Management of Vernal Keratoconjunctivitis (VKC) in Children in the United Kingdom:

A Review of the Literature and Current Best Practice Across Six Large United Kingdom Centers[1]

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Recognising VKC

VKC is an allergic eye disease underpinned by an immunologically-mediated hypersensitivity reaction to environmental antigens.

Essential for assessment

Thorough history:

- Family/patient history of atopy
- Seasonality
- Previous treatments

Characteristic symptoms and signs, including:

- Itching/chronic eye rubbing
- Photophobia*
- Redness
- Tarsal/limbal papillae
- Watering
- Pain/burning
- Reduced vision*
- Shield ulcer/ clouded cornea*

*Suggestive of severe disease: urgent referral recommended

Severity and referrals

Mild	Moderate	Severe
Treatment-naïve, no sight-threatening signs	Previously treated, symptoms recurred, OR treatment-naïve with limbitis, large cobblestones, punctate keratopathy, mucous discharge	Lack of response to treatment AND/OR repeated flare-ups despite compliance AND/ OR shield ulcer, significant corneal vascularisation and/or disabling symptoms
No referral	4-6 weeks	24hr
Managed within primary care; behavioural advice and first-step treatment	Non-urgent referral to paediatric ophthalmologist within 4–6 weeks; initiate treatment	Urgent referral to paediatric ophthalmologist and corneal specialist within 24 hours; initiate treatment

Treatment and long-term management

Treatment is escalated step by step according to severity and response to previous therapy:

Severe

11. Systemic biologicals/calcineurin inhibitors
10. Oral steroids: 3 days max (e.g. prednisolone)
9. Surgery, including supratarsal steroid injection
8. Mucolytic (acetylcysteine)

Moderate

7. High-frequency/high potency topical steroids
6. Topical calcineurin inhibitors (e.g. ciclosporin A)

Mild

5. Short pulses of topical steroids
4. Oral antihistamines, if indicated if child is already receiving, can be continued
3. (Ocular lubricants, unless other simultaneous high-frequency treatment)
2. Topical dual-action agents (mast-cell stabilizers, topical antihistamines)
1. Exposure avoidance/cold compresses

Children with severe VKC should be treated by a **multidisciplinary team** where possible

Flare-ups are common, even with effective treatment: families need **rapid access** to the eye clinic

Quality of life should be assessed at the first appointment and then **at least annually**

Follow-up: 2–4 weeks after start of treatment, then:

every **6 weeks** if on steroids | **3 months** after initiating CsA | every **6–12 months** for stable patients

Supportive care

Key elements of supportive care include:

Detailed recommendations are in the full article

Adherence	Improving adherence involves:	Restoring confidence in treatment	Minimising the treatment burden Ensuring understanding and ownership of the management plan
Information outreach and communication	Specialist nurses and AHPs are central to coordinating care	Proactive contact from clinics can be helpful	Outreach to schools is critical
Emotional support	Children may lose faith in their treatment and themselves	Rewarding acceptance of treatment is important	Emotional needs of the patient, parents and caregivers need to be addressed

Although VKC is relapsing/remitting by nature, flare-ups do not mean that treatment has failed: the ultimate outcome for the child is likely to be positive.

Read more about VKC best practice in the UK by scanning the QR code opposite to download the full paper:

References
1. Ghauri A-J, et al. J Pediatr Ophthalmol Strabismus 2022 (online ahead of print); https://doi.org/10.3928/01913913-20220328-01

AHP, allied healthcare professional; CsA, ciclosporin A; VKC, vernal keratoconjunctivitis.

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