

Practice Variations for Surgical Oncological Cases Among Adult Urologists in the Philippines in the Management of Post-Surgical Reconstruction and Complications*

Jose Leuel A. Ongkeko, MD^{1,2}; Michael F. Chua, MD, MASc(GH), FPUA^{1,3};
Jose Vicente T. Prodigalidad, MD, FPUA,^{2,4,5,6}; Jun S. Dy, MD, FPUA^{1,2} and Pedro L. Latin III, MD, FPUA^{1,7}

¹Institute of Urology, St Luke's Medical Center Quezon City, ²Institute of Urology, St Luke's Medical Center Global City, ³Department of Surgery, University of Toronto, ON, Canada, ⁴Department of Urology, National Kidney and Transplant Institute, ⁵Division of Urology, Makati Medical Center, ⁶Division of Urology, Asian Hospital and Medical Center, ⁷Department of Urology, East Avenue Medical Center

Objectives: To identify practice variations among adult urologists in the surgical management of their oncologic cases and postoperative complications.

Methods: Beginning March 2022 to October 2022 an internet-based survey was performed among members of the PUA practicing in the Philippines.

Results: 82 Philippine urologists answered the survey during the study period. Majority have no subspecialty training (n=42) and practice primarily in the NCR (n=49). Open radical prostatectomy is the option of choice (n=58) with reported incidence of complications similar to that of previous studies. Conduit (n=77) is the diversion of choice after radical cystectomy with the majority recommending a two-surgeon approach in the harvest and reconstruction.

Conclusion: Practice is focused within the NCR with the majority having no subspecialty training thus preferring open surgical approach and two-surgeon team. Implantable devices are the preferred method in managing erectile dysfunction and urinary incontinence but is still lacking local availability

Key words: Urologic reconstruction, Uro-oncology, Philippine urology

Introduction

Prostate cancer is the third most common cancer and fourth leading cause of cancer deaths among males in the Philippines. It is the most common genito-urinary tract malignancy detected compared to bladder and testicular malignancies, each comprising one percent of new cancers detected.¹ Surgical management of these malignancies may include reconstruction and harvesting a segment of bowel, wherein other services may be needed. Post-

operative complications are also varied depending on the surgery done, more so the management of these complications may need further surgical reconstruction or referrals to other services. No previous local report has been done regarding surgical approach for the management of these malignancies and its postoperative management. It was the goal of this study to determine these preferences.

Methods

An internet-based survey was conducted among adult urologists in the Philippines in March to October 2022. The questionnaire included a total

*This study was supported by the Philippine Society of Urologic Oncologists and the Philippine Society of Genitourinary Reconstructive Surgeons

of twenty questions. To participate in the survey the physician had to be a certified member of the Philippine Urological Association. All results were included in the analysis.

A population of 400 was determined based on the PUA master list of active practicing urologists in the Philippines. Sample size was then computed using the Cochrane formula with a confidence interval of 95% and a margin of error of 10%, yielding a sample size of 78.

Results

Demographics

A total of 82 responses were retrieved from the members of the Philippine Urological Association during the study period. Most respondents have been in practice for 10 years or more (n=49). This was followed by those who have recently started their practice for less than four years (n=22) (Figure 1). Most have not undergone subspecialty training (n=44) while others have multiple subspecialty training (n=19). The predominant subspecialty training is in the field of Oncology (n=14) followed by Endourology (n=12) and Laparoscopy & Minimally Invasive Surgery (n=11) (Figure 2).

Practice is focused within the National Capital Region (NCR) (n=49), wherein majority (35) practice solely in the NCR. Extension of practice from the NCR would reach Central Luzon (Region III) (n=7) and to Southern Tagalog (Region IV)

(n=7). Other respondents reported practice would go as far as Ilocos (n=1) or Mindanao (n=1). Among the respondents who practice solely outside of NCR, the majority practice in Southern Tagalog (n=7). There was an equal distribution of respondents from Bicol (n=4), Central Luzon (n=4), and Central Visayas (n=4) (Figure 3). Almost all hold practice wherein there is either a General Surgery or Urology residency program.

Patient Case Load

Majority report of handling less than three prostate surgical cases per month (n=48). This was followed by four to six cases (n=24) with a few reporting seven to nine cases (n=2), and ten or more cases (n=8). The same trend holds true for bladder (n=70), penile (n=81), and testicular (n=76) oncologic cases but to a greater degree.

How long have you been in practice?
82 responses

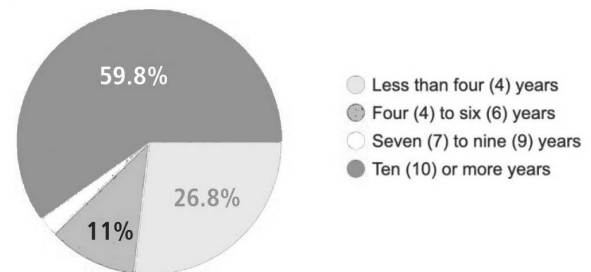


Figure 1.

Did you take Urologic subspecialty training? (may choose more than one)

82 responses

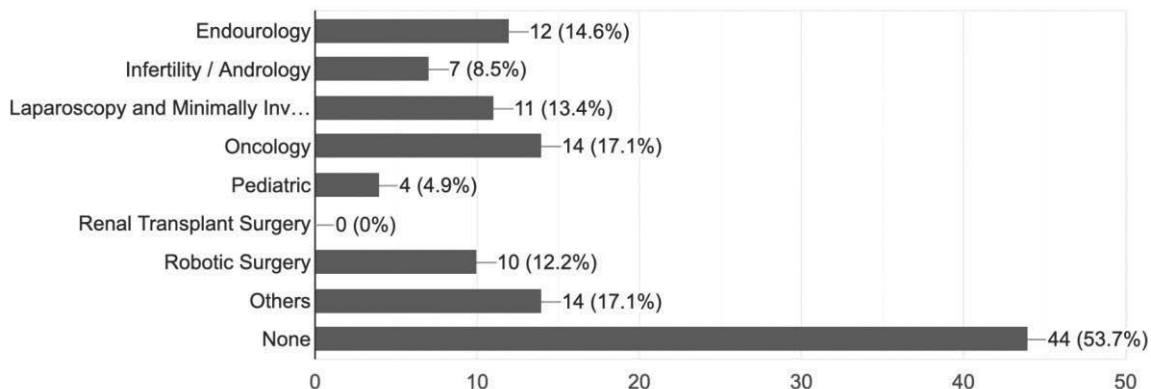


Figure 2.

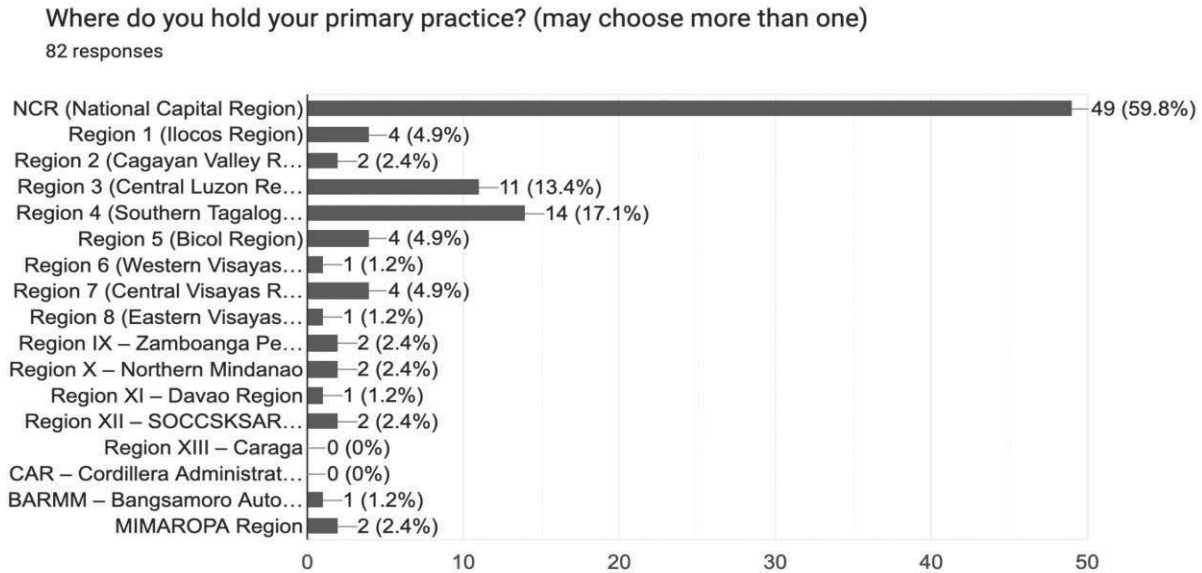


Figure 3.

Prostate Oncologic Practices

Open prostatectomy (n=58) is the preferred surgical approach in the Philippines. The remaining adopted laparoscopy (n=13) or a robot-assisted (n=9) approach. There were reports of laser resection (n=1) or referral to another surgeon (n=1) for the surgical management of prostate cancer.

Erectile Dysfunction After Prostatectomy

The reported incidence of erectile dysfunction (ED) after prostatectomy varied as most reported less than six percent (n=34) followed by those reporting more than twenty percent (n=25) (Figure 4).

4). Almost half would recommend a semi rigid / malleable prosthesis (n=41) in the management of ED. Some would recommend two-component prosthesis (n=8) or three-component prosthesis (n=7). Other reported management options included medical management (n=12) or referrals to other urologists or institutions (n=4) (Figure 5).

Persistent Incontinence After Prostatectomy

Incontinence after prostatectomy has been reported to be as low as less than three percent (n=54) (Figure 6). Preferred management for persistent incontinence would be via artificial urinary sphincter (n=36). The remaining options

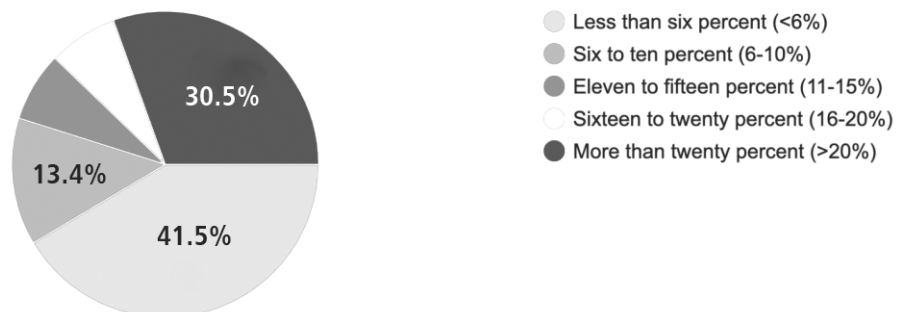
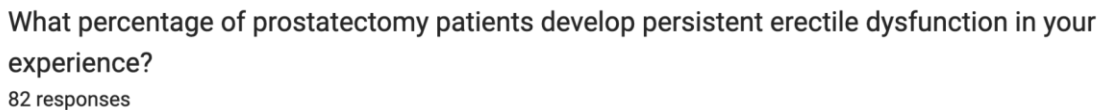


Figure 4.

How would you manage your post prostatectomy patient with erectile dysfunction? (if all treatment options were available)

82 responses



Figure 5.

What percentage of prostatectomy patients develop persistent incontinence needing further procedures in your experience?

82 responses

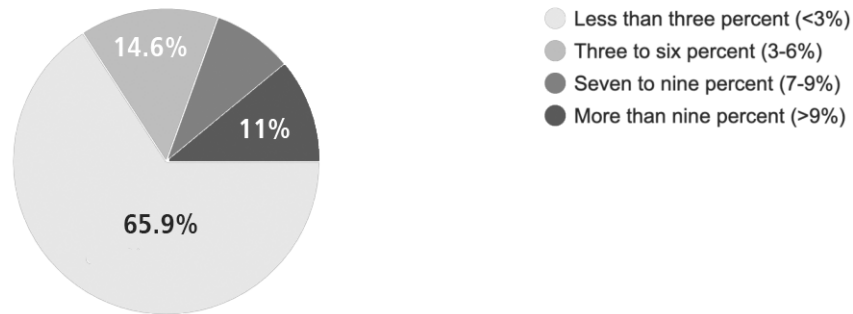


Figure 6.

are fairly even in preference: penile clamp (n=11), sling (n=8), and bulking agents (n=5). Others will continue conservative management (n=14) via continued medical management, Kegels training, or sanitary pads) (Figure 7).

Bladder Oncologic Practices

Radical cystectomy would require creation of a new reservoir or diversion of the urine. Majority practice the creation of an ileal conduit (n=77). Only a few would consider an orthotopic neobladder (n=5) or a urinary reservoir (n=1) (Figure 8). During creation of the ileal conduit most prefer to do the harvest themselves alongside another urologist (n=39) or alongside a urologic resident (n=23). Referral to a general surgeon (n=17) or another urologist (n=3)

are also options considered (Figure 9). Once the segment is harvested, the majority would prefer a hands-on approach in the reconstruction alongside another urologist (n=46) or with a urologic resident (n=31) (Figure 10).

Urinary diversion after radical cystectomy has its own set of complications. Metabolic complications are expected and most would employ a referral system to Internal Medicine or a Multidisciplinary approach (n=62). A fraction of the respondents prefers to independently (n=20) manage these metabolic complications (Figure 11).

Stricture After Surgery

Prostatectomy and orthotopic neobladder patients can possibly develop a urethral stricture

How would you manage your post prostatectomy patient with incontinence? (if all treatment options were available)

82 responses

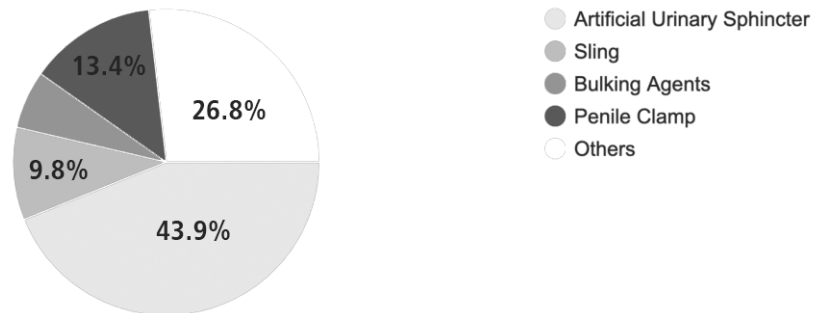


Figure 7.

What is your preferred diversion for cystectomy patients?

82 responses

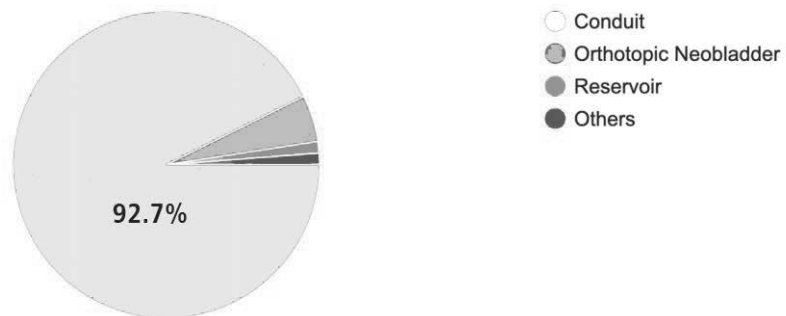


Figure 8

How do you prefer to do your harvest?

82 responses

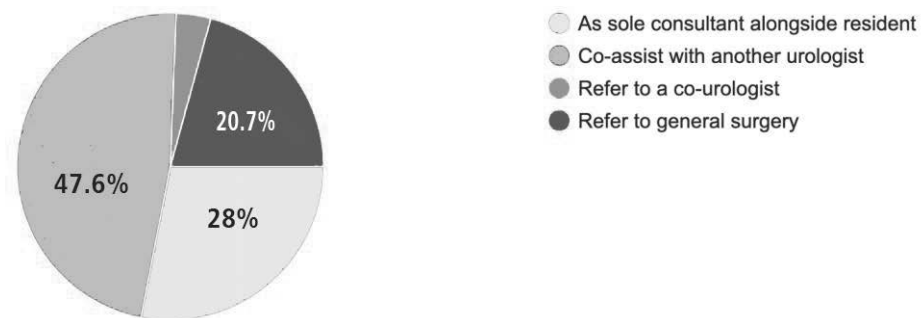


Figure 9

How do you prefer to do your reconstruction?

82 responses

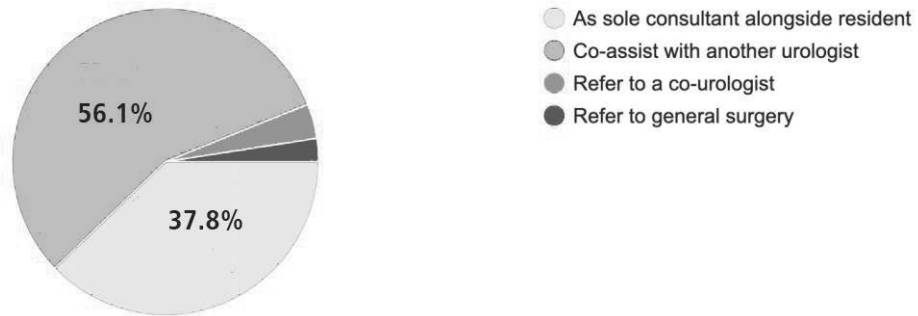


Figure 10

How would you manage metabolic complications of patients with urinary diversion?

82 responses

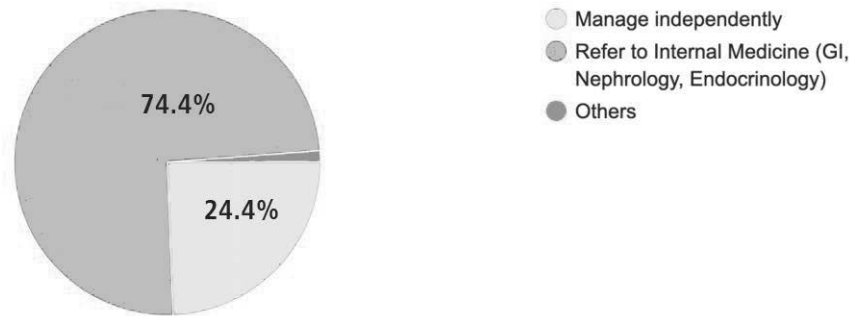


Figure 11

and/or a bladder neck contracture. Majority would manage this via endoscopy through direct visual internal urethrotomy (n=66) or transurethral incision of bladder neck (n=74). The remaining would recommend diversion (n=6) or open surgery with reconstruction / urethroplasty (n=5) in the management of urethral strictures (Figure 12), while buccal graft reconstruction (n=7) and open correction (n=2) of the anastomosis is an option for bladder neck contractures (Figure 13).

Penile Oncologic Practice

As the majority handle only a few penile oncologic cases, the majority would refer the reconstruction to either a co-urologist (n=29) or to a plastic surgeon (n=27). Those who do handle the reconstruction prefer the usage of a flap (n=14) or a graft (n=8). The remaining would stop after urethrostomy (n=2) (Figure 14).

Discussion

The data collected shows that the Philippines has a concentration of Urologists within the greater NCR and that most have no subspecialty training. This could be because that most respondents are those who have been in practice for a longer period of time, a time when subspecialty training was building up and those who have recently just started their practice wherein they have not yet been able to undergo further training.

More prostate oncologic cases are handled monthly by the respondents. This is in accordance with recent statistics reporting prostate cancer as ranking fifth in the Philippines for newly diagnosed cases, compared to bladder (18th) and penile (32nd) cancer.¹ Yet, surgical management of all these cases is minimal. This is probably due to the privatization of practice in the Philippines, possibly low detection rates within the country, and multiple non-surgical treatment options for urologic oncology.

How would you manage urethral strictures in your post prostatectomy / cystectomy patients?

82 responses

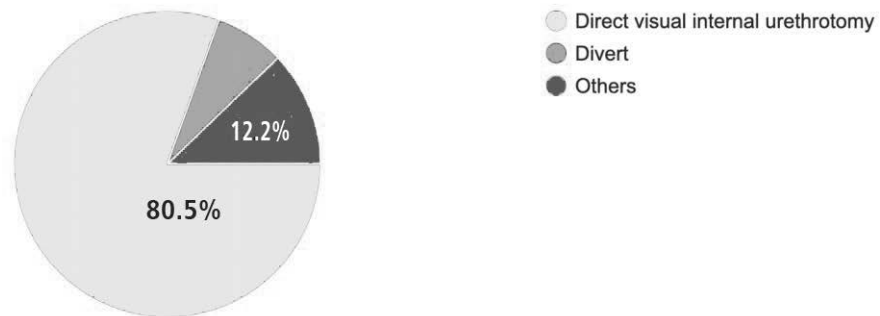


Figure 12

How would you manage bladder neck contractures in your patient post prostatectomy / cystectomy with orthotopic neobladder?

82 responses

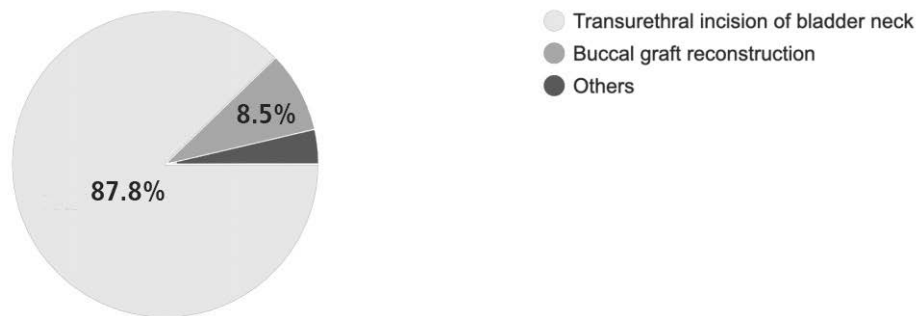


Figure 13

How would you prefer to manage reconstruction of partial/total penectomy?

82 responses

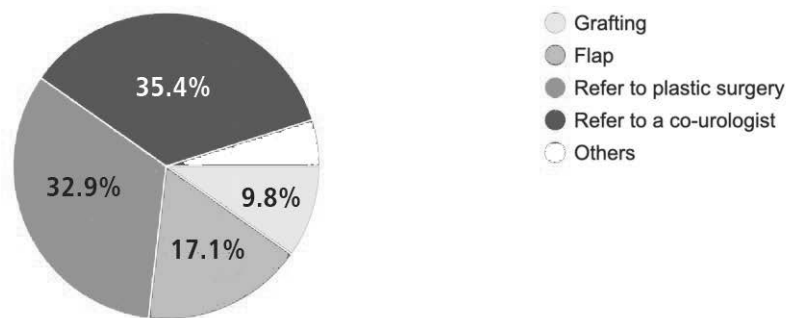


Figure 14

Radical prostatectomy (RP) is one of the treatment options for localized prostate cancer. The open surgical approach is still the favored approach in the Philippines. This could be that only a few respondents have undergone training in laparoscopy or robotic surgery.

One of the possible complications after RP is erectile dysfunction (ED). The survey showed a wide range of incidence in keeping with previous reports.² A multitude of treatment modalities are available for ED. These include phosphodiesterase 5 inhibitors, vacuum erection devices, intracorporeal injections, intraurethral therapy, and penile implants. This is initially managed conservatively as ED due to neuropraxia recovers over time, however for those with severe or persistent ED, penile implants reportedly have the highest effectivity and patient satisfaction.² Only a low percentage would eventually undergo implant after RP.² Factors that increase the likelihood of undergoing a penile prosthesis implant include lower age at diagnosis of prostate cancer.³ There are two available prostheses in the market, the semirigid/malleable and the inflatable prosthesis, but only the former was previously given approval from the Philippine Food and Drug Administration.

A temporary urge incontinence is expected after RP due to neuropraxia, which more often than not recovers within the first year after surgery. Incidence of persistent urinary incontinence beyond this is low. Persistent incontinence varies depending on several factors such as pre-operative continence status, detrusor function, surgical factors.⁴ Artificial urinary sphincter is still the gold standard in the management of persistent incontinence after RP⁵, as such this is the recommendation of most, followed by continued conservative management via Kegel's exercises in conjunction with the use of sanitary pads or diapers.

Radical cystectomy entails the creation of a new urinary reservoir or diversion. The creation of an ileal conduit is the preferred choice among the respondents. Majority would still prefer a hands-on approach in the harvest and creation of the diversion, but would rather have another urologist assist in the procedure, despite the availability of a urology and/or general surgery resident within their institutions. A previous study was done by Ludwig, et al⁶ that showed that a two-surgeon

team had a shorter operation time, and lower anesthesia and operating room costs offsetted by the surgeon charges with no difference in perioperative complications compared to that of a single surgeon. Ileal conduit has its own set of complications⁷ majority of which are metabolic. Some urologists would still manage these complications, however, for the most part would refer to a colleague in internal medicine to oversee the management of these metabolic complications.

Conclusion

The Philippines has a growing number of urologists but majority focus their practice in the NCR and have no further subspecialty training. It is recommended that practice is extended further out into other regions and subspecialty training pursued. This is seen since the majority still prefer the open surgical approach compared to laparoscopic or robot-assisted approaches. Persistent erectile dysfunction is most effectively managed with an implantable prosthesis but as of date, there is no available prosthesis in the market in the Philippines, which would support pursuance of approval and use. Lastly, during radical cystectomy, a two-surgeon approach is preferred despite availability of residents. This could be that this is private practice outside of their training institutions. Thus, it is again recommended that practice be extended outside NCR to be able to help with the preference of a two-surgeon approach for these cases.

References

1. Sung H, Ferlay J, Siegel RL, Laversanne M, Soerjomataram I, Jemal A, et al. Global cancer statistics 2020: GLOBOCAN estimates of incidence and mortality worldwide for 36 cancers in 185 countries. *CA Cancer J Clin* 2021 Feb 4;71(3):209–49.
2. Lima TN, Bitran J, Frech FS, Ramasamy R. Prevalence of post-prostatectomy erectile dysfunction and a review of the recommended therapeutic modalities. *Int J Impot Res* 2020 Nov 17;33(4):401–9.
3. Tal R, Jacks LM, Elkin E, Mulhall JP. Penile implant utilization following treatment for prostate cancer: analysis of the SEER-Medicare Database. *J Sex Med* 2011 Jun 1;8(6):1797–804.
4. Radadia KD, Farber NJ, Shinder B, Polotti CF, Milas LJ, Tunuguntla HR. Management of postradical prostatectomy urinary incontinence: a review. *Urology* 2018 Mar;113:13–9.

5. James MH, McCammon KA. Artificial urinary sphincter for post-prostatectomy incontinence: A review. *Int J Urol* 2014 Feb 16;21(6):536–43.
6. Ludwig AT, Inampudi L, O'Donnell MA, Kreder KJ, Williams RD, Konety BR. Two-surgeon versus single-surgeon radical cystectomy and urinary diversion: Impact on patient outcomes and costs. *Urology* 2005 Mar;65(3):488–92.
7. Sullivan JW, Grabstald H, Whitmore WF. Complications of ureteroileal conduit with radical cystectomy: review of 336 cases. *J Urol* 1980 Dec 1;124(6):797–801.