# Interventional Radiology: Uterine Fibroid Embolization (UFE)

## Site Applicability

Interventional Radiology SPH

## Practice Level

**Specialized:** Registered Nurses who have completed the required education and provide nursing care in the Interventional Radiology Department

## Need to Know

Clinical Indication

UFE is indicated for the treatment of uterine fibroids that are causing significant symptoms, occasionally a single symptom, but more commonly a combination of symptoms. The most common of these are:

- Heavy or prolonged menstrual bleeding
- Severe menstrual cramping
- Pelvic pressure, discomfort, excessive bloating or fullness, particularly perimenstrual, or bothersome abdominal wall distortion caused by the enlarged uterus
- Pelvic pain related to identified fibroids, including dyspareunia
- Urinary urgency, frequency, nocturia, or retention related to the enlarged leiomyomatous uterus
- Hydronephrosis caused by the enlarged uterus.

Information

- Uterine fibroids are the most common tumor of the reproductive tract
- Nausea, pelvic pain or cramping is common for the first six to ten hours post procedure
- The radial artery is the preferred approach to access the uterine artery for its more positive outcomes such as fewer access complications, improved patient comfort, earlier ambulation, and shorter hospital admission
- As the radial artery is prone to vasospasm, the Interventional Radiologist (IR) may order a variety of pharmaceutical agents given prophylactically during the procedure
- Heparin is used to prevent thrombosis of the radial artery
- An Allen's test or equivalent (e.g. Barbeau test) should be performed prior to vascular puncture to assess for adequate circulation. This is performed by the IR or delegate
- IV insertion, patient ID and allergy band are ideally on the opposite arm

- The radial sheath will be removed by the IR after the procedure
- Patient will only be transferred to a recovery area (Medical Short Stay), if radial band is removed, patient is hemodynamically stable, hemostasis and radial patency is achieved; if patient does not meet the mentioned criteria, patient will remain in Radiology for further monitoring and observation until ready for transfer to recovery area

## Equipment and Supplies

1. Radiology (Rad) Pack
2. Special Procedure Drape
3. Femoral Drape
4. Extension tubing 800 psi
5. Radial sheath (physician preference: 4Fr or 5Fr sheath)
6. Heparin syringe
7. Nitroglycerin spray
8. Patient arm rest
9. Rad Rest Arm Cushion (if physician preferred)
10. ***Colourless*** (untinted) Chlorhexidine Gluconate 2% / 70 % alcohol aseptic solution for radial site
11. ***Tinted*** Chlorhexidine Gluconate 2% / 70 % alcohol aseptic solution for femoral site
12. Radial vascular compression device for hemostasis (Prelude Sync Radial Band)

## Procedure

| STEPS | RATIONALE |
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| **PRE-PROCEDURE:** | |
| 1. a) Attach patient to cardiovascular monitor and oxygen and obtain baseline vital signs. Document on the Clinical Record<br>b) Confirm with IR that Allen's test (or equivalent) has been performed to the affected wrist. Document radial and brachial pulse assessments on vascular section of the Clinical Record | Baseline vital signs provide the caregiver an indication of hemodynamic changes patient may experience during the procedure<br>Ensures adequate tissue perfusion to affected hand and baseline assessment prior to cannulation |
| 2. If necessary, clip radial artery puncture site with hair clippers. | |
| 3. Drape patient armrest with microsorb towel | |

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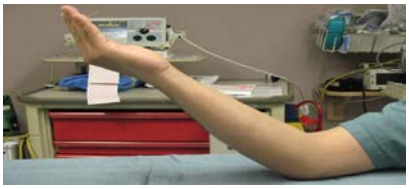
| 4. With patient arm bent at a maximum of 90 degrees have patient place arm onto armrest. |  |
| 5.<br>a. Clean and prepare patient's arm from fingertips to elbow using *colourless* Chlorhexidine Gluconate<br>b. Clean and prepare patient's femoral artery sites (left and right) using *tinted* Chlorhexidine Gluconate 2% aseptic solution | Using colourless chlorhexidine solution allows the staff to assess the hand for signs of cyanosis.<br><br>Prepping femoral artery sites ensures alternate access routes will be readily available if radial access unsuccessful |
| 6. The scrub delegate places the Rad Rest arm cushion or a folded sterile microsorb towel (physician preference) on armrest where patient wrist will lay, and instructs patient to slowly lower and rest arm onto cushion or towel. Tape hand to cushion or armrest if necessary to maintain hyper-extension of the wrist | When the wrist is hyper-extended during the procedure, it allows for easier radial artery puncture.<br>  |
| 7. Prepare to administer Nitroglycerin spray sublingually prior to radial artery puncture as directed by IR (if indicated). Prepare combination of pharmaceutical agents as directed by IR to be administered intra-arterially:<br>• Nitroglycerin 200 mcg<br>• Verapamil 2.5 mg<br>• Heparin 4,000 units | Vasodilators are used to prevent radial artery vasospasm and heparin is used to prevent clot formation. |
| 8. Prepare medications for procedural sedation. Monitor patient vital signs during (and following procedure) as per procedural sedation guideline | |

| **SCRUB DELEGATE:** | |
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| 1. Sterile table to be prepared by scrub delegate using Rad Pack | |

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| 2. Drape patient with femoral drape | Provides sterile field for procedure; using a femoral drape also ensures that femoral artery can be readily accessed if transradial artery access unsuccessful |
| 3. Drape radial artery site with special procedure drape | |
| 4. Physician will freeze radial artery puncture site. Ensure 25 G needle on lidocaine syringe. | |
| 5. Assist in moving patient armrest so that arm is at patient's side from the 90-degree position. | |
| 6. Prepare wires and catheters (physician preference – refer to "Transradial UFE equipment" list found on wall by nursing area in the procedure room) | |

**POST PROCEDURE:**

**1. APPLYING AND REMOVING THE RADIAL COMPRESSION DEVICE**

- Refer to B-00-12-10162 Interventional Radiology: Radial Compression Device Application and Removal (Post Procedure)

## Documentation

1. Documentation is completed in PowerChart.
2. Record VS every 15 minutes while monitoring patient during the procedure.
3. Record the medications given intraprocedure in PowerChart.
4. Monitor patient and record assessment post procedure while radial band is inflated
5. Refer to B-00-12-10162 Interventional Radiology: Radial Compression Device Application and Removal (Post Procedure) for monitoring post procedure and documentation of radial band.
6. During downtime, complete documentation in the Vascular Angiogram Intra Procedure Documentation found in the downtime toolkit in the office.

## Patient and Family Education

1. Explain to patient that they will be given procedural sedation for comfort
2. Inform patient that while receiving procedural sedation, the IR nurse will be monitoring vital signs and comfort/pain level
3. Explain to patient that she will be transferred back to MSSU where she will be further monitored, recovered and eventually discharged, 4 to 6 hours after the procedure
4. Inform patient that nausea, pelvic pain, or cramping is common for the first six to ten hours post procedure and a prescription will be given to manage these symptoms
5. Ensure patient receives the Uterine Fibroid Embolization pamphlet prior to discharge

## Related Documents

B-00-12-10162 Interventional Radiology: Radial Compression Device Application and Removal (Post Procedure)

## References

1. Resnick, N.J., Kim, E., Patel, R.S., Lookstein, R. A., Nowakowski, F.S., & Fischman, A.M. (2014). Uterine Artery Embolization Using a Transradial Approach: Initial Experience and Technique. *Journal of Vascular Interventional Radiology 25*(3), 443-447.
2. Silberzweig, J.E., Powell, D.K., Matsumoto, A.H., & Spies, J.B. (2016). Management of Uterine Fibroids: A Focus on Uterine-sparing Interventional Techniques. *Radiology 280*(3), 675-692. https://doi.org/10.1148/radiol.2016141693.

**Persons Consulted:**
Interventional Radiologist, SPH Medical Imaging
RNs SPH Medical Imaging
Clinical Nurse Leader, MSSU
Angio Techs, SPH Medical Imaging

**Author:**
Nurse Educator, SPH Interventional Radiology

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