



## **CAR Standards for Percutaneous Abscess Drainage**

*The standards of the Canadian Association of Radiologists (CAR) are not rules, but are guidelines that attempt to define principles of practice that should generally produce radiological care. The physician and medical high-quality physicist may modify an existing standard as determined by the individual patient and available resources. Adherence to CAR standards will not assure a successful outcome in every situation. The standards should not be deemed inclusive of all proper methods of care or exclusive of other methods of care reasonably directed to obtaining the same results. The standards are not intended to establish a legal standard of care or conduct, and deviation from a standard does not, in and of itself, indicate or imply that such medical practice is below an acceptable level of care. The ultimate judgment regarding the propriety of any specific procedure or course of conduct must be made by the physician and medical physicist in light of all circumstances presented by the individual situation.*

### **I. INTRODUCTION AND DEFINITION**

Abdominal abscesses carry a mortality rate of up to 80% if left undrained. Pleural empyema more frequently requires percutaneous drainage. The primary therapy for lung abscesses, however, is medical, but drainage is indicated for the 20% of patients who do not respond to appropriate antibiotic coverage. Percutaneous abscess drainage (PAD) combines principles of surgical drainage with percutaneous techniques and equipment. PAD is successful as surgical drainage in many cases with a much lower morbidity and mortality.

PAD is defined as percutaneous introduction of a drainage catheter into an abscess. This involves precise needle puncture using CT or ultrasound guidance with or without fluoroscopic assistance, in a sedated patient.

### **II. RADIOLOGIST QUALIFICATION**

That Physicians involved in the performance, supervision and interpretation of percutaneous abscess drainage should be Diagnostic Radiologists and must have a Fellowship or Certification in Diagnostic Radiology with the Royal College of Physicians and Surgeons of Canada and/or the Collège des médecins du Québec. Also acceptable are foreign Specialist qualifications if the Radiologist so qualified holds an appointment in Radiology with a Canadian University.

As new imaging modalities and interventional techniques are developed additional clinical training, under supervision and with proper documentation, should be obtained before radiologists interpret or perform such examinations or procedures independently. Such additional training must meet with pertinent provincial/regional regulations. Continuing professional development must meet with the requirements of the Maintenance of Certification Program of the Royal College of Physicians and Surgeons of Canada.

### **III. INDICATIONS AND CONTRAINDICATIONS**

#### **A. Indications**

1. Treatment of any infected collection

#### **B. Contraindications**

1. Coagulopathies should be corrected if urgency permits
2. Not all collections are suitable for percutaneous drainage
3. Absence of safe route to the collection
4. Multiple collections
5. Collections with solid or necrotic tissue

### **IV. EXAMINATION TECHNIQUE, PERFORMANCE AND RELATED MATTERS**

PAD usually starts with diagnostic sampling of a fluid collection. This requires percutaneous needle placement into the collection; the principles are similar to those of percutaneous biopsies. After the puncture, a small amount of fluid is aspirated for gram's stain and cultures. Once an abscess has been identified as such, a

drainage catheter can be placed either by the seldinger or trocar technique. A trocar catheter system is generally used for large superficial abscesses.

The procedure can be performed using CT or US guidance with or without fluoroscopy. US is well suited for PAD; the initial needle puncture can be guided with US in the angiography suite, which permits fluoroscopic guidance for subsequent guidewire and catheter manipulation.

Many operators rely on the CT examination to plan the needle track. It is also possible to puncture the abscess with CT guidance but guidewire and catheter manipulation can be better monitored under fluoroscopy.

#### **Complications of PAD**

Major - 5%

- transient bacterimia
- septic minor bleeding
- hemorrhage

Minor - 3%

- superficial skin infection
- enteric fistula
- pneumothorax
- pleural contamination

#### **V. REFERENCES**

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Kandarpa KJ. *Handbook of Cardiovascular and Interventional Radiologic Procedures*. Little, Brown and Co., 1989. Chapter 17.