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How I do it

Remote consultations in paediatric urology—Not just for pandemics?

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Summary

Although some centres have successfully integrated remote clinics into their paediatric urological practice, for many, remote clinics have developed due to the COVID-19 pandemic. One UK-based institution has integrated remote clinics in their practice for over two years and has developed guidelines considering which conditions may be suitable for

remote consultations. These guidelines have been appraised by the European Association of Urology Young Academic Urologists paediatric working group. Through practical experience and anticipated difficulties, we have discussed considerations that paediatric urology departments should ponder when integrating remote clinics into their practice as we move forward from the pandemic.

Telemedicine, including remote telephone and video consultations, has been utilised in some areas of paediatric medicine for many years [1]. For most clinical teams, COVID-19 has been the driving force towards rapidly integrating remote clinics into practice. Early guidance on undertaking remote clinics during the pandemic was issued by the European Association for Urology Guidelines Panel for Paediatric Urology in March 2020 [2], advising reduced attendances to outpatient clinics. Here, we consider the successful integration of paediatric urology remote clinics and consider how to move forward with remote clinics following the pandemic.

Within the European Association of Urology Young Academic Urologists (YAU), of seven centres, only one, within the United Kingdom (UK), utilised remote clinics pre-COVID-19. Based on their experience, Table 1 provides a guideline how remote clinics may be offered to patients dependant on condition and clinical need.

On discussion within the YAU group, many institutions now complete remote clinics with the provision in exceptional circumstances for face-to-face consultations. All group members agreed with the UK centre guidelines and value initial face-to-face consultations as fundamental since important factors such as physical examination, family understanding and dynamics can then be recorded. Follow-up visits are considered adequate for remote clinics and successful implementation of postoperative remote clinics was already demonstrated by Finkelstein et al. [3].

The two main concerns expressed by the working group were regarding the need for investigations and examination without tactile feedback. In most centres, patients attend a radiology appointment separately and results are reviewed prior to the remote consultation. Some expressed worries in that regard since they perform their own ultrasounds. Within (paediatric) urology, many physical examinations are intimate. Boehm and colleagues have developed remote clinics for adult urology patients and deem patients requiring examination ineligible for remote consultations [4]. Within paediatric clinics, visualisation of body parts is theoretically possible via remote consultation. Although our equipment is secure, we are concerned about the child's understanding and safeguarding.

The financial impact for services must also be measured. Within YAU, most centres get paid more for face-to-face consultations; one receives approximately quadruple the fee for patients seen in person. Platforms allowing home-working and video consultations providing significant costs on a 'per user' basis and initiating remote clinics is costly; however, they are often cost-effective for departments [1].

Continuation of consultation is important to prevent delays to operative procedures that may have dangerous impact on the long-term, as the theatre capacity became restricted due to the pandemic and only urgent cases were performed [5]. Remote clinics can be used to sooner detect indications for acute action which otherwise might have been postponed

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Condition	New Patient	Routine follow-up	Post-operative follow-up	Involvement of Multi- disciplinary team (MDT)
Undescended testes	F2F	F2F — evaluate growth	F2F	asee below
Hydrocele/Inguinal hernia	F2F	F2F	Not routinely seen If required for specific reason so F2F	n/a
Acute scrotum	n/a	F2F — Evaluate growth	F2F	n/a
Phimosis — Physiological —	F2F	Telephone/video	Not required	n/a
Balanitis Xerotica Obliterans	F2F	F2F	Telephone/Video ^a	n/a
Varicocele	F2F	F2F or tele. if to discuss USS results	Video or telephone	n/a
Congenital penile abnormalities e.g. Hypospadias, congenital penile curvature, webs	F2F	F2F unless already dated and reviewed within six months of surgery	F2F or video ^a	^a see below
Differences of sexual development	F2F	Telephone/video	Telephone/ video/F2F	Video or F2F ^b
Recurrent urinary tract infections	F2F	Telephone or video	Telephone or video	n/a
Urethritis/Epididymitis	F2F	Telephone or video	Telephone or video	n/a
Daytime lower urinary tract symptoms	F2F	Telephone or video ^a	Telephone or video ^a	CNS clinic biofeedback F2F
Monosymptomatic nocturnal enuresis	F2F	Telephone or video ^a	Telephone or video ^a	
Neurogenic bladder	F2F	Telephone or video ^a	Telephone or video ^a	Video or F2Fb
Dilatation of upper tract (reflux or obstruction including duplex systems)	F2F	Telephone or video ^a	Telephone or video ^a	Video or F2F e.g. reflux clinic
Congenital lower urinary tract obstruction	N/A	Telephone or video ^a	Telephone or video ^a	Video or F2F ^b
Urinary stone disease	F2F	Telephone or video ^a	Telephone or video ^a	Video or F2F ^b
Pediatric Urological trauma	N/A	Telephone or video ^a	Telephone or video ^a	

F2F: face-to-face consultation; Video: e.g. via Attend Anywhere; CNS: Clinical nurse specialist.

to the next face-to-face appointment, e.g. retractile testis in follow-up that now causes intermittent pain due to potential intermittent torsion.

Moving forward, teams should contemplate whether remote clinics should be routinely integrated into practice. In the UK centre 60% of consultations are now performed remotely and early results from a departmental service evaluation suggest parents prefer remote clinics with 95% satisfaction rates, due to shorter waiting times, reduced travel and less exposure to others; even more so when they have met their surgeon previously. Hopefully, the guidance presented herein will support implementation of remote clinics and lead to increased use in other centres.

Conflicts of interest

The authors report no conflicts of interest.

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References

- [1] Ellimootitil C, Skolarus T, Gettman M, Boxer R, Kutikov A, Lee BR, et al. Telemedicine in urology: state of the art. Urology 2016;94:10-6. https://doi.org/10.1016/j.urology.2016.02.061.
- [2] Quaedackers JSLT, Stein R, Bhatt N, Dogan HS, Hoen LA, Nijman RJM, et al. Clinical and surgi cal consequences of the COVID-19 pandemic for patients with pediatric urological problems: statement of the EAU guidelines panel for paediatric urology, March 30 2020. J Pediatr Urol

^a Useful for visualising on screen bladder diaries, video of flow, photos, patient self-examination with consent if appropriate.

^b MDT for such complex patients are often difficult to arrange. Video links may mean better success and may be less intimidating for our young adults who are used to communicating through such mediums to meet the adult teams who will be involved in their care.

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2020;(April):1-4. https://doi.org/10.1016/j.jpurol.2020.04.007.

- [3] Finkelstein JB, Cahill D, Kurtz MP, Campbell J, Schumann C, Varda BK, et al. The use of telemedicine for the postoperative urological care of children: results of a pilot program. J Urol 2019;202(1):159-63. https: //doi.org/10.1097/JU.000000000000109.
- [4] Boehm K, Ziewers S, Brandt MP, Sparwasser P, Haack M, Willems F, et al. Telemedicine online visits in urology during
- the COVID-19 pandemic—potential, risk factors, and patients' perspective. Eur Urol 2020:1—5. https://doi.org/10.1016/j.eururo.2020.04.055.
- [5] Spinoit AF, Haid B, Hiess M, Banuelos B, 't Hoen LA, Radford A, et al. Impact of the COVID-19 pandemic on paediatric urology practice in Europe: a reflection from the European association of urology young academic Urologists. Eur Urol 2020:9—10. https: //doi.org/10.1016/j.eururo.2020.04.019.

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