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| University Hospitals of Leicester  | Standard Procedure No: C26/2021 | |
|  | Intravesical Instillations | |
| STANDARD OPERATING PROCEDURE (SOP): GH, LGH, LRI | Page 1 of 4 | Version: 2 |

Title: Intravesical Instillations

| APPROVERS | POSITION | NAME |
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| Person responsible for the review of the procedure | Children's Urology Nurse Specialist | Kim Harvey Rachel Sheard |
| SOP Author's | Children's Urology Nurse Specialists | Kim Harvey Rachel Sheard Jeni Senior |
| Management Lead | Consultant | Ashok Rajimwale |

Change history:

| Version | Date Issued | Brief Summary of Change | Author |
|---------|-------------|--|---|
| 1.0 | | New SOP | Kim Harvey, Rachel Sheard |
| 2.0 | March 2024 | No changes to practice Re-format only | Kim Harvey Rachel Sheard |

Introduction and Background:



This SOP sets out the University Hospitals of Leicester NHS Trust recommended procedure for intravesical instillations for children who are patients of the Trust. These will generally although not exclusively be children or young people who either have an indwelling catheter or who regularly carry out clean intermittent (self) catheterisation. Intravesical instillation is the placement of medication into the child's bladder via a urethral or Mitrofanoff catheter in order to treat a specific problem of either bacterial infection or resistant inflammation.

Intravesical instillations are not without clinical risk and the medications used should be prescribed as carefully as any other medication following any other route. The procedure should only be carried out by either a registered children's nurse who has the assessed competence to deliver these medications, or a member of the child's medical or surgical team.

For Urethral catheterisation please refer to: [Urine Catheter in Children UHL Children's Hospital Guideline](#)

Gentamicin

This should be considered where the child has complex urological issues with difficult recurrence of urinary tract infection and who either has an indwelling urethral, supra pubic or Mitrofanoff catheter, or who is able to carry out clean intermittent (self) catheterisation.

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|---|--|------------|
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|  | Intravesical Instillations | |
| STANDARD OPERATING PROCEDURE (SOP): GH, LGH, LRI | Page 1 of 4 | Version: 2 |

Prior to commencing this treatment it is recommended to discuss with Microbiology if there are alternative or preferable antibiotics available.

All children commencing on this treatment should be discussed with the Nephro – urology team to identify any contraindications.

Where there is confirmed vesico – ureteric reflux, discussions should take place with the Nephro – urology team as this may not be a suitable treatment.



Therapeutic drug monitoring is not routinely required as there is minimal risk of absorption into the blood stream.

Dose

0.48mgs/ml. Volume to be calculated as 10% of the child's expected bladder volume (Age + 1 x 30mls)

Instilling via an indwelling urethral, supra pubic or Mitrofanoff catheter

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| 1 | Prepare the child and parent that you will be coming to carry out the procedure and empty the child's catheter if the catheter is not on free drainage (see Guideline for catheter care for instructions on bladder emptying via an indwelling catheter). |
| 2 | Prepare all the equipment needed: <ol style="list-style-type: none"> 1. Ampoule of 20mgs in 2mls Gentamicin (see medication administration policy for checking correct child, dose route etc.) 2. Sodium Chloride 0.9% 3. 2ml syringe 4. Appropriate size syringe 5. 50ml catheter tip syringe 6. Blunt needle for drawing up 7. Medi-swab 8. Flip-flo valve if the catheter is on free drainage 9. Disposable gloves and plastic apron |
| 3 | Draw up the Gentamicin into the 2ml syringe and the sodium chloride 0.9% into the appropriate size syringe and then mix both together in the catheter tip syringe. |
| 4 | Carry out safe medication administration checks with the child and parent |
| 5 | If the catheter is on free drainage and there is no valve: Wearing gloves and apron remove the drainage bag from the catheter and place the flip-flo onto the catheter. Keep the end of the catheter bag clean for re-attaching once the Gentamicin has been instilled into the bladder. |

| | | |
|---|--|------------|
| University Hospitals of Leicester  | Standard Procedure No: C26/2021 | |
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| STANDARD OPERATING PROCEDURE (SOP): GH, LGH, LRI | Page 1 of 4 | Version: 2 |

| | |
|----|---|
| 6 | Attach the catheter tip syringe to the end of the flip-flo valve, ensuring the valve is in the open position, and gently instil the Gentamicin. The child may find this uncomfortable so be prepared to provide reassurance that this discomfort will quickly pass. |
| 7 | Close the Flip-flo valve and leave the medication in the bladder for at least one hour. |
| 8 | Reattach the catheter bag to the end of the Flip-flo valve but leave the valve closed. |
| 9 | After at least one hour release the valve so that the bladder drains either into the bag or into a receiver for disposal. |
| 10 | If the catheter is not on free drainage close the valve once the bladder has emptied. |



Instilling via Clean Intermittent (Self) Catheterisation.

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| 1 | Prepare the child and parent that you will be coming to carry out the procedure |
| 2 | Prepare all the equipment needed: <ol style="list-style-type: none"> 1. Ampule of 20mgs in 2mls Gentamicin (see medication administration policy for checking correct child, dose route etc.) 2. Sodium chloride 0.9% 3. 2ml syringe 4. Appropriate size syringe 5. 50ml catheter tip syringe 6. Blunt needle for drawing up 7. Medi-swab 8. Disposable gloves and plastic apron 9. Child's regular intermittent use catheter 10. Receiver |
| 3 | Draw up the Gentamicin into the 2ml syringe and the Sodium chloride 0.9% into the appropriate size syringe and then mix both together in the catheter tip syringe. |
| 4 | Carry out safe medication administration checks with the child and parent |
| 5 | If the child is able to self-catheterise or prefers his or her parent to carry out this task, please ensure to leave the catheter in place once the bladder is empty. |
| 6 | If the child is not able to self-catheterise and the parent is not available, with the child's permission carry out this procedure as taught and assessed based on the children's catheterisation guideline, leaving the catheter in place once the bladder is empty. |
| 7 | Attach the catheter tip syringe to the end of the catheter and gently instil the solution to the |

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| STANDARD OPERATING PROCEDURE (SOP): GH, LGH, LRI | Page 1 of 4 | Version: 2 |

| | |
|----|---|
| | bladder. The child may find this uncomfortable so be prepared to provide reassurance that this discomfort will quickly pass. |
| 8 | When the full solution has been instilled remove the catheter from the bladder and make the child / young person comfortable. |
| 9 | The solution should now remain in the bladder until the child / young person is ready to catheterise again. |
| 10 | Once the recommended treatment course is completed a MSU sample should be sent |

Education and Training:

Anyone carrying out this SOP should be –
 Competent to check and administer Medication as per Childrens Hospital Guidelines
 Have a full understanding of handling and managing a catheter in a child's bladder

Monitoring: At present this is not applicable to the SOP. This will be reviewed as needed.

References to other standards, alerts and procedures:

[Urine Catheter in Children UHL Children's Hospital Guideline](#)

[Prescribing and Administration of Medicines in Children LMC Chapter 13](#)

van Nieuwkoop C, et al (2010) *Intravesical gentamicin for recurrent urinary tract infection in patients with intermittent bladder catheterisation*. International Journal of Antimicrobial Agents. Dec;36(6):485-90.

Cox L, et al (2017) *Gentamicin bladder instillations decrease symptomatic urinary tract infections in neurogenic bladder patients on intermittent catheterization*. Canadian Urology Association Journal. Sep;11(9):E350-E354.

Dray, E & Clemens, Q (2017) *Recurrent urinary tract infections in patents with incomplete bladder emptying: is there a role for intravesical therapy?* Translational Andrology and Urology Jul;6(suppl 2):S163-S170



Protocol for Gentamicin Bladder Irrigation Pediatric Surgical Associates Ltd

Defoor, W et al (2006) *Safety of Gentamicin Bladder Irrigations in Complex Urological Cases* Great Ormond Street Hospital for Sick Children

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| Key Words: |
| Bladder; Instillations; Gentamicin; Recurrent UTI |
| <p>The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.</p> <p>As part of its development, this SOP and its impact on equality have been reviewed and no detriment was identified.</p> |
| END |