ePoster

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Leading Vascular Science

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🩸 Tiny Patients, Big Clots: A 20-Year Trend in Pediatric Deep Vein Thrombosis

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INTRODUCTION

Pediatric Deep Vein Thrombosis (DVT) is **rare but rising**, especially in hospitalized and critically ill children. Over the last 20 years, improvements in imaging, survival of preterm infants, and use of central venous catheters (CVCs) have contributed to more cases. Understanding these trends helps improve prevention and care.

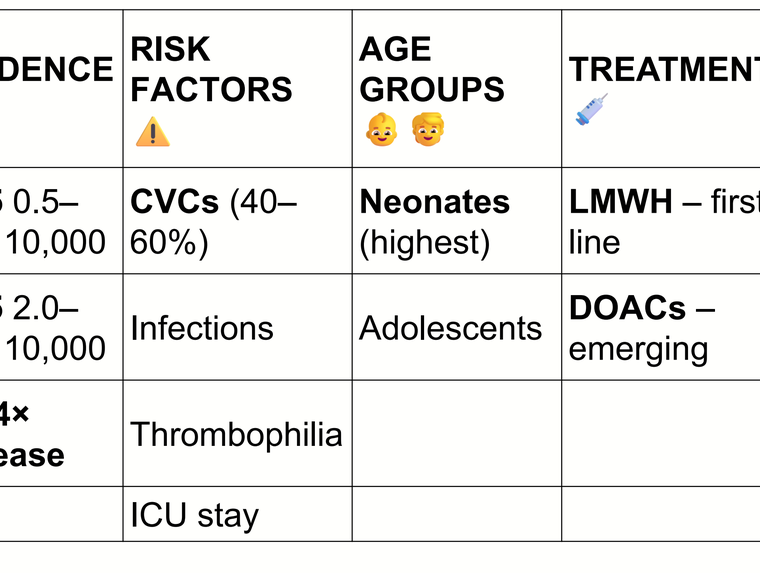
AIM

To analyze **20-year global trends** in pediatric DVT using secondary published data and identify changes in:

- 📈 Incidence
- 🎒 Age distribution
- 🏥 Risk factors
- 🧪 Diagnostic methods
- 💉 Management strategies

Table: Pediatric DVT: Key Facts

INCIDENCE 📈	RISK FACTORS ⚠️	AGE GROUPS 👶🧒	TREATMENT 💉
2005 0.5–0.9 / 10,000	**CVCs** (40–60%)	**Neonates** (highest)	**LMWH** – first line
2025 2.0–2.7 / 10,000	Infections	Adolescents	**DOACs** – emerging
↑ **3–4× increase**	Thrombophilia		
	ICU stay		



Pie Chart: Major Risk Factors for Pediatric Deep Vein Thrombosis.

METHODS

🛠️ Methods

A **literature review** of published studies from **2005–2025** was conducted. Databases included PubMed, Scopus, and Web of Science. Only English-language studies reporting **pediatric DVT incidence, risk factors, imaging, or management** were included.

Data extracted:

Study year & country

Age group (<18 years)

Incidence rate (per 10,000 children)

Risk factors (CVCs, cancer, infections, trauma)

Treatment used (LMWH, UFH, DOACs)

Outcomes.

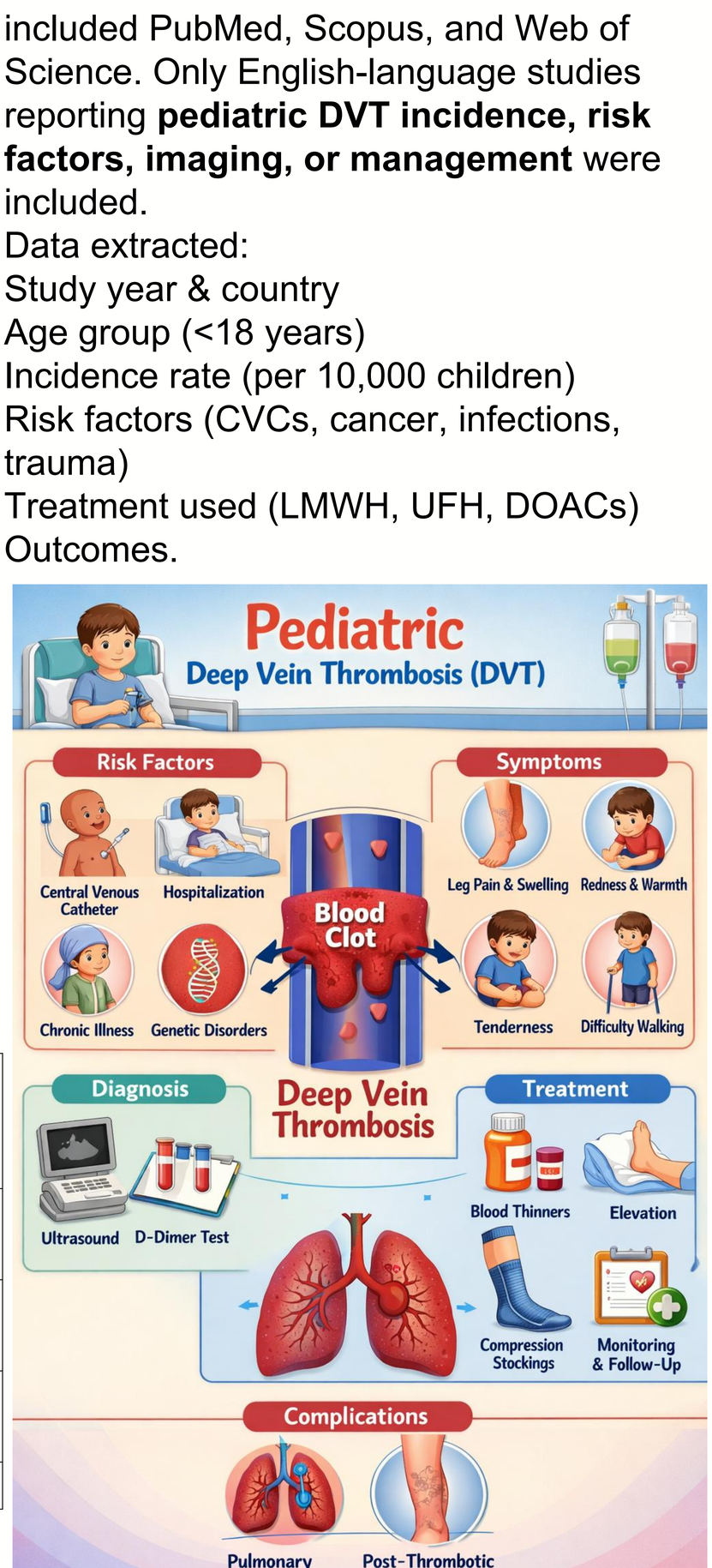


Figure: Showing deep vein thrombosis (DVT) is caused by a blood clot that occurs in the deep venous system.

RESULTS

📊 Results

⭐ 1. Rising Incidence

2005: **0.5–0.9 per 10,000 children**

2025: **2.0–2.7 per 10,000 children** 👉

Represents a **3–4× increase**.

⭐ 2. Age Group Most Affected

👶 **Neonates & infants** due to CVCs

🧒 **Adolescents** due to trauma, obesity, hormone therapy

⭐ 3. Most Common Risk Factors

💉 **Central venous catheters** (40–60%)

🦠 Severe infections & sepsis

🧬 Genetic thrombophilia

🏥 ICU stay

⭐ 4. Diagnostic Improvements

🧪 Doppler ultrasound = first-line

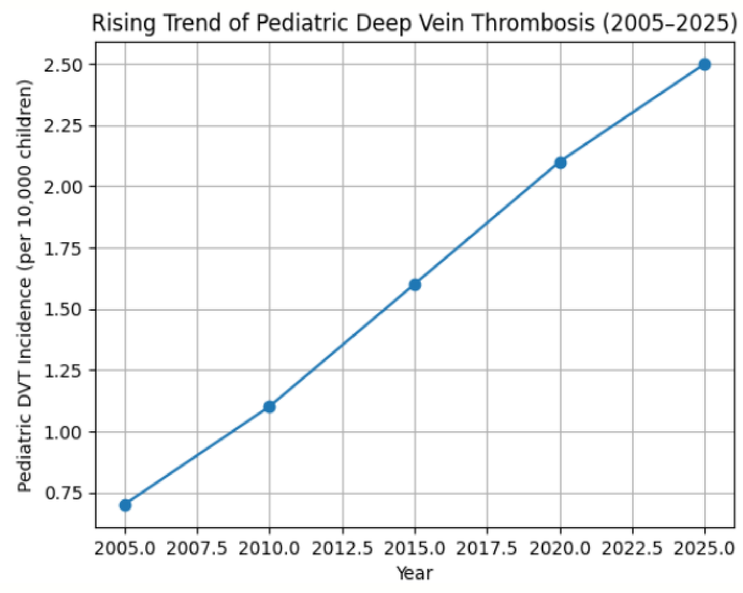
🖥️ MRI venography increasingly used for complex cases

⭐ 5. Management Trends

Low molecular weight heparin (LMWH) remains gold standard

DOACs (e.g., rivaroxaban) emerging since 2018

Duration: **6 weeks–3 months**, depending on cause



CONCLUSIONS

Over the past two decades, pediatric deep vein thrombosis has transitioned from a rare diagnosis to a growing global vascular concern. This poster highlights a clear and consistent rise in pediatric DVT incidence, particularly among neonates and infants, largely driven by increased survival of critically ill children, widespread use of central venous catheters, and improved diagnostic awareness. Despite this rise, outcomes such as post-thrombotic syndrome have remained relatively stable, suggesting benefits from earlier detection and evolving management strategies. These findings emphasize the urgent need for standardized pediatric-specific thromboprophylaxis protocols, safer catheter practices, and enhanced surveillance systems. By synthesizing 20 years of secondary data into clear trends, this work provides a comprehensive snapshot of the current pediatric venous disease landscape and reinforces the importance of proactive, prevention-focused vascular care for children.

BIBLIOGRAPHY

1. Raffini L, Huang YS, Witmer C, Feudtner C. Dramatic increase in venous thromboembolism in children's hospitals in the United States from 2001 to 2007. *Pediatrics*. 2009;124(4):1001–1008.
2. Andrew M, David M, Adams M, et al. Venous thromboembolic complications in children: First analyses of the Canadian Registry. *Blood*. 1994;83(5):1251–1257.
3. Goldenberg NA, Bernard TJ. Venous thromboembolism in children. *Hematology Am Soc Hematol Educ Program*. 2010:173–180.
4. Monagle P, Cuello CA, Augustine C, et al. ASH 2018 guidelines for management of pediatric VTE. *Blood Advances*. 2018;2(22):3292–3316.
5. World Health Organization. *Global Health Estimates: Thrombosis and Vascular Disease Data*. WHO; 2023.

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