potency improves in a significant subset of men between 2 and 4 yr following RP [7]; that nerve sparing does not influence continence rates [8]; that overall urinary QoL improves in men with baseline moderate/severe LUTS, despite the low risk of stress urinary incontinence (SUI) [9]; and that open RP is consistently associated with self-reported satisfaction rates >90%, and these rates are driven by biochemical-free survival, continence, and potency [10]. Based on our studies, functional outcome achieved by an experienced surgeon is known. It is important to emphasize that these outcomes cannot be extrapolated to surgeons with less experience. Every surgeon should determine, without bias, his or her individual outcomes because the patient is subject to the surgeon's outcomes, not published experiences.

Boorjian et al. [2] conclude that we need to better characterize the functional and oncologic outcomes following RP. I believe credible functional and oncologic outcomes have been published. What is needed is emphasis on only the credible outcome studies, not those that are methodologically flawed and subject to biased reporting of the treating physician.

The challenge that was not discussed at length by Boorjian et al. [2] is how to process this information to arrive at a treatment decision that suits the individual's disease and priorities. The potential survival advantage will depend on life expectancy and natural history of the disease. Surgeons must become familiar with life tables that are adjusted according to comorbidities. I recently operated on a very healthy 83-yr-old man with Gleason 8 disease. One of his concerns was whether he would be able to attend his mother’s 106th birthday party, to be hosted by several of his aunts. This gentleman was discharged from hospital on the first postoperative day and attended the party on the US West Coast 3 wk later. What is the best treatment for a healthy 65-yr-old man who presents with ED, a low-risk PCa, a 70-g prostate, and an AUA-SI of 20, which is associated with significant bother? This gentleman has a 20% chance of developing acute urinary retention (AUR) within the next 7 yr, and his LUTS significantly affects his QoL. We have reported that RP will reduce his risk of long-term AUR to 0 [11], and there is an 80% chance his LUTS will improve significantly [9] and a 3% chance of SUI [5]. He also has a 50% chance of harboring a cancer with aggressive features [1]. Because he presents with both ED and LUTS, his overall QoL will likely improve following RP.

In my opinion, what is needed is a better way to risk stratify the disease. I am optimistic that in the foreseeable future, we will witness major advances in prostate imaging and molecular risk stratification that will go beyond what is available today: crude digital rectal examination, nonspecific serum prostate-specific antigen screening, and random systematic biopsy. In the hands of expert surgeons, ED remains the primary limitation of RP. I doubt any technological advances will further enhance potency rates following RP. Hopefully, the future will bring better ways to treat postprostatectomy ED. Unfortunately, and predictably, the robot has done nothing to improve this major limitation of RP. The robot has changed the mode of surgical treatment but has not in any way advanced our ability to treat PCAs or minimize the complications from that treatment. The challenge for the future is not how to better
perform RP but how to better identify those candidates most likely to reap the recognized benefits of this curative intervention.

Conflicts of interest: Dr. Lepor is a co-owner of MedReviews; a consultant/investor for Serenity and USHIFU; and a consultant for Watson Pharma, Quanterix, Myriad, and Amgen.

References