PICC-Related Upper Extremity Deep Vein Thrombosis (UEDVT)

Prevalence

**UEDVT Prevalence**
Approximately 10% of all DVTs involve upper extremities

**Primary (20%)**
- Venous Thoracic Outlet Syndrome
- Effort-related thrombosis (Paget-Schroetter Syndrome)
- Idiopathic

**Secondary (80%)**
- Catheter-related thrombosis
- Cancer-associated thrombosis
- Surgery or trauma of the arm or shoulder
- Hormone-induced coagulation abnormalities *(i.e. pregnancy)*

PICC-Related UEDVT Incidence Rates

- **Symptomatic PICC-related DVTs**
  - 1-4% incidence
- **Asymptomatic + symptomatic PICC-related DVTs**
  - Up to 38% incidence
- **Median time to thrombus:** 8 to 12 days

Relevance

**UEDVT Relevance Compared to Other Catheter Complications**

- **Catheter-Related Bloodstream Infections (CRBSIs):** Less than 2.2% of PICCs have CRBSIs (per 100 catheters)^3,4^  
- **Occlusions:** Approximately 25% of catheters may become occluded^5^  
- **DVTs:** Asymptomatic + symptomatic PICC-related DVTs have shown a rate as high as 38%^2^

Venous Thrombosis Risks

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Sequelea of UEDVT 7, 8

If a catheter-related venous thrombus develops, between the catheter and vessel wall, it may:

• Lead to complete blockage of the vein
• Become a life-threatening condition (pulmonary embolism)
• Have potential complications including, but not limited to, post-thrombotic syndrome

UEDVT Link to Infection and Occlusion 8, 9, 10, 11

• CVC placement provides a rich culture for bacterial growth because of foreign body response upon insertion of CVC
• As the biofilm layer develops it encloses and protects bacteria, which can lead to an increased risk of infection
• Post-mortem evaluation of 72 cancer patients with CVCs showed a strong correlation between catheter-related sepsis and CVC thrombosis
  • A fibrin layer was present on ALL catheters
  • Catheter-related thrombosis was present in 38% of cases
    - 23% of these had sepsis
    - No patients without catheter-related thrombosis had sepsis

PICC-related UEDVT is a significant clinical issue, has a very high prevalence rate compared to the other primary catheter-related complications and can lead to serious complications. Let this knowledge be your stepping stone in heightening your awareness of DVTs and the relationship to PICCs.

AngioDynamics retains a highly credentialed team of clinical specialists committed to providing educational support and training.

To learn more about our UEDVT accredited program, “Reaching New Heights in Understanding CVC Complications: Heighten Your DVT Awareness”, call 1.800.833.9973 or go to www.angiodynamics.com

REFERENCES
6. JNCCN, 2006, 4:889-901
10. Nifong, T., “Infection or clot – which comes first?” 22nd Annual Scientific Meeting of the Association for Vascular Access, Point/Counter Point Presentation, 9/11/08.

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