Leicester Children's Hospital

NHS University Hospitals of Leicester NHS Trust

LRI Children's Hospital

Vulvovaginitis (includes vaginal discharge/vulval irritation) in pre-pubertal girls

Staff relevant to:	Clinicians treating pre-pubertal girls within UHL Children's Hospital
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1. Introduction and Who Guideline applies to

Vaginal discharge in pre-pubertal girls is a common paediatric gynaecological problem presenting to General Practitioners, Paediatricians and Gynaecologists.

2. Guideline Standards and Procedures

Vaginal discharge

The newborn female often has a clear or white odourless vaginal discharge, occasionally blood-stained, which is as a result of circulating maternal oestrogen. This clears within a few weeks when the effect of maternal oestrogen wears off. The genital tract then becomes hypooestrogenic in which state it will remain until puberty. During this hypo-oestrogenic phase, the most common cause of vaginal discharge is a condition commonly known as vulvovaginitis. Nonspecific vulvovaginitis is responsible for a large proportion of cases. Even in situations in which a bacterial isolate from the vagina or introitus is identified, the etiology of the discharge may not be related to the organism (eg, respiratory bacteria or enteric bacteria) but rather still considered "nonspecific."

Vulvovaginitis

There are two categories of vulvovaginitis [1] -

1. Nonspecific type –

This type is responsible for a large proportion of vulvovaginitis in prepubertal females. Even in situations in which a bacterial isolate from the vagina or introitus is identified, the etiology of the discharge may not be related to the organism (eg, respiratory flora or enteric bacteria) but rather still considered "nonspecific."

Factors that increase the risk of vulvovaginitis in prepubertal children include:

- Lack of labial development
- Thin mucosa due to lack of estrogen
- More alkaline pH (pH 7) than in postmenarchal children
- Poor hygiene
- Bubble baths, shampoos, deodorant soaps, or other irritants
- Obesity
- Choice of clothing (leotards, tights, and blue jeans)
- Chronic masturbation activity
- Foreign bodies, primarily toilet paper
- Sexual abuse

2. Infectious causes –

Children may pass respiratory flora from the nose and oral pharynx to the vulval area. Similarly, enteric organism from the anal area can be identified in vaginal cultures from children with vaginitis as well as in asymptomatic controls. Thus, the challenge for clinicians is to determine whether the bacteria found on cultures represent pathogens causing infection or are part of the vaginal microbiome in a young child presenting with symptoms.

Isolation of sexually transmitted infection or suspicion of sexual abuse has to be managed as per the safeguarding childrens' guidelines for management of suspected sexual abuse (UHL Guideline for the Management of Suspected Sexual Abuse in Children and Young People). Colonization with *Candida* species occurs in 3 to 4 percent of prepubertal children. Candida infection is uncommon in healthy, toilet-trained prepubertal children, in whom it is frequently over-diagnosed and wrongly assumed to be the aetiology of pruritus and the patient's symptoms. Criteria for treatment is covered in treatment section. Vulvovaginitis can also be caused by pinworm (*Enterobiasis*) infection.

Clinical features:

Typical presentation includes symptoms of nonspecific scant, white or clear mucoid discharge, itching, erythema, rash, and/or odour. Discharge can be green or yellow. The abrupt onset of a green or purulent vaginal discharge suggests a foreign body or a specific bacterial infection. Itching leads to excoriation, which may cause dysuria and incorrect diagnosis of urinary tract infections. Infectious bacterial vulvovaginitis causes vulvar irritation, erythema, pain, and (in some patients) purulent yellow or green vaginal discharge that may be foul smelling. Pinworm infections presents with a history of vulvovaginal and anal itching that is worse at night and may be recurrent.

A thorough inspection of the perineum for evidence of inflammation should be undertaken. Examining is easiest with girl supine and legs in frog-legged position. Internal examination is not necessary and should not be attempted. Child's underwear can be inspected to confirm the presence of discharge. Visual inspection of the anal verge or undergarments for mobile worms

is necessary if pinworm infection is suspected. The vulva may be erythematous from occlusive diapers or other irritants.

Skin dermatosis such as atopic dermatitis or psoriasis may be a feature. Occasionally, thickening of the clitoral hood secondary to chronic itching/scratching or masturbation may also be present. Signs of poor genital hygiene such as bits of toilet paper and faecal matter around the anus, introitus, and/or vagina may be noted. Diagnosis is made based upon these clinical findings.

Investigations:

Non-specific vulvovaginitis is the most common type and routine swab from vagina is not indicated.

If, despite appropriate adherence to hygiene measures (see section on treatment), the child develops a purulent discharge or bleeding, or symptoms of discharge persist, the possibility of a vaginal foreign body or specific infection should be assessed.

Next steps include:

- Re-examination of the genitalia in the knee-chest position to see if a vaginal foreign body is present.

- Lower vaginal swab using charcoal swab which detects candida and common bacterial pathogens.

If sexually transmitted infection or child sexual abuse is suspected, do not undertake any swab samples but instead follow the 'Safeguarding Children Guideline for the management of Suspected Sexual Abuse in Children and Young People' (UHL Guideline for the Management of Suspected Sexual Abuse in Children and Young People)

Initial treatment :

Hygiene measures (Table 1) are the primary treatment for nonspecific vulvovaginitis. Symptoms resolve in most children within two to three weeks. In addition, for children with recurrent episodes of vulvar and/or perianal itching (especially at night), examine for pinworms and treat as necessary.

Parent information can be found on via this link Treating vulval inflammation and vaginal discharge (vulvovaginitis) in young girls, or via Your Health and search vulval inflammation

Table 1: Hygiene measures [1]

General vulvovaginal hygiene measures

Keep vulva clean, dry, and well aerated
▪ Avoid sleeper pajamas. Nightgowns allow air to circulate.
▪ Cotton underpants. Double-rinse underwear after washing to avoid residual irritants. Do not use fabric softeners for underwear and swimsuits.
▪ Avoid tights, leotards, and leggings. Skirts and loose-fitting pants allow air to circulate.
▪ Avoid letting children sit in wet swimsuits for long periods of time.
Daily warm bathing
▪ Do not use bubble baths or perfumed soaps.
▪ Allow the child to soak in clean water (no soap) for 10 to 15 minutes.
▪ Use soap to wash regions other than the genital area just before taking the child out of the tub. Limit use of any soap on genital areas.
▪ Rinse the genital area well and gently pat dry.
▪ A hair dryer on the cool setting may be helpful to assist with drying the genital region.
▪ If the vulvar area is tender or swollen, cool compresses may relieve the discomfort. Emollients may help protect skin.
Review toilet hygiene with the child
▪ Children younger than 5 should be supervised or assisted in hygiene.
• Have children sit with knees apart to reduce reflux of urine into the vagina.
• If they have trouble with this position because of small size, they can use a smaller detachable seat or sit backwards on the toilet seat (facing the toilet).
▪ Emphasize wiping front to back after bowel movements.
▪ Wet wipes can be used instead of toilet paper for wiping as long as they don't cause a "stinging" sensation.

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Medical treatment options:

Vast majority of children respond to simple hygiene measures and do not need medical intervention. Medical treatment may help in children where discharge persists or have purulent vaginal discharge when intervention may hasten resolution of symptoms.

- Salt bath- is helpful when soreness and discharge is very bad. The easiest way is to put 2 large tablespoonful salt to the bath and sit in the bath for 10 minutes.
- Emollient creams for dry skin - after bath dry the area and apply emollients to prevent further irritation. These creams are best applied at least twice a day. These include E45, Sudocrem, Diprobase and Vaseline. Vaseline is advisable to protect from swimming.

- If pinworm infection is suspected, treatment is necessary as per BNFc. The entire household will need treatment at the same time.

- Antibiotics – treatment is warranted for all children who have *S. pyogenes (Group A Streptococcus)* isolated in vaginal swab (either alone or with other organisms) with a 5 day course of oral Penicillin V or oral Erythromycin in patients with penicillin allergy(dose as per BNFc). A longer course of up to 10 days may be appropriate for patients with severe or persistent or recurrent infections. *S. aureus and H. influenza* often resolve with hygiene measures alone as described above but should be treated if vulvovaginitis is persistent with purulent discharge despite hygiene measures. Antibiotic therapy would be guided by antibiotic susceptibilities.

  A vaginal swab demonstrating mixed growth and no *S. pyogenes* does not warrant antibiotic therapy. Isolation of enteric bacteria (ie. *Coliforms*) often represent colonisation and would not warrant antibiotic therapy.

  Isolation of pathogens such as *Neisseria gonorrhoeae, Chlamydia trachomatis* or Herpes simplex virus would suggest possible sexual abuse. Follow the 'Safeguarding Children Guideline for the management of Suspected Sexual Abuse in Children and Young People' (UHL Guideline for the Management of Suspected Sexual Abuse in Children and Young People)

- Candida treatment – Antifungal treatment should be avoided in healthy, toilet trained prepubertal children even if C*andida* species is isolated in vaginal swab. Empirical therapy is appropriate in those children who have had recent antibiotic therapy, immunosuppressed or those with associated nappy rash. 1% Clotrimazole cream applied two to three times a day until the rash has resolved and up to two weeks is recommended. PO Fluconazole (dose and duration as per BNFc) may be considered in children >12 years old with severe symptoms or immunosuppressed patients. For children under the age of 12 in these categories, please discuss with microbiology (as use of PO fluconazole is off licensed for this indication in this age group).

- Topical oestrogen cream – is not indicated.

Consider referral to other specialties :

If child has persistent symptoms despite hygiene measures and medical intervention if appropriate, consider seeking input from other specialties as specified below -

1) Referral to the Paediatric Gynaecology clinic: should be considered in the following situations, as they may need examination under anaesthesia (EUA):

   - Blood stained discharge suggestive of foreign body

   - No response to management outlined above

2) If sexual abuse is suspected or sexually transmitted infection is suspected or confirmed on swabs, then follow the 'Safeguarding Children Guideline for the management of Suspected Sexual Abuse in Children and Young People' UHL Guideline for the Management of Suspected Sexual Abuse in Children and Young People

3) Dermatology team if conditions such as Lichen sclerosis, psoriasis, eczema, vulval warts are suspected.

3. Education and Training

None

4. Monitoring Compliance

What will be measured to monitor compliance	How will compliance be monitored	Monitoring Lead	Frequency	Reporting arrangements
Feedback or comments when leaflet used by colleagues	At time of next guideline review unless urgent need for review identified prior	Dr Shenoy	5 years	CPM meeting When next guidelines reviewed

5. Supporting References

1. Laufer MR, et al. Vulvovaginitis in the prepubertal child: Clinical manifestations, diagnosis, and Treatment. UpToDate November 2024.
2. Garden AS. Paediatric and Adolescent Gynaecology 1998;I edn:107-
3. Stricker T, Navratil F, Sennhauser FH. Vulvovaginitis in prepubertal girls. Arch Dis Child 2003; 88:324-326
4. Chanchlani, Hodes. Fifteen minute consultation: vulval soreness in prepubertal girls. Arch Dis Child Educ Pract ed 2021:106:333-340

6. Key Words

Vulvovaginitis, vaginal discharge, vulval irritation

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.
As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

CONTACT AND REVIEW DETAILS	
Guideline Lead (Name and Title) Dr S Shenoy – Consultant Paediatrician Co-author- Dr Sharon Koo, Consultant Microbiologist	**Executive Lead** Chief Nurse
Details of Changes made during review: Guideline fully revised and reformatted Addition of use of antibiotics Use of topical oestrogen cream removed	