

Visit report	
Country visited	Zambia
Institution or workshop	Ndola Teaching Hospital Prostate Uroweek (TURP and Transperineal biopsy workshop)
Dates of visit	14/09/25-21/09/25
Team members	Michael Ng ST5 Registrar, Royal Devon University Hospital Rustam Karanji ST5 Registrar, Frimley Health NHS Trust Nicholas Campain Consultant Urological Surgeon, Royal Devon University Hospital Nishant Bedi Consultant Urological Surgeon, Frimley Health NHS Trust

Background

In September 2025, as part of the TUF Urolink fellowship, I had the opportunity to visit Ndola teaching hospital as part of a prostate workshop focusing on transurethral resection of the prostate and transperineal prostate biopsies (inaugurally named “Uro-week”). Located in the Copperbelt province of Northern Zambia (copper-mining region), Ndola teaching hospital is an 800 bed hospital which serves the local surrounding area in addition to being a tertiary referral centre for more remote healthcare services in the Northern region. The Urology department comprises Dr Mumba Chalwe (head of urology) and 2 Urology units (led by Dr Ntambo and Dr Lungu) who provide both emergency and elective care.

A link with Ndola was previously established following a scoping visit in 2023 after Mr Nick Campain’s visit to the area and in co-ordination with Dr Mumba Chalwe. Following this visit, regular dialogue with the centre was established through a collaborative monthly teaching webinar (Exeter-Wexham Park-Ndola) allowing teams in both areas to better understand educational and clinical needs, as well as develop closer working relations and establish focus areas for future visits.

A Delphi consensus published in 2024 has recently highlighted national priorities in Zambia for prostate cancer, with specific priority areas including development of diagnostic capacity, and improving public awareness, delivery and coordination of prostate-specific cancer services¹.

The team in Ndola were also keen to continue development of endoscopic services following donation of equipment by Urolink 2 years prior. Prior to the visit, surgical management of bladder outflow obstruction in the area comprised only of open prostate surgery (transvesical prostatectomy) which is associated with longer stays in hospital (up to a week) and higher rates of morbidity compared to TURP.

The main aims of the visit were therefore to focus on these areas by teaching local residents transperineal biopsies, and development of the endoscopic service to allow them to provide TURP to patients.

Travel/Accommodation

Travel to Ndola was relatively straightforward. Flights from London Heathrow provided an option to fly to Ndola via a stopover in Addis Ababa, or Johannesburg. Following an 8-hour flight to Addis Ababa, Nick and I joined a connecting flight to Ndola (4hrs) with a short wait in-between flights (with Nish and Rustam flying via Johannesburg).

Leaving at 2100 meant an overnight flight and arrival in Ndola at 1200 on Sunday, we were met by Mumba at the airport and found ourselves whisked away to the hospital for a ward round on the pre-ops for Monday (barely 24hrs since leaving Exeter!).

Accommodation was easily organised, and booked online prior to the visit. We stayed at Urban Hotel/Greenwood manor. The setting was safe, clean with reliable internet access and an onsite restaurant, which was particularly handy each evening following a full day in hospital. Our stay also included a morning breakfast with buffet spread each morning catering to all tastes.

The location was close to the hospital, although roadworks during the visit meant a slight detour for our morning driver, kindly provided by the hospital to take us in each morning. The local Zambians were very friendly, and the areas both in and outside hospital felt very safe throughout our stay. September worked out to be a good time to visit Ndola, with temperatures generally around 30c in the daytime.



View from the hospital

Equipment and workshop setup

Webinars

We had been in regular dialogue with residents in Ndola for several months prior to our visit through delivery of monthly teaching webinars. These comprised case presentations from both Ndola and the UK, in addition to teaching presentations, chaired by a consultant facilitator.

This educational setup is one we had previously developed during the COVID pandemic and used to deliver teaching to residents in University Teaching Hospital, Lusaka. By refining this case-discussion format, we were able to produce a series of teaching discussions covering the *FRCS Urol* curriculum

(https://www.baus.org.uk/professionals/urolink/learning_resources.aspx). These were made available online to both UK and overseas trainees (and remain accessible for playback/revision). This format of educational delivery, in the absence of visits during COVID, was also presented internationally (*THET conference: Solidarity in shadow of COVID*).

In this instance, the webinars provided an opportunity to teach on topics requested by the Ndola residents prior to our visit. Closer to the visit dates, it became clear our focus would be on TURP and TP biopsies, and so we were able to hold several focused webinars focusing on Prostate Cancer and management of benign prostatic hyperplasia.

These pre-visit MDT/meetings have been a gold-standard of Urolink trips in recent years as it provides bidirectional learning to residents in both areas. There is an educational benefit gained by discussing cases, and by highlighting differences in culture and presentation, trips can be tailored and prepared for more effectively by gaining a better understanding of the regional setup prior to a planned visit².

Equipment

Before our visit, I had been put in touch with Bright, a consultant in Ndola who had been charged with leading on equipment. Through Whatsapp exchanges and online meetings we were able to compile an inventory list and highlight any equipment we could bring to allow the workshops to be delivered. This also allowed us to check that equipment was working prior to our arrival and that any donated equipment was compatible.

Donations that were provided included catheters, bladder syringes, irrigation tubing. Nish and Rustam were also able to obtain a prostate biopsy phantom (simulation trainer) kindly donated by *BXTA* for the trip and *Clarius* portable transrectal ultrasound machine which proved invaluable for the prostate biopsy teaching sessions and allowing us to measure prostate size prior to TURP. We were also very grateful to the *Medi Tech Trust* who kindly donated some loop electrodes and rolyballs that were compatible with the endoscopic equipment and used for TURP. This equipment was also procured by the team in Ndola to promote local sustainable practices.

In terms of practicalities, personal equipment we packed comprised suitable sets of scrubs, scrub hat, smart clothes for ward round and theatre shoes.

Workshop setup

Prior to the visit a tremendous amount of work had been put in by Mumba and the team behind the scenes. For the week-long visit two operating theatres had been reserved for Urology for the whole week (Monday-Friday), this provided us the capacity to run simultaneous workshops but also allowed the local team to continue some of their elective activity. As a result, we also had the opportunity to see urethroplasty and open prostatectomy (transvesical), procedures not commonly encountered in the UK.

Mumba had also managed to invite consultant colleagues from secondary hospitals in the region with residents travelling down specifically for the week to gain more tertiary-level experience in addition to the new skills.

Lunch was generously provided each day, the local staple of Nshima served with vegetables and meat/fish. Nicknamed “Nshima-za-pam” by Mumba, the doughy balls kept us going through the busy afternoons, with the sedatory side-effects off-set with our attention constantly split between operating/teaching and observing both non-technical skills and the challenges posed.

Word had clearly spread about lunch whilst we were there as the lunch queue weaved down the theatre corridor by the end of the week!



Nshima staple lunch of the week

Overview of activity

Day 1 – Monday

We arrived at the hospital around 0800. Upon our arrival we were introduced to Dr Banda, the senior medical director of the hospital who also works as a renal physician. During this time we introduced ourselves, setting the scene for our visit and discussing our previous webinar involvement. Mumba highlighted how one of the current issues facing Urology is the lack of space for both clinics and procedural activities, a barrier in providing diagnostic services.

Following this we met in theatres for a presentation on TURP whilst the first case underwent anaesthetic. The majority of cases in Zambia are performed under spinal anaesthesia and comprised an intrathecal dose of anaesthetic. It is not uncommon for anaesthetists in Zambia to cover multiple theatres with anaesthetic assistants recording observations during the procedure.

The first case of the day was a patient who had failed medical therapy and had also previously had episodes of infection following previous prostate biopsy. Transabdominal ultrasound had estimated a prostate size, however TRUS sizing on-table demonstrated a suitable prostate size for TURP which meant the patient avoided an open prostatectomy.

This first case also saw the first introduction of the “sterile irrigation bucket”. This bespoke piece of equipment had been created specifically for performing TURP and comprised of two metal cooking pots welded together, along with a valve to create an outflow. This impressive feat of frugal engineering resulted in a reusable irrigation system that could be autoclaved/sterilized. Irrigation fluid comprised Dextrose due to lack of access to Glycine.

Multiple bottles of these were used to fill the irrigation bucket with a suitable amount pre-procedure.

The first technical challenge was to connect this to the inflow, we found our ellick adaptors provided a way to connect the irrigation tubing from the bucket to the thinner more familiar irrigation tubing attached to the resectoscope.

It was evident from this initial challenge that the operating steps were likely to be a simpler part of a bigger picture which also comprised non-technical skills and environmental/equipment adaptations.

Equipment challenges were further highlighted with technical issues with the diathermy pedal, thankfully the first case was able to be completed safely and a quick visit from the engineer had the pedal up and running for the rest of the cases.



Sterile irrigation bucket



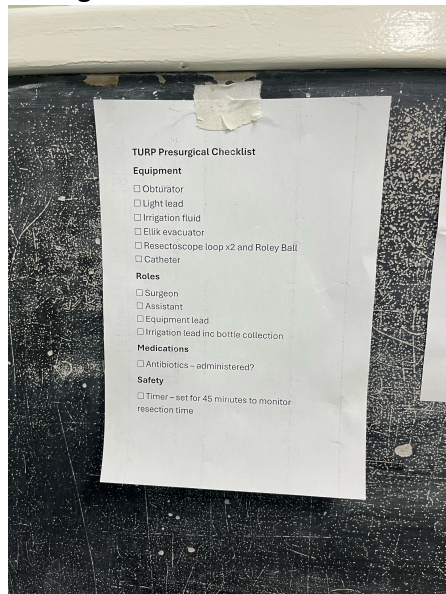
Rustam talking the team through TURP steps

Debrief and introduction of a bespoke pre-procedure checklist

At debrief we discussed the learning points to include use of TRUS to measure the prostate. Due to the adaptations to equipment and initial challenges encountered, a pre-operative checklist was developed to ensure all equipment was available prior to the start of

procedure. In addition to this, specific roles were assigned to local consultants and residents to include equipment lead, assistant, irrigation lead. These roles allowed those not operating to be involved, but also ensured local faculty were able to gain a greater understanding of the procedure, particularly with many of the team being unfamiliar with the newer procedure (TURP).

This was one of the key learning points from the trip, the introduction of a bespoke pre-procedure checklist helped ensure surgical safety by ensuring optimisation of the equipment and surrounding environment. This was particularly important when introducing a new procedure where there are many potential areas for error. Its use was highlighted during the second case where an underfilled irrigation bucket was identified.



Pre-procedural checklist for TURP

Bidirectional learning/Educational benefits

Whilst the first case was ongoing, we were also able to observe an anastomotic posterior urethroplasty in theatre 2, this is a procedure commonly performed by the team in Ndola with strictures commonly caused by infection and trauma. In addition to anastomotic repair, urethroplasty with buccal grafting comprises around 1/3 of the urethroplasty work and so there is a growing need to develop this area to include complex urethroplasty. Currently, complex cases are referred to Lusaka for management, and it is not uncommon for referrals to be returned due to lack of expertise for complex urethroplasty within the region.

Following this case, I had the opportunity to assist with a transvesical prostatectomy (TVP) in a catheter-dependent patient with a large prostate. TVP is the default procedure for bladder outlet obstruction in Ndola with TURP only offered in UTH, Lusaka prior to this workshop, and in limited capacity. Introducing TURP to the region therefore fulfills a significant healthcare need, in addition to offering an alternative to open surgery.

It was good to obtain hands-on open operating experience, and particularly the approach to cystostomy. Assisting this procedure provided confidence with open operating and approach to the bladder as a good exposure was essential to allow transvesical prostatectomy to be performed. After blunt dissection the prostate was removed with findings correlating with that seen on pre-operative cystoscopy (a large prostate with a large median lobe). Following this a 3-way catheter was inserted and the balloon inflated to the

volume of the prostate enucleated to prevent the catheter dropping into the prostatic fossa. A two-layer closure and peri-vesical drain was also placed.

The equipment challenges were again highlighted at the time of drain placement as no fenestrated drains were available in the hospital, the drain was therefore fashioned out of a drain bag with fenestrations manually cut into the tubing to allow it to act effectively as a drain.

From a training point of view, during the week, I was able to complete ISCP WBA's on transvesical prostatectomy, urethroplasty, both of which are areas of open surgery that can be difficult to gain exposure to in the UK. Assessments in critical conditions such as bladder trauma/repair, TUR syndrome and post-TUR bleeding also ensured I could keep up to date with training requirements.

Further to this there was a large appetite from residents for teaching/presentations on TURP and prostate cancer. Rustam and I were therefore able to complete ISCP observations of teaching and brush up on FRCS Urol content over the course of the week to deliver the "academic time" requested.

Overall, these cases were a good example of bidirectional learning with the local team learning TURP next door and members of the visiting team also gaining reciprocal experience and skills.

We rounded out the day with a post-operative ward round and were very pleased to see our TURP had clear urine day 0 (despite technical hitches!), all-in-all a very busy and successful first day.



Prostate enucleation following transvesical prostatectomy

Day 2

Day 2 started with a Mentimeter quiz about TURP and Transperineal prostate biopsies. It was clear that the underlying knowledge base of residents was strong. This was swiftly followed by case 1 of the day – a young 30-year-old gentleman with a pelvic mass between rectum and prostate. He had previously been sent to UTH, Lusaka for biopsies where biopsies performed were inconclusive. Diagnostic accuracy from prostate biopsies is a key challenge in the area with finger-guided biopsies commonly performed in cases where there is palpable disease. The mass was visible on ultrasound and a transperineal biopsy approach successfully demonstrated, highlighting the practical benefits introducing ultrasound guided biopsies would have.

The second case of the day was a TURP. It was clear the local team were making good progress and this was very satisfying to see. During this case the local team were leading on the pre-operative checklist and were independently taking on roles of equipment/irrigation leads. There appeared to be very good engagement and better understanding of the setup after the initial challenges on day 1. Mumba and Bright were also independently setting up kit for this case which was very positive to see with a successful first TURP performed by Mumba.

More Nshima followed the morning cases and a second TURP performed with Nish taking Ntambo and Bright through the steps. Both demonstrated good application of knowledge and enthusiasm to learn with Ntambo actively observing for parts of the procedure and asking questions throughout the procedure.

Surgical site infections and Transvesical prostatectomy post-op recovery

We rounded out the day with a post-op ward round. During this time, it was highlighted that surgical site infections remain a key challenge for patients undergoing open surgery. If some patients could be selected for TURP over TVP the burden of SSI complications could be significantly reduced. Often patients will leave hospital following TVP with a clean wound, however re-presentations several weeks after is not uncommon due to lack of sanitation and promotion of traditional healing practices (applying charcoal to wounds) in rural areas. The contrast between the TVP cases and TURP cases was stark, with the TURP cases demonstrating clear urine vs fairly heavy bleeding/haematuria urine in TVP cases. Patients undergoing TVP will often stay in hospital up to 1 week as they wait for the urine to clear and the drain to be removed (whilst patients could theoretically leave with drains there is a significant infection risk, and some patients live large distances away making this not practical).

Day 3-4

Days 3-4 saw the continued introduction of prostate biopsies and further channel TURPs. Transperineal biopsies were demonstrated, it was more difficult to coach steps as this was less modular and included use of ultrasound. As such a further checklist and breakdown of surgical steps was created. Breaking down the transperineal biopsy process into a modular system helped reinforce my learning around transperineal biopsy technique by considering the specific steps to a perfect biopsy procedure. By taking this approach, we were also able to identify the critical procedural steps (at pre-biopsy and at sample collection) and introduce a procedural pause at these points to ensure surgical safety. Focusing on these areas ensured the procedure could be performed smoothly and without error. Similar to TURP, we found allocation of roles to other residents helped ensure people were engaged with the procedure.



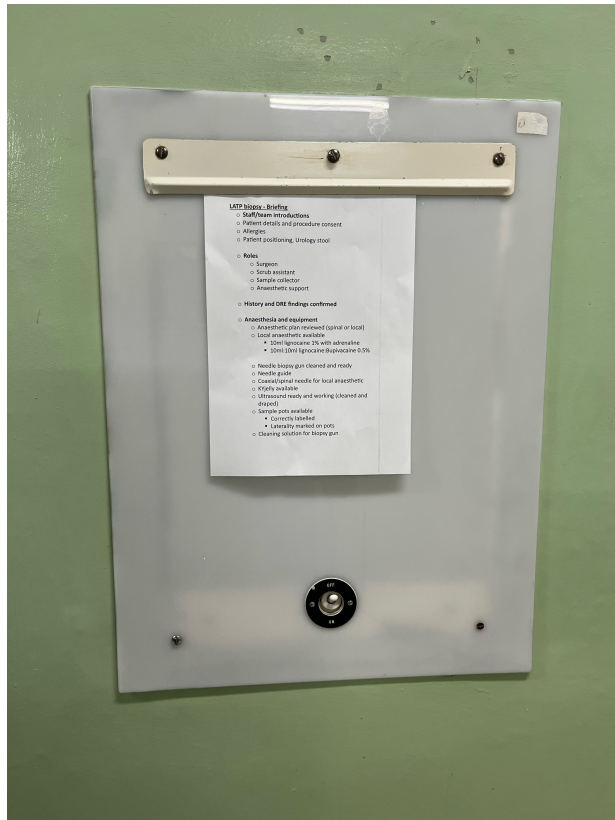
Teaching biopsies using a prostate phantom simulator and local USS machine

The day was rounded out with a final transperineal biopsy case. Mumba had adopted the ultrasound and transperineal technique well and was able to perform this largely independently.

Day 4 was the final full day workshop with only 2 cases scheduled for the following day. We started the day with talks about managing TURP bleeding and TUR syndrome. Following this it was time for the first case, a cystolitholopaxy completed by Nick who was able to demonstrate use of a stone punch. This case highlighted a further key benefit in introducing endoscopic services as a moderate size bladder stone was able to be treated endoscopically and sent home day 1 post-op vs. an open cystostomy which was associated with significantly more morbidity and longer hospital stay.



Makani leading the pre-surgical checklist



Bespoke surgical checklist for TP biopsies

Further cases included a channel TURP + cystolitholopaxy in theatre 1 and prostate biopsies in theatre 2.

Use of a Prostate biopsy phantom model for simulation in theatres was particularly useful as it allowed us to demonstrate the ultrasound technique and imaging, allowing residents to transfer their knowledge of prostate anatomy prior to learning the biopsy procedure. A key challenge was the use of an end-fire probe which made imaging slightly more challenging. It was found that the linear view was most effective for performing biopsies as it was possible to see the needle easily. Nish used the Pivot-Pro biopsy needle guide to help keep in view. It was important to consider what we were trying to achieve with biopsies in this setting as patients often present much later with disease (palpable). The key for implementation in this setting was therefore to ensure the team were confidently able to hit the prostate to obtain good prostate cores rather than target specific lesions. We therefore explained the Ginsberg principles to target posterior peripheral zones and a few anterior cores.

Finger-guided biopsies (performed transrectally) were the typical method of prostate biopsies prior to the workshop, these often have a low diagnostic pick-up rate (in addition to a personal risk of injury!). Typically, patients undergoing these will undergo prolonged antibiotic courses with 3 different antibiotics. In addition to this there is growing cephalosporin resistance and post-biopsy infective complications are still encountered. By introducing transperineal biopsies it is hoped that diagnostic accuracy can be improved and infective complications reduced

The day was rounded out with a post-op ward round. Successful TWOC's were seen in patients who had catheters for 5 and 6 years respectively! Latex catheters are most commonly used in Zambia and changed 2 weekly in a resident-led catheter clinic. This is due

to the cost of long-term catheters which are 10-12x more expensive. Together, the two of them had undergone 286 catheter changes in total. It was incredibly satisfying and reassuring to see the impact of surgery in these cases and brought into perspective the significant change surgical intervention could have.

Day 5

Day 5 concluded the Uroweek Prostate workshop with a final transperineal biopsy performed by the team under local anaesthetic and using local Ndola USS machine and transrectal probe. It was very rewarding to see the progress made by the team with prostate biopsies and we ended the week feeling the team could successfully implement TURP and TP biopsy into their current practice upon leaving.

Insight into attitudes/cultural beliefs towards prostate cancer

The day ended with some prostate cancer teaching by Rustam and a questionnaire about prostate cancer diagnostics and beliefs. This quickly turned into a discussion exploring Zambian attitudes and cultural beliefs towards prostate cancer. Prostate cancer represents a growing health burden in Zambia, and is the third most common cancer in men, yet awareness and understanding amongst the general population remains limited.

It was highlighted that patients frequently present late, often with metastatic disease and most commonly bone pain, sometimes this is accompanied by lower urinary tract symptoms (LUTS). The pathway to diagnosis can also be long, with patients moving from local clinics to district and then regional hospitals, which can often take several months.

Interestingly there is no word for “prostate” in the widely spoken Bemba or Nyanja languages, and the term is sometimes perceived as personal or rude, contributing to stigma and misunderstanding. As a result, prostate issues are often equated with cancer, even in cases of benign disease, and lack of public health campaigns to promote awareness or earlier presentation can also compound this.

Cultural barriers also play a role: older generations rarely share personal health information, leaving younger men without knowledge of family history, though this is beginning to shift with Western influence and more open attitudes among younger people.

Access to diagnostics remains a challenge. MRI is only very recently available (privately) in Ndola, at significant cost so very few patients have access (none of the patients during this week), It was highlighted that histological diagnosis of prostate cancer is required before oncological treatment or insurance coverage for further imaging or treatment. This highlighted the important role transperineal biopsy could have in Zambia to allow more people to gain access to investigation and treatment.

The residents were asked which biopsy method they would prefer, reassuringly most residents favoured transperineal biopsy over finger-guided transrectal approaches, citing better diagnostic accuracy, and less risk of injury! There have also been cases of Fournier’s gangrene following transrectal biopsy and growing cephalosporin resistance reinforcing the importance and need for transperineal approaches.

It was incredibly useful to discuss these issues with the team at the end of the workshop as we had got to know each other over the course of the week, as such residents were very

happy to give their views. I felt I left with a better understanding of the key issues surrounding prostate cancer care in the country which could inform future visits and influence care delivery.

Final wrap-up

We wrapped up with a final meeting with hospital management; we met with the deputy medical director and summarised our activity/results from the week. We left the meeting feeling very positive about the future and Mumba was particularly confident in the hospital's investment in Urology going forward, there was even talk of yearly Uro-weeks to keep things moving forward!

The final late afternoon was spent with a last-minute visit to the Baluba game resort, where we were able to unwind and see some wildlife before preparing for a flight back the following day.



Impromptu visit by the local (provincial) health minister



Final group photo

Conclusion

Overall, we felt very satisfied with the success of the trip and couldn't have asked for a better inaugural Uro-week workshop. Mumba and her team had worked tirelessly prior to our visit to ensure the practicalities of the workshop would come together. The pre-visit webinars/MDT meetings were also hugely helpful as it allowed us to get to know the team and co-ordinate logistics, culminating in a successful delivery of TURP and prostate biopsy teaching. Having a larger team comprising the 4 of us meant we could all focus on different aspects over the course of the week, this meant that we could focus on the technical/non-technical/equipment and communication aspects, in addition to introducing two new procedures.

The end of the week felt like the beginning of a strong and long-term Urolink partnership and I look forward to seeing how care/services in this area can be developed over time.

Reflections

I am tremendously grateful to The Urology Foundation for the opportunity to visit Ndola. I left feeling refreshed and with what felt like experience well beyond a single weeks visit. The visit felt both sustainable and bidirectional with exposure to open surgery not often seen in a UK setting. The organisation/planning and delivery of the workshop also allowed me to further develop my leadership skills. Further to this, the experience of healthcare and delivering new procedures in a different setting allowed me to consider the non-technical aspects as well as challenge assumptions of what can be achieved as a trainee on a visit (the answer is more than you think!). The Urolink format of delivery of workshops is a gold-standard in global surgery to strive for and I left feeling that we had made a sustainable impact to care going forward. I would strongly encourage trainees seek out this unique opportunity in training.

References

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2. Ng, M., Chamileke, N., Mapulanga, V., Campain, N. and Payne, S. (2022), The benefits of virtual learning webinars to both low- and high-income countries. *BJU Int*, 129: 434-441. <https://doi.org/10.1111/bju.15705>