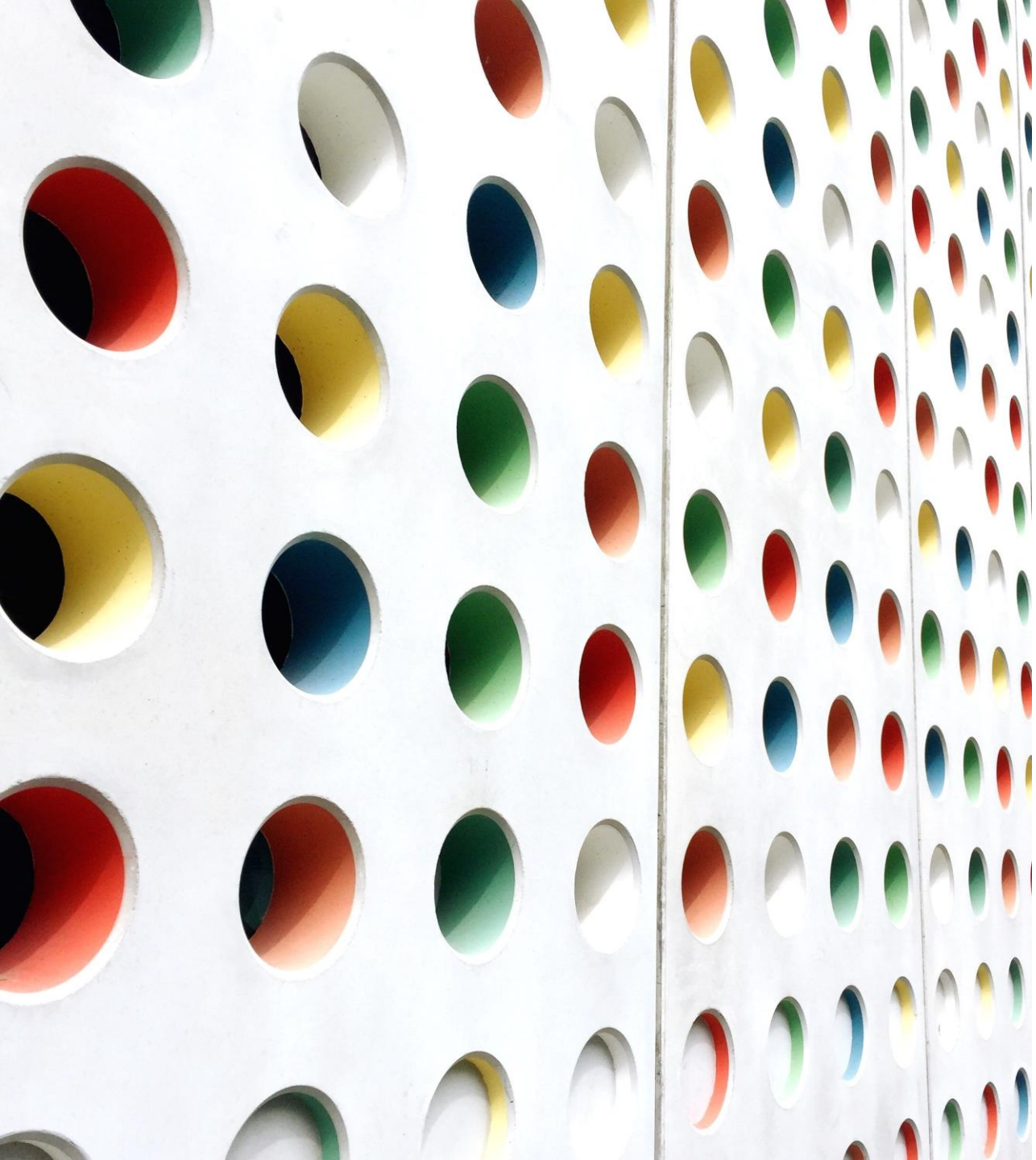


Anti-Thrombotic Prophylaxis in Glomerular Disease

DR LOUISA HEMINGTON

OCTOBER 2026

UK Kidney Association

Clinical Practice Guideline:
The initial immunosuppressive treatment for children and young people with immune mediated glomerular diseases

Final version: September 2025
Review date: September 2028

GN Subtypes

GN SUBTYPE 1: IDIOPATHIC NEPHROTIC SYNDROME (INS).....

GN SUBTYPE 2: IGA RELATED GLOMERULONEPHRITIS.....

GN SUBTYPE 3: MEMBRANOUS NEPHROPATHY (MN) .....

GN SUBTYPE 4: LUPUS NEPHRITIS (LN) .....

GN SUBTYPE 5: ANCA ASSOCIATED VASCULITIS (AAV) .....

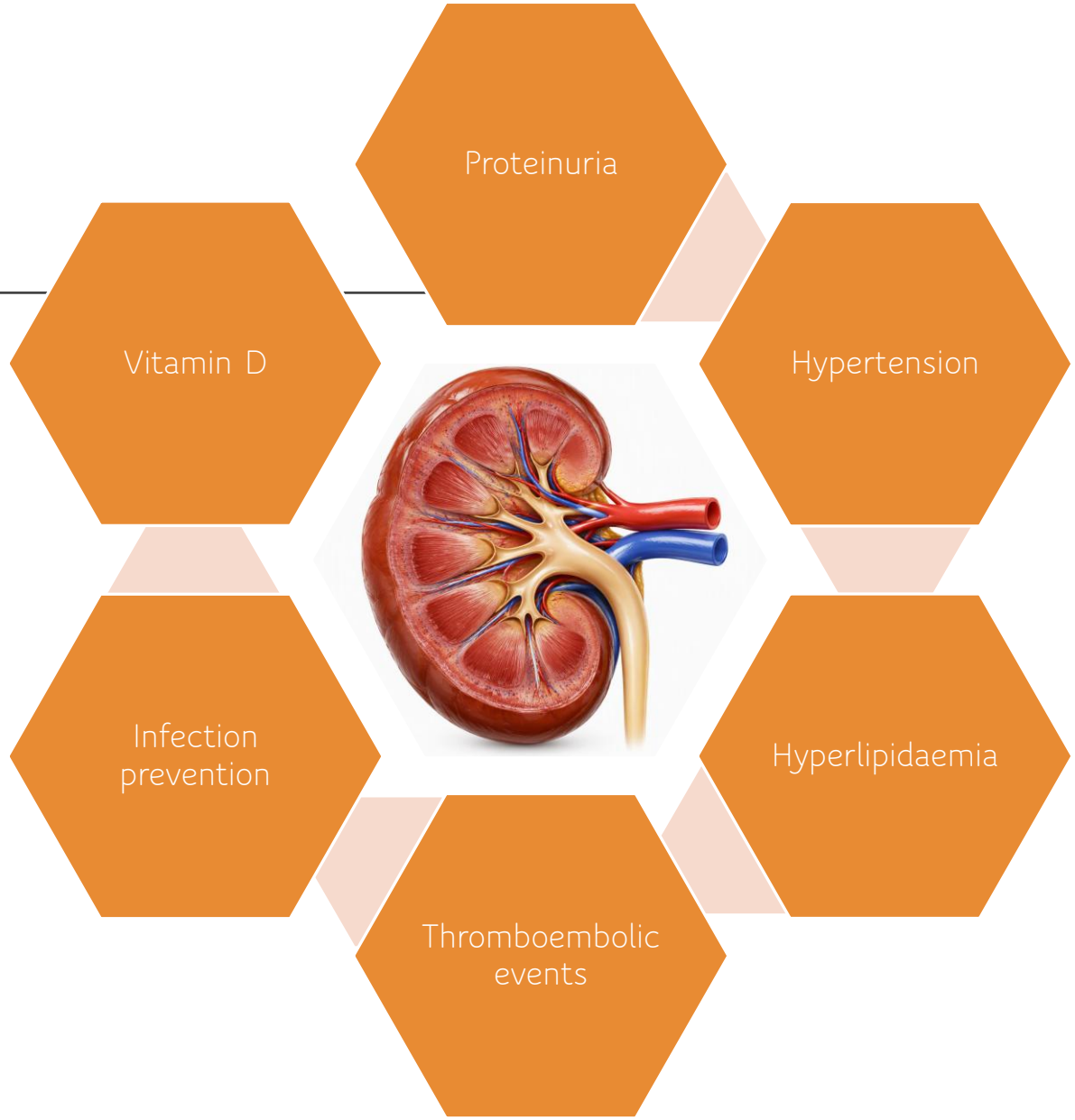
GN SUBTYPE 6: ANTI-GBM DISEASE.....

GN SUBTYPE 7: C3 GLOMERULOPATHY (C3G) AND IMMUNE COMPLEX MPGN (IC-MPGN).....

GN SUBTYPE 8: POST INFECTIOUS GLOMERULONEPHRITIS (PIGN).....

Universal Kidney Care

Consider anti-thrombotic prophylaxis alongside other aspects of universal kidney care

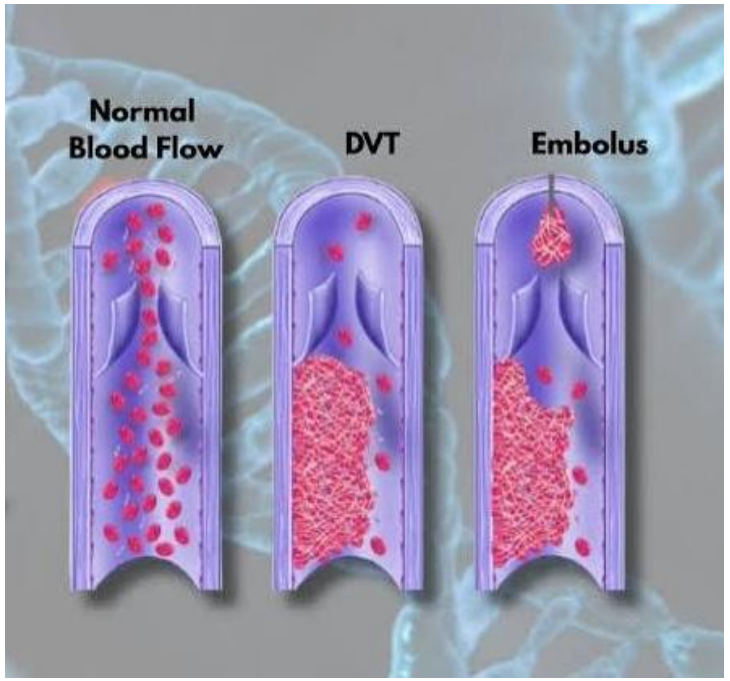


Thromboembolic events in Glomerular Disease

In CYP with kidney disease, especially in the context of a **nephrotic state**

Types:

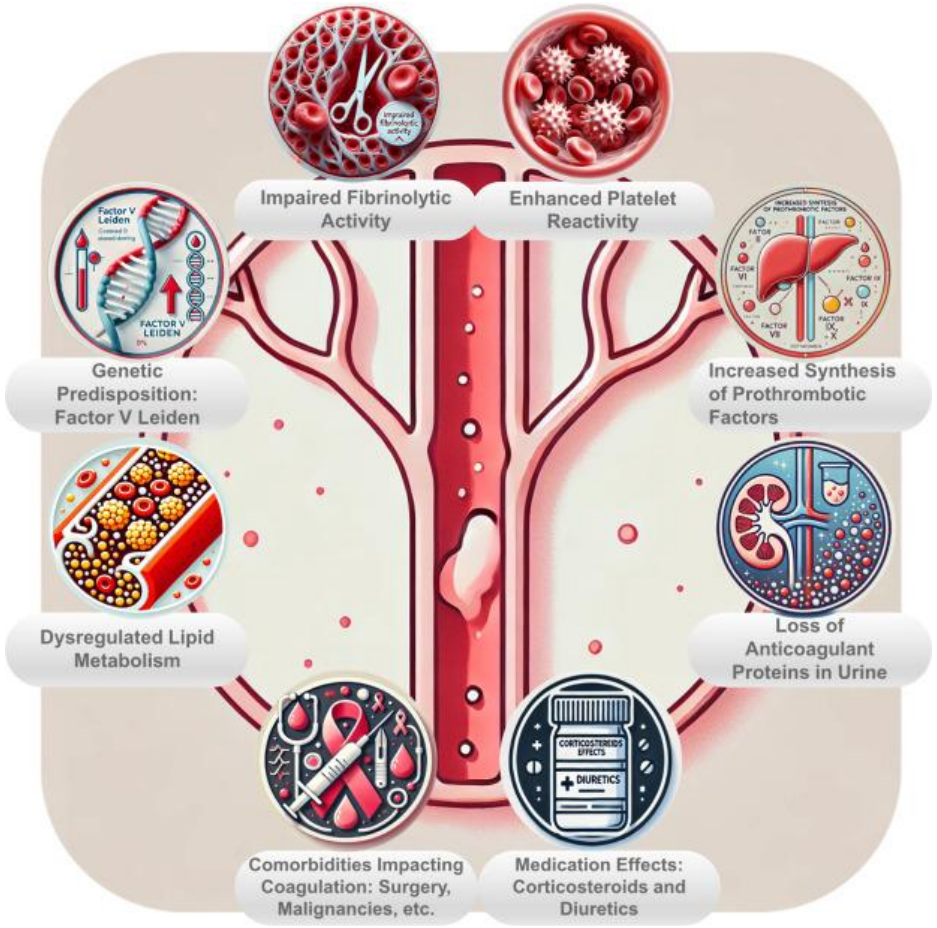
- Venous thrombosis (DVT, Renal vein thrombosis)
- Pulmonary embolus
- Arterial thrombosis



Hyper-coagulopathy in the nephrotic state is

complex and multifactorial

Pathophysiology



Urinary **loss of natural anticoagulants** (antithrombin III and protein S)

Increased hepatic **synthesis of prothrombotic proteins** (Fibrinogen, Factor V and VII)

Increased platelet reactivity (from low albumin)

Dysregulated lipid metabolism – **elevated vWF, reduced RBC flexibility**

Impaired fibrinolytic activity

Incidence data

All age data shows wide variation

Children with glomerular disease have a lower risk of TE event than adults

CureGN database shows that **2% of CYP** with no hx of TE event at biopsy, experienced a TE event in the years that followed (1y, 3y, 5y)

DVT most common, followed by PE, then RVT

Strikingly high (6.6%) 1y cumulative incidence in CYP with Membranous Nephropathy

FSGS next highest (1.9% 3y; 2.4% 5y), then MCD (0.9% 3y; 1.2% 5y) followed by IgA nephropathy

▸ Kidney Med. 2024 Jul 20;7(6):100877. doi: 10.1016/j.xkme.2024.100877

Cardiovascular and Thromboembolic Events in Children and Adults With Glomerular Disease: Findings From the Cure GlomeruloNephropathy (CureGN) Network

Shikha Wadhwani [1,*], Sarah A Mansfield [2], Abigail R Smith [2], Bruce M Robinson [3], Eman Abdelghani [4], Amira Al-Uzri [5], Isa F Ashoor [6], Sharon M Bartosh [7], Aftab S Chishti [8,9], Salim S Hayek [10], Michelle A Hladunewich [11], Bryce A Kerlin [4,12], Siddharth S Madapoosi [3], Laura H Mariani [3], Amy K Mottl [13], Michelle N Rheault [14], Michelle M O'Shaughnessy [15], Christopher John Sperati [16], Tarak Srivastava [17], David T Selewski [18], Chia-shi Wang [19], Craig S Wong [20], Donald J Weaver Jr [21], Myda Khalid [22]; GlomeruloNephropathy (CureGN) Study Consortium, on behalf of Cure

▸ Author information ▸ Article notes ▸ Copyright and License information

PMCID: PMC12152344 PMID: 40510608

Risk factors

Urine PCR >1000 mg/mmol

BMI >35 kg/m^2

Genetic risk for TE events e.g. Factor V Leiden, Protein C/S deficiency

Recent major high risk surgery (orthopaedic or abdominal)

Prolonged immobilisation

Central venous access

Medications e.g. steroids and diuretics may exacerbate risk further

Indications for treatment

A confirmed TE event → **Full** anticoagulation

Nephrotic state plus risk factors → **Prophylactic** anticoagulation

Providing the risk of TE exceeds the risk of anticoagulation

Certain subgroups e.g. SLE: consider evaluation of antiphospholipid Ab

Contraindications/considerations

Patient preference

Medication adherence

Bleeding disorder

CNS lesion prone to haemorrhage

Genetic mutations influencing warfarin metabolism

Prior GI bleed

High falls risk

Treatment

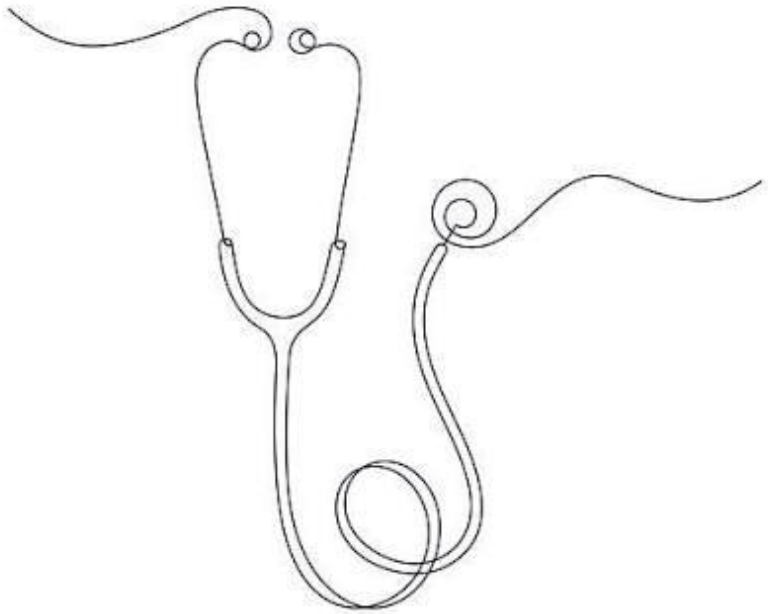
According to local practice guidelines / drug availability:

LMWH (Enoxaparin/Dalteparin/Tinzaparin) – often chosen for prophylaxis

Warfarin (vitamin K antagonist)

Direct oral anticoagulants (DOACS) e.g. Rivaroxaban, Dabigatran

Will my practice change?



Questions?