Evolent Clinical Guideline 7341 for Venogram Invasive Vein Mapping

Guideline Number: Evolent_CG_7341	Applicable Codes	
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STATEMENT

General Information

- ***It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.***
- ***Where a specific clinical indication is not directly addressed in this guideline, medical necessity determination will be made based on widely accepted standard of care criteria. These criteria are supported by evidence-based or peer-reviewed sources such as medical literature, societal guidelines and state/national recommendations.***
- ***The guideline criteria in the following sections were developed utilizing evidence-based and peer-reviewed resources from medical publications and societal organization guidelines as well as from widely accepted standard of care, best practice recommendations.***

Purpose

Indications for determining medical necessity for Venogram/Invasive Vein mapping.

Clinical Reasoning

All criteria are substantiated by the latest evidence-based medical literature. To enhance transparency and reference, Appropriate Use (AUC) scores, when available, are diligently listed alongside the criteria.

This guideline first defaults to AUC scores established by published, evidence-based guidance endorsed by professional medical organizations. In the absence of those scores, we adhere to a standardized practice of assigning an AUC score of 6. This score is determined by considering variables that ensure the delivery of patient-centered care in line with current guidelines, with a focus on achieving benefits that outweigh associated risks. This approach aims to maintain a robust foundation for decision-making and underscores our commitment to upholding the highest standards of care. [1–5]

INDICATIONS [6]

- **Diagnosis of deep vein thrombosis, under the following conditions:**
  - **Duplex ultrasound is limited or negative, but there is a high clinical suspicion for deep vein thrombophlebitis or calf-vein thrombosis**
  - **The patient is not a candidate for computed tomography (CT) or magnetic resonance (MR) venogram, or the CT or MR venogram is limited**

- **Venous mapping before, during, or following a surgical or interventional procedure such as dialysis access**
- **Evaluation of venous conditions, including:**
  - **Perforator incompetency before sclerotherapy, thermal ablation, or subfascial endoscopic ligation**
  - **Venous stenosis, hypertension, or malformations**
  - **Valvular insufficiency before treatment (thermal ablation, stripping, ligation, etc.)**
  - **Anatomic entrapment**
  - **Deep pelvic, thoracic, or caval thrombosis in patients who are not candidates for CT or MR venogram, or when CT or MR venogram is limited**
- **Preoperative evaluation for tumor involvement or encasement in patients that are not a candidate for, or with limited, CT or MR venogram**
- **Evaluation for central venous catheter (CVC) placement, when anatomic landmarks, duplex ultrasound, CT venography, or MR venography are not feasible**
  - **May also be reasonable to assess the patency of a CVC when malfunctioning is suspected**
- **Acute iliofemoral thrombophlebitis**
- **In the workup for possible iliac vein stenosis or obstruction prior to stent placement [6–12]:**
  - **Post-thrombotic syndrome (PTS) with venous claudication**
  - **Symptomatic unilateral C3 swelling especially if left sided**
  - **Bilateral C3 swelling above the knee or severe calf swelling with no other explanation**
  - **Varicosities of the lower abdominal wall and groin**
  - **Ipsilateral recurrent leg deep vein thrombophlebitis**
  - **CEAP C5-6**
  - **CEAP C3 or C4 and ANY of the following:**
    - **Duplex imaging, CT or MR venography suggestive of iliofemoral stenosis**
    - **Prior history of vena cava filter, central vein catheterization or venography**
    - **Persistent symptoms or findings with absence of, or successfully treated leg truncal reflux**
    - **PTS**

Limitations [6]

- **Severe allergy to iodinated or other contrast media**

CODING AND STANDARDS

Codes

36005, 36010, 36011, 36012, 75820, 75822, 75825, 75827

Applicable Lines of Business

☒	**CHIP (Children's Health Insurance Program)**
☒	**Commercial**
☒	**Exchange/Marketplace**
☒	**Medicaid**
☒	**Medicare Advantage**

BACKGROUND

Definitions

Conventional venography is an invasive procedure that uses X-rays and a contrast dye to create images of vein(s) for anatomic localization and hemodynamic quantification when non-invasive study like venous duplex is limited.

CEAP Classification (Clinical Class, Etiology, Anatomy, Pathology) (13)

CEAP categories; Clinical (C), Etiological (E), Anatomical (A), and Pathophysiological (P)

Clinical (C) Classifications (C Classes present in Limb)

- **C_0 – No visible or palpable signs of venous disease**
- **C_1 – Telangiectasias or reticular veins (< 3mm)**
- **C_2 – Simple varicose veins (≥ 3mm diameter)**
  - **C_{2r} – Recurrent varicose veins**
- **C_3 – Ankle edema of venous origin (not foot edema)**
- **C_4 – Changes in skin and subcutaneous tissue secondary to CVD**
  - **C_{4a} – Pigmentation or eczema**
  - **C_{4b} – Lipodermatosclerosis or atrophie blanche**
  - **C_{4c} – Corona phlebectatica**

- **C_5 – Healed venous ulcer**
- **C_6 – Open venous ulcer**
  - **C_{6r} – Recurrent active venous ulcer**

Subscripts of C Classes Indicating presence or absence of symptoms

- **S - Symptomatic**
  - **Ache**
  - **Pain**
  - **Tightness**
  - **Skin irritation**
  - **Heaviness**
  - **Muscle cramps**
  - **Other complaints attributable to venous dysfunction**
- **A – Asymptomatic**

Etiologic (E) Classification

- **E_c – Congenital**
- **E_p – Primary**
- **E_s – Secondary**
  - **E_{si} – Secondary – intravenous**
  - **E_{se} – Secondary – extravenous**
- **E_n – No cause identified**

Anatomic (A) Classification

- **A_s – Superficial veins**
  - **Telangiectasia**
  - **Reticular Veins**
  - **Great saphenous vein above knee**
  - **Great saphenous vein below knee**
  - **Small saphenous vein**
  - **Anterior accessory saphenous vein**
  - **Nonsaphenous vein**
- **A_p – Perforator veins**
  - **Thigh perforator vein**
  - **Calf perforator vein**

- **A_d – Deep veins**
  - **Inferior vena cava**
  - **Common iliac vein**
  - **Internal iliac vein**
  - **External iliac vein**
  - **Pelvic veins**
  - **Common femoral vein**
  - **Deep femoral vein**
  - **Femoral vein**
  - **Popliteal vein**
  - **Crural (tibial) vein**
  - **Peroneal vein**
  - **Anterior tibial vein**
  - **Posterior tibial vein**
  - **Muscular veins**
  - **Gastrocnemius vein**
  - **Soleal vein**
- **A_n – No venous anatomic location identified**

Pathophysiologic (P) Classification

- **P_r – Reflux**
- **P_o – Obstruction**
- **$P_{r,o}$ – Reflux and obstruction**
- **P_n – No venous pathophysiology**

AUC Score

A reasonable diagnostic or therapeutic procedure can be defined as that for which the expected clinical benefits outweigh the associated risks, enhancing patient care and health outcomes in a cost-effective manner. [3]

- **Appropriate Care - Median Score 7-9**
- **May be Appropriate Care - Median Score 4-6**
- **Rarely Appropriate Care - Median Score 1-3**

Acronyms/Abbreviations

AUC: Appropriate use criteria

CEAP: Clinical (C), Etiological (E), Anatomical (A), and Pathophysiological (P)

CVC: Central venous catheter

PTS: Post-thrombotic syndrome

SUMMARY OF EVIDENCE

PRACTICE PARAMETER FOR THE PERFORMANCE OF DIAGNOSTIC INFUSION VENOGRAPHY [6]

Study Design: This document is a practice parameter revised collaboratively by the American College of Radiology (ACR) and the Society of Interventional Radiology (SIR). It provides guidelines for the performance of diagnostic infusion venography, including indications, contraindications, and qualifications of personnel.

Target Population: The guidelines are intended for practitioners performing diagnostic infusion venography on patients with suspected venous thrombosis, venous insufficiency, or other venous disorders.

Key Factors: The document emphasizes the importance of patient selection, preparation, and education, as well as the technical aspects of performing and interpreting the procedure. It also highlights the need for monitoring and managing complications, and the qualifications required for physicians, medical physicists, and other personnel involved in the procedure

Consensus Statement on the Management of Non-thrombotic Iliac Vein Lesions From the VIVA Foundation, the American Venous Forum, and the American Vein and Lymphatic Society [9]

Study Design: This consensus statement was developed by the VIVA Foundation, the American Venous Forum, and the American Vein and Lymphatic Society. It provides recommendations for the management of non-thrombotic iliac vein lesions (NIVL), including patient selection, imaging for diagnosis, technical considerations for stent placement, and post-procedure management.

Target Population: The guidelines are intended for healthcare providers treating patients with NIVL, which is characterized by extrinsic compression of the iliac vein leading to symptoms such as lower extremity chronic venous insufficiency or pelvic venous disease.

Key Factors: The document discusses the importance of patient selection based on symptoms, the use of venography and intravascular ultrasound (IVUS) for diagnosis, and the technical considerations for stent placement. It also addresses the need for post-procedure medical therapy and surveillance, and highlights future research and educational needs.

ACR Appropriateness Criteria® Radiologic Management of Iliofemoral Venous Thrombosis [10]

Study Design: This document is part of the ACR Appropriateness Criteria, which are evidence-based guidelines for the management of specific clinical conditions. It provides recommendations for the radiologic management of iliofemoral venous thrombosis (DVT), including anticoagulation, catheter-directed therapy (CDT), and surgical thrombectomy.

Target Population: The guidelines are intended for patients with iliofemoral DVT, which carries a high risk for pulmonary embolism, recurrent DVT, and post-thrombotic syndrome.

Key Factors: The document outlines the appropriateness of various treatment options based on the severity of symptoms and the presence of underlying conditions such as May-Thurner syndrome. It emphasizes the importance of anticoagulation as the standard of care, while also discussing the potential role of more aggressive therapies in select cases.

ANALYSIS OF EVIDENCE

Analysis [6,9,10]:

The articles collectively provide a comprehensive overview of venogram invasive vein mapping, highlighting its diagnostic accuracy, indications for use, and the role of complementary imaging modalities. While they share common findings, they differ in their emphasis on non-invasive methods, technical considerations, and outcomes. The ACR-SIR Practice Parameter focuses on the established safety and accuracy of diagnostic infusion venography, suggesting that non-invasive methods are often preferable. The Desai et al. article advocates for the use of venography and IVUS in diagnosing and treating NIVL, emphasizing the technical considerations for stent placement. The Farsad et al. article discusses various therapeutic options for iliofemoral venous thrombosis, highlighting the role of venography in specific clinical scenarios.

Shared Findings:

- **Diagnostic Accuracy and Utility: All three articles agree that venography is a valuable diagnostic tool for assessing venous anatomy and pathology. The ACR-SIR Practice Parameter emphasizes that diagnostic infusion venography is an established, safe, and accurate method for venous imaging. Similarly, the Desai et al. article highlights the use of venography and intravascular ultrasound (IVUS) for diagnosing non-thrombotic iliac vein lesions (NIVL). The Farsad et al. article also discusses the role of venography in managing iliofemoral venous thrombosis.**
- **Indications for Use: The articles concur on the indications for venography. The ACR-SIR Practice Parameter lists various indications, including diagnosing deep vein thrombosis (DVT), evaluating valvular insufficiency, and venous mapping before surgical or interventional procedures. The Desai et al. article mentions stent placement for NIVL based on venography finding. The Farsad et al. article discusses the use of venography in patients with iliofemoral venous thrombosis.**
- **Complementary Imaging Modalities: All three articles acknowledge the role of complementary imaging modalities. The ACR-SIR Practice Parameter mentions**

duplex ultrasound, CT venography, and MR venography as alternatives or complements to diagnostic infusion venography. The Desai et al. article emphasizes the use of IVUS alongside venography for better diagnostic accuracy. The Farsad et al. article discusses the use of ultrasound and CT to differentiate chronic from acute DVT.

POLICY HISTORY

Date	Summary
July 2025	• Added a Summary of Evidence and Analysis of Evidence
May 2025	• No substantial clinical content changes • Added in general information statement regarding guideline criteria development by reputable sources, standard of care, and best practices • Adde CEAP table definitions to background section
January 2025	• This guideline replaces UM CARDIO 1319 for Venogram Invasive Vein Mapping • Clinical indications were updated per societal guidance

LEGAL AND COMPLIANCE

Guideline Approval

Committee

Reviewed / Approved by Evolent Specialty Services Clinical Guideline Review Committee

Disclaimer

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discretion. Notice of any changes shall be provided as required by applicable provider agreements and laws or regulations. Members should contact their Plan customer service representative for specific coverage information.

Evolent Clinical Guidelines are comprehensive and inclusive of various procedural applications for each service type. Our guidelines may be used to supplement Medicare criteria when such criteria is not fully established. When Medicare criteria is determined to not be fully established, we only reference the relevant portion of the corresponding Evolent Clinical Guideline that is applicable to the specific service or item requested in order to determine medical necessity.

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