

RADIATION-ATTENUATING DRAPES: EVIDENCE SUPPORTING SCATTER REDUCTION



CORE PRINCIPLE: The patient is a major source of fluoroscopic scatter. Patient-mounted or patient-adjacent attenuating drapes placed between the patient and clinician can substantially reduce occupational exposure. Results vary with material, placement, procedure and imaging geometry.

CLINICAL EVIDENCE

STUDY	DESIGN / POPULATION	KEY FINDING
 ENDOVASCULAR ANEURYSM REPAIR — Kloeze et al. 2014	Randomized clinical study	Radiation reduction: 49% at the hand, 55% at operator chest, 48% at nurse chest.
 CORONARY PROCEDURES — Vlastra et al. 2017	766 coronary procedures Randomized controlled trial	Use of a radiation-absorbing drape resulted in a 20% reduction in operator radiation exposure compared with procedures performed without a protective drape.
 TRANSJUGULAR LIVER BIOPSY — Kohlbrenner et al. 2018	Prospective randomized study	56% lower mean operator radiation exposure with a radiation-attenuating drape.
 PERIPHERAL ARTERIAL INTERVENTIONS — Jansen et al. 2022	49 patients	Approximately 66% reduction for the primary operator and 68% for the second operator.

WHY THIS MATTERS FOR BRONCHSHIELD

- 1 ESTABLISHED CATEGORY EVIDENCE:** Across cardiology, vascular surgery and interventional radiology, patient-mounted radiation-absorbing drapes consistently reduce clinician scatter exposure when used with standard PPE and shielding.
- 2 DESIGNED FOR INTERVENTIONAL PULMONOLOGY:** The bronchoscopist commonly works near the patient's head while the patient generates scatter from fluoroscopic/3-D imaging. BronchShield is designed and positioned to address this unique procedural environment.

KEY REFERENCES

- Kloeze C, et al. *J Vasc Surg.* 2014;59(1):184-190. PMID 24445087.
- Vlastra W, et al. *Circ Cardiovasc Interv.* 2017;10:e006058. PMID 29089313.
- Kohlbrenner R, et al. *J Vasc Interv Radiol.* 2018;29(7):1017-1021. PMID 29779813.
- Jansen F, et al. *J Vasc Surg.* 2022;76(4):1294-1302.e2. PMID 35334914.
- Additional category evidence: RADPAD and SorbX patient-mounted scatter-reduction literature.



EVIDENCE SUMMARY: Patient-adjacent scatter attenuation is supported as an adjunct to ALARA practices, lead apparel, distance, collimation and conventional room shielding.

*Established science.
Purpose-built for IP.*