

CATHETER DIRECTED THROMBOLYSIS FOR PULMONARY EMBOLISM (PE)



WHO? THIS IS AN OPTION FOR INTERMEDIATE RISK (SUBMASSIVE) PE'S

INTERMEDIATE RISK PE

HEMODYNAMICALLY STABLE (SBP > 90) WITH:
EVIDENCE OF RV DYSFUNCTION ON CT OR ECHO
MYOCARDIAL NECROSIS/STRAIN
(TROPONIN > 0.05 OR BNP > 100 PG/ML)

HOW?

ACTIVATED THROUGH PERT TEAM AND AT SIUH AND PERFORMED BY INTERVENTIONAL RADIOLOGY. CAN BE PERFORMED BY OTHER SPECIALITIES IN OTHER HOSPITALS

BACKGROUND

FOR INTERMEDIATE RISK (SUBMASSIVE) AND NOT MASSIVE PE'S

IMPORTANT TO KNOW ABOUT IN THE ED BECAUSE IT MAY CHANGE OUR INITIAL CHOICE OF ANTICOAGULATION

WAY TO DELIVER TARGETED THROMBOLYTIC AGENTS TO CLOT

DOSAGE IS MUCH LESS - INSTEAD OF 100 MG ALTEPLASE GIVEN SYSTEMICALLY FOR PE, DOSAGE CAN BE **4 - 24 MG**

- 1/4 DOSE = LESS OF A BLEEDING RISK VS. SYSTEMIC THROMBOLYSIS

FEMORAL VEIN ASSESS TO PASS CATHETER TO PULMONARY ARTERIES

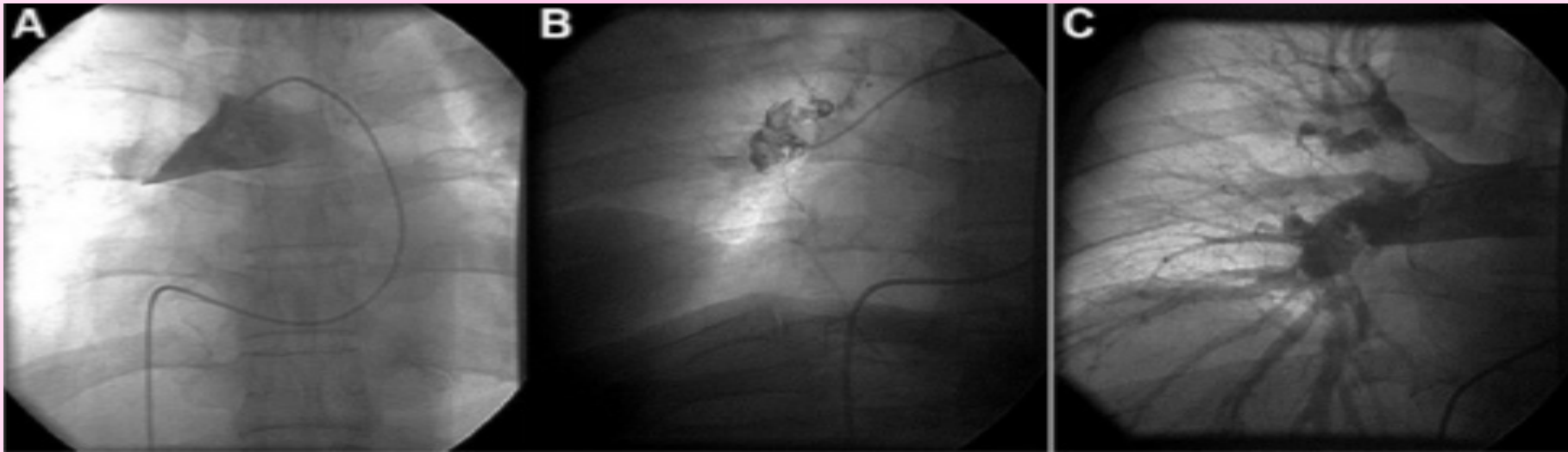
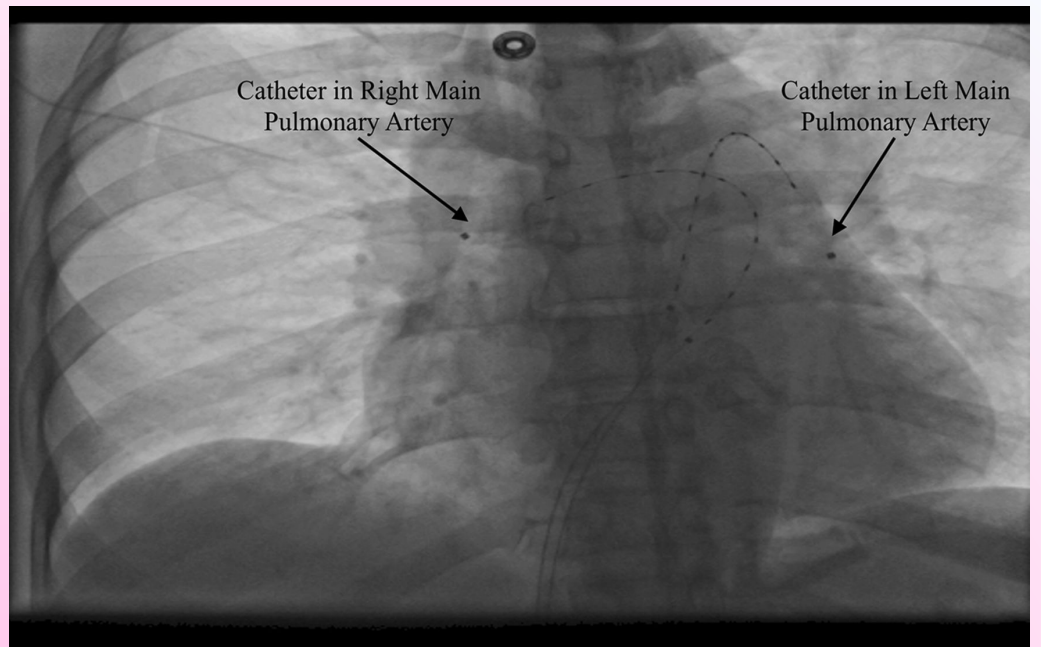
TARGETED THERAPY: CATHETER PUT THROUGH CLOT AND MEDS GIVEN LOCALLY THROUGHOUT THROMBUS

SLOW AND STEADY: CAN BE GIVEN AT A SLOW RATE (E.G. 1 MG/HR)

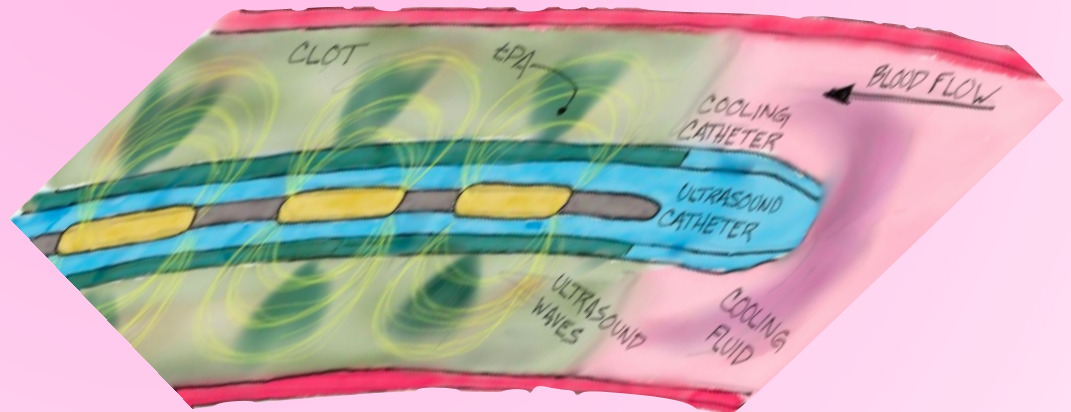
STUDIED AGAINST SYSTEMIC ANTICOAGULATION ALONE



X-RAY TAKEN UNDER FLUOROSCOPY SHOWING CATHETERS IN THE CORRECT POSITION. CAN DO PRE AND POST CONTRAST TO LOOK AT THE FILLING DEFECTS AND RESOLUTION



SOME CATHETERS USE ULTRASOUND WAVES TO FURTHER BREAK UP THE CLOTS. IT IS UNCLEAR IF THIS IS BENEFICIAL FOR CLOT RESOLUTION



EVIDENCE BASED MEDICINE

SOME STUDIES SHOW IMPROVED RIGHT HEART HEMODYNAMICS WITH CATHETER DIRECTED THROMBOLYSIS. IMPROVED MORTALITY SEEN IN META-ANALYSIS BY ISMAYL ET AL.

CATHETER DIRECTED THERAPY

- ↓ In-hospital mortality (40/1,639 [2%])
- ↓ 30-day mortality (10/315 [3%])
- ↓ 90-day mortality (9/323 [3%])

SYSTEMIC ANTICOAGULATION

- ↑ In-hospital mortality (475/7,508 [6%])
- ↑ 30-day mortality (52/518 [10%])
- ↑ 90-day mortality (38/462 [8%])

