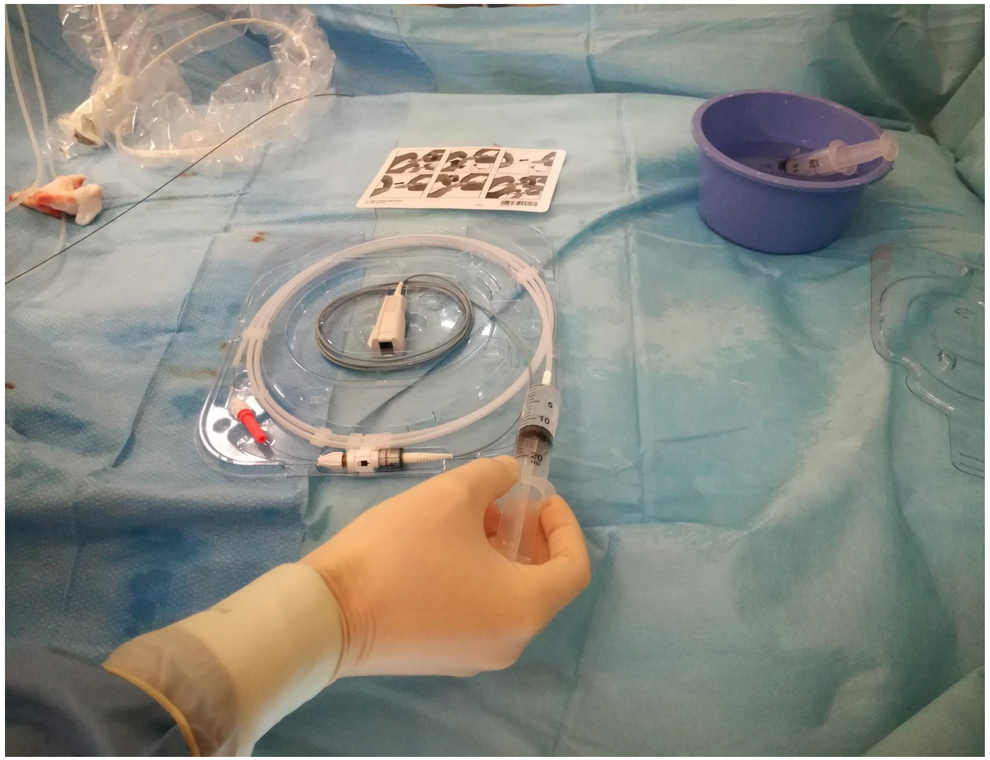
Functional versus Culprit-only Revascularization in Elderly Patients with Myocardial Infarction and Multivessel Disease: the FIRE Trial

Fractional Flow Reserve (FFR)

START

- Connect the Comet wire to the FFR Link box
- Place the guide on a flat surface

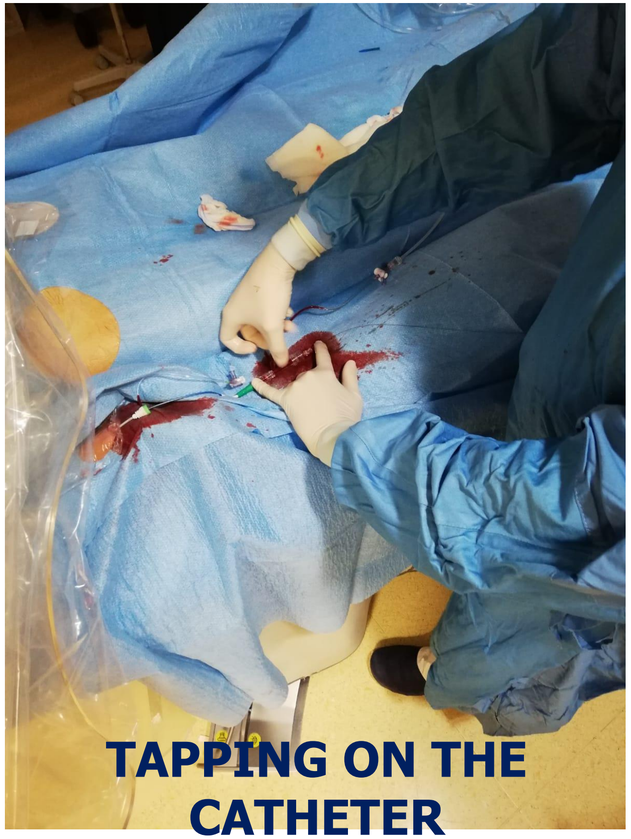
1. Flush it with heparin saline
2. Leaving it in place for at least 30 seconds
3. Open the Aorta transducer to air and perform the pressure zero



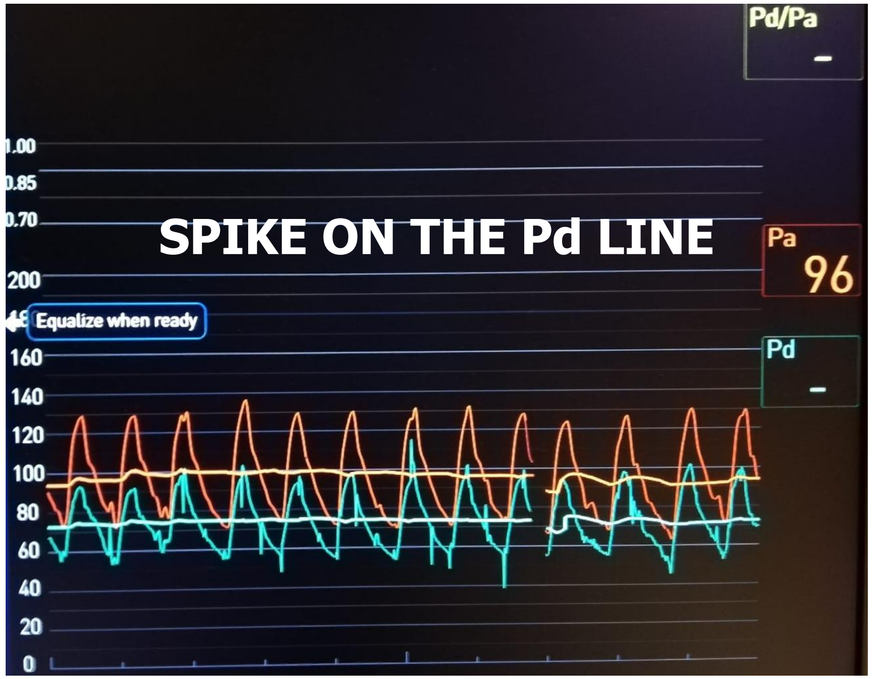
START

Insert the Comet wire inside the guiding catheter for about 5 cm, and here perform the “HORN TECHNIQUE ": with the thumb of the left hand hold the guide, with the little finger of the same hand hold the catheter in place and with the hand right tap on the catheter until repeated spikes appear on the pressure line to the monitor, in this way we reduce the incidence of “DRIFT”

HORN TECHNIQUE



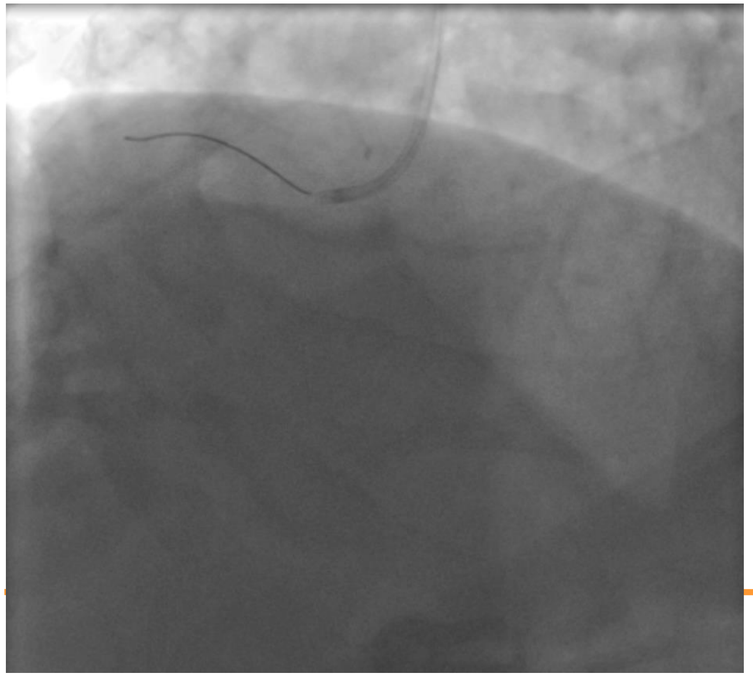
TAPPING ON THE CATHETER

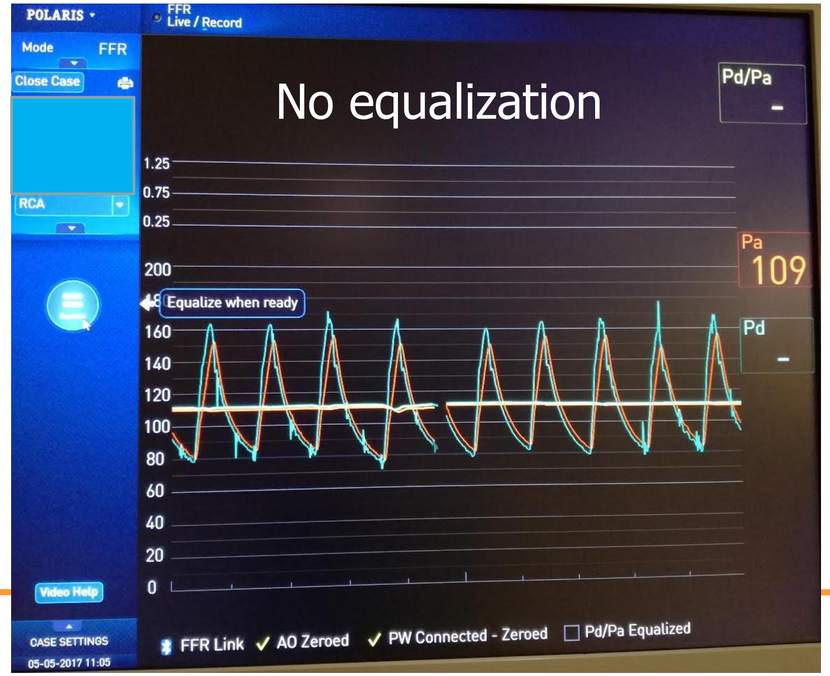


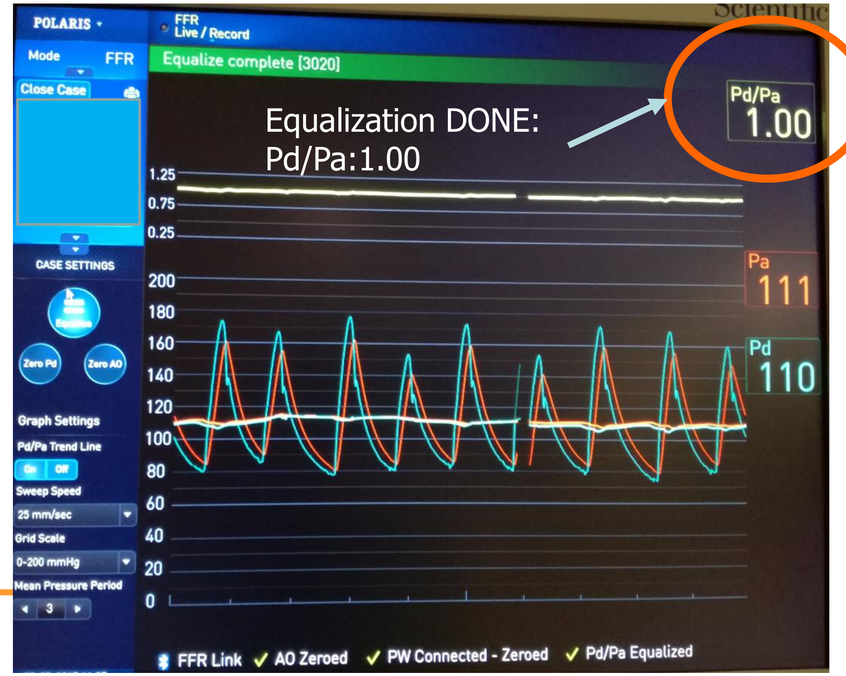
EQUALIZATION

Advance the wire, within the coronary artery, up to 2 cm from the tip of the catheter:

- wash the guiding catheter with heparin saline
- remove the needle for wire introduction
- perform equalization → Pd/Pa = 1.00



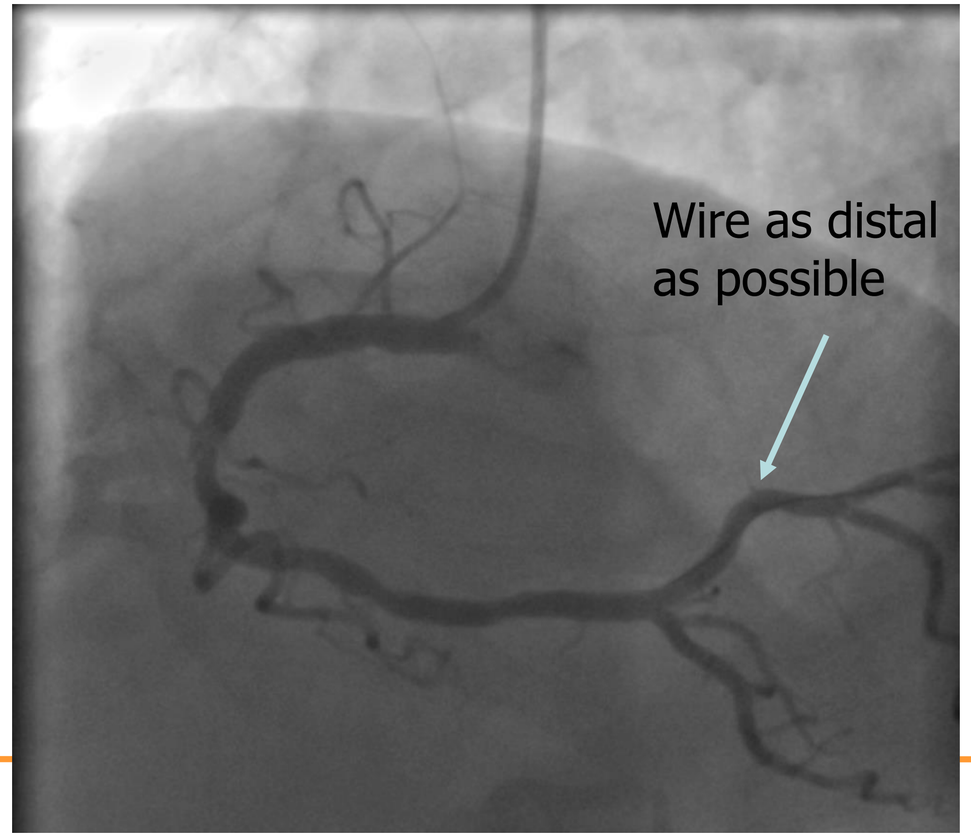




POSITIONING OF THE WIRE

The wire should be positioned:

- 2-3 cm distal to the coronary stenosis (restored post-stenotic laminar flow)
- Better if positioned as distal as possible in the coronary artery
- Administer nitrates ic



FFR EVALUATION

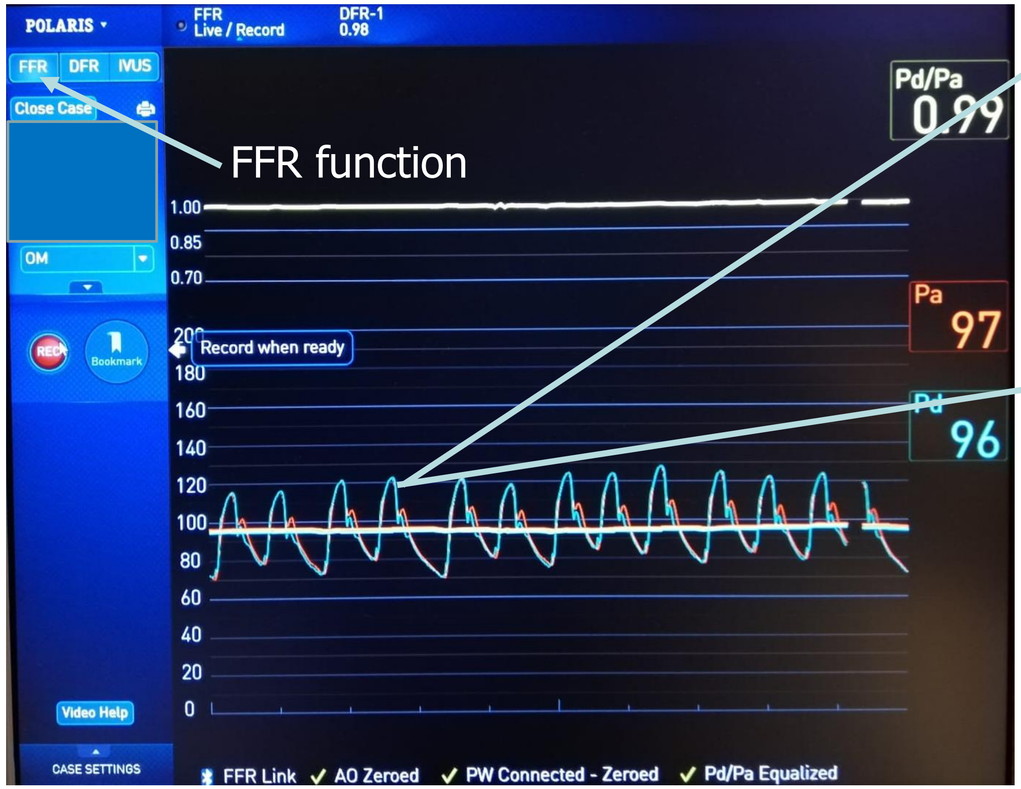
In the case of atrial fibrillation, frequent extrasystoles, and any other condition making the heart beat irregular: Select CASE SETTING → MEAN PRESSURE PERIOD → Increase the number of selected beats (maximum 12)

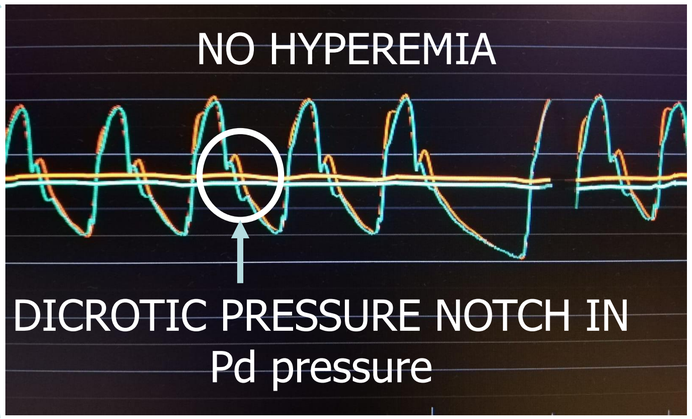
FFR EVALUATION

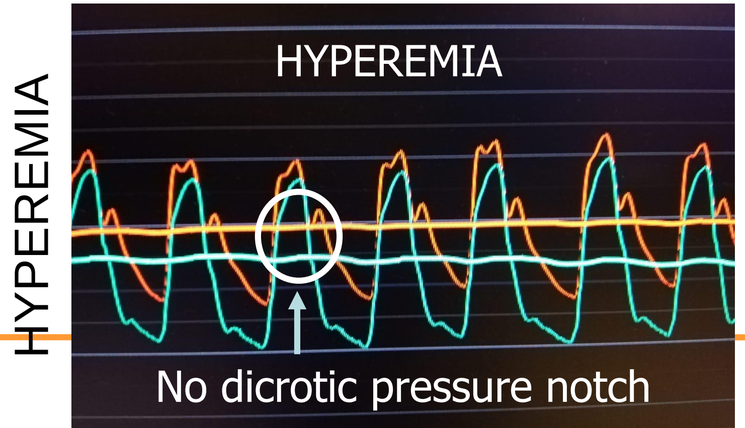
- Select FFR function - Press REC - Induce Hyperemia

FFR measurement have to be performed during the **steady state of the hyperemia**. This timing is characterized by three events:

1) ventricularization of the distal pressure waveform
2) disappearance of the distal dicrotic pressure notch;
3) separation of mean aortic and distal pressures







FFR CUT-OFF ≤0,80

The correct FFR value is the lowest during the steady state hyperemia

FFR EVALUATION – Test DRIFT

At the end of the procedure bring the Comet wire back to the equalization point:

1. Wash the guiding catheter with heparized saline
2. Remove the needle
3. Test the DRIFT

0.96-1.04 accepted as drift
if the FFR value obtained is between 0.76-0.84, the accepted drift is 0.98-1.02

If an unacceptable DRIFT is present, re-equalize the system and re-test FFR