

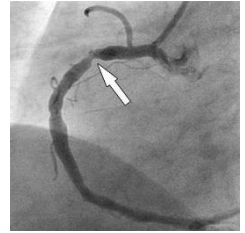
## CABG:

-we need to use angiography to find the problem, by going into the vessel with a catheter.

### Management:

#### 1 - Indication of surgery: (CABG)

First, CABG is needed in case of: **triple vessel disease with DM**, LF coronary A disease(distal), not suitable PCI or PTCA (weak heart), mechanical complications of MI, anomalies of coronary artery.

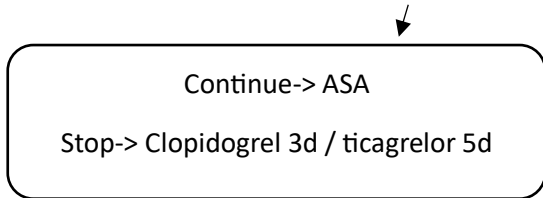


The case	Recommendations	COR	LOE
SIHD, multivessel CAD appropriate for CABG with EF< 35%	CABG is <b>recommended</b>	<b>1</b>	B-R
SIHD, multivessel CAD appropriate for CABG with EF 35% - 50% <b>(stronger)</b>	CABG is <b>reasonable</b> to improve survival	<b>2a</b>	B-NR
SIHD and left main stenosis	CABG is <b>recommended</b>	<b>1</b>	B-R
SIHD and left main stenosis but <b>PCI is equivalent to CABG</b>	PCI is <b>reasonable</b> to improve survival	<b>2a</b>	B-NR
SIHD, normal ejection fraction, significant stenosis in 3 major coronary arteries	anatomy suitable for: CABG-> CABG may <b>be reasonable to improve survival</b> . PCI-> the <b>usefulness of PCI to improve survival is uncertain</b> .	<b>2b</b>	B-R
SIHD, normal EF, and significant stenosis in the <b>proximal</b> LAD	the usefulness of coronary revascularization to improve survival is <b>uncertain</b> .	<b>2b</b>	B-R
SIHD, normal EF 1- or 2-vessel CAD <b>not involving</b> the proximal LAD	coronary revascularization is <b>not recommended</b> to improve survival.	<b>3</b>	B-R

- Ideal situations for Heart Team consideration include patients with complex coronary disease, comorbid conditions that could impact the success of the revascularization strategy, and other clinical or social situations that may impact outcomes.

## 2- preoperative evaluation:

Respiratory evaluation (due to heart-lung machine), renal evaluation, infection evaluation, carotids, liver, frailty, liver, thyroid, medications, coagulopathy.

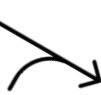


Patient clinical status: **elective** (stable cardiac function -> could be deferred), **urgent** (intervention at the same hospital), **emergency** (no delay), **emergency/salvage**.

## 3- conduits decision: arterial grafts are better than venous.

### Arterial:

- 1- RIMA
- 2- **LIMA**
- 3- RA
- 4- GEA
- 5- IEA



BIMA is the best choice.

### Venous:

- 1- **GSV**
- 2- SSV
- 3- ARM

Free graft: before and after stenotic part.

Pedicle (not free): still attach to its origin.

- one surgeon takes out the venous graft from the lower limb while the other takes out the arterial one from the thoracic area (faster)

## 4- operation decision: you must make the completed plan before operation.

5-ERAS: by preoperative, intraoperative and postoperative components.

## Surgical techniques

Sternotomy (wax is used to prevent bleeding) -> thymus is removed -> cut the coronary artery where the graft will attach -> attach the graft.

- betablockers are used to slow heart rate.

### Instrumentation:

1- *octopus device*: hold the heart steady.

2- *star fish device*: hold the heart steady, it's put on the apex to be moved to the point of surgical intervention.

Heart lung machine: cannulas is put in venous and arterial sides (2 circulations: systemic and heart lung machine circulation)

Stop the heart by adding extra canula to insert potassium filled