

Adding Grafts in the Coronary Diagrams

Cardiac Catheterization Reporting Module

ACV 8.0

doc v1

Bypass grafts can be documented in the interactive *Diagrams* tab. In this example, a bypass graft around a lesion in the mid-left anterior descending artery will be recorded.

The screenshot displays a medical software interface for documenting coronary artery disease. The top navigation bar includes 'Search', 'Index', 'Prior reports', 'History', 'PCI_5.0', 'Study', 'Table', 'Arteries', 'Diagrams', and 'Conclusions'. The 'Diagrams' tab is active and highlighted with a red circle. Below the navigation bar, the 'Coronary diagram' section shows a schematic of the coronary arteries. A red circle highlights a lesion in the mid-left anterior descending artery (LAD), with a blue box indicating a 100% stenosis. A 'LAD: Occlusion' dialog box is open over the lesion, with a 'Delete Occlusion' button. To the left of the diagram is a 'Lesions' panel with icons for Chronic occlusion, Acute occlusion, Occlusion, Aneurysm, Stenosis, Thrombus, Other, and Myocardial bridge. Below this is a 'Stents' panel with icons for Prior stent and Stent in lesion. At the bottom left is a 'Grafts & Collaterals' panel with icons for Graft and Y-graft. On the right side, a 'Lesions: #1' panel provides detailed diagnostic information for the selected lesion. The 'Starting segment' is 'Mid', 'More sites in this vessel' is 'At bifurcation', and 'Peak stenosis (%)' is '100'. Other fields include 'Or other lesion type' (Stenosis), 'New vs recurrence' (De novo lesion), 'Occlusion + timing' (Occlusion - unknown), and 'Intervention outcome' (Excellent). The 'Pathology-specific details' section includes 'Bifurcation lesion' (No), 'Calcification' (Absent), 'Thrombus' (Absent), and 'TIMI (pre-intervention)' (TIMI 3 (brisk)). The 'Diagnostic impression' section includes 'Culprit for' (Clinical presentation), 'Lesion complexity' (Low or moderate (nd)), and 'Intervention description' (Excellent). The 'Findings' panel on the right shows a text entry: '3. Selective left coronary angiography was performed. A JL4.0 6FR LAUNCHER IVG catheter was introduced. Contrast was injected. Images were obtained using multiple projections.'

Coronary diagram Include in report **SELECT DIAGRAM**

Lesions: #1

Diagnostic description **▼**

Starting segment

More sites in this vessel

Sites from other vessels

Peak stenosis (%)

Or other lesion type

? New vs recurrence

? Occlusion + timing

? Lesion length (mm)

Diagnostic detail **▶**

Bifurcation lesion

Calcification

Thrombus

TIMI (pre-intervention)

FFR

Instant wave-free ratio (iFR)

Pathology-specific details **▶**

Diagnostic impression **▶**

Culprit for

Lesion complexity

Intervention description **▶**

Intervention outcome

To begin, click on the Graft option in the left side menu bar. Then click the graft origin, followed by the graft target, following the onscreen prompts. In this case, a left internal mammary artery (LIMA) graft to the mid LAD is represented. As the graft is added, the diagram is automatically populated with the appropriate graft to the coronary artery.

Search Index Prior reports History PCI_5.0 Study Table Arteries Grafts Diagrams Conclusions Findings Report

Coronary diagram Include in report SELECT DIAGRAM

5. Selective right coronary angiography was performed. A JR4.O 6FR LAUNCHER IVG catheter was introduced. Contrast was injected. Images were obtained using multiple projections.

Graft Delete Graft Edit shape Findings Width

Coronary arteries Grafts

Coronary grafts: #1

Type, origin, target

Graft type	LIMA
Y- or sequential graft	Sequential
Origin vessel	Aorta
Target segment	Mid
Target vessel	LAD
Target segment 2	Mid
Target vessel 2	LAD

Reference to prior study

Description

Location in vessel	
Overall	Normal
Visualization	Poorly visualized
Size	Normal-sized
Calcification	Present
Degeneration	Present
Disease	None
Antegrade flow	Normal
Course	Remote from chest

Prior interventions

Intervention	Stent
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Diagram labels: R CCA, L CCA, R SCA, L SCA, R IMA, L IMA, Aorta, AAo, DAo, left main, LAD, RCA, RM1, RM2, S1, S2, S3, S4, D1, D2, D3, D4, OM1, OM2, OM3, OM4, ICx.

100%

Chronic occlusion, Stenosis, Acute occlusion, Thrombus, Occlusion, Other, Aneurysm, Myocardial bridge, Prior stent, Stent in lesion, Graft, Y-graft, Sequential, Collateral

Notes

Right heart pressure, Left heart, The left anterior circumflex gives rise

There is a 100%

New recommendation

The corresponding text is automatically updated in the *Findings viewer* and *Report viewer*.

Coronary diagram Include in report [SELECT DIAGRAM](#)

Lesions

- Chronic occlusion
- Stenosis
- Acute occlusion
- Thrombus
- Occlusion
- Other
- Aneurysm
- Myocardial bridge

Stents

- Prior stent
- Stent in lesion

Grafts & Collaterals

- Graft
- Y-graft
- Sequential
- Collateral

Notes

Annotation

Findings **Report**

LAUNCHER IVG catheter was introduced. Contrast was injected. Images were obtained using multiple projections.

- The catheter was exchanged for a 6FR Pigtail catheter.
- Sheath exchange was performed. The right femoral artery sheath was exchanged for an 8Fr sheath 24cm sheath.
- A stent was placed in the stenosis in the mid LAD. See detailed description below (1st lesion intervention).

1st lesion:

- An AL1 7FR LAUNCHER IVG guiding catheter was placed.
- A .014 Balanced Perf Stabiliz 180 IVW wire was placed across the lesion.
- Balloon angioplasty was performed. A 3.0X13 Powersail IVB balloon was employed. The balloon was placed across the lesion and given two inflations with a maximum inflation pressure of 15 atm.
- Stent placement was performed. A 2.5 mm (D) x 8 mm (L), Cypher OTW stent was used. The stent was advanced across the lesion and deployed with two inflations and a maximum pressure of 12 atm.

Hemodynamics

Circulatory function table

Basic hemodynamic protocols. SV pressure protocols. Right heart pressure protocols. PA pressure protocols. PV pressure protocols. Left heart pressure protocols. Right-sided protocols. Left-sided

Coronary arteries

The left main bifurcates normally into the LAD and circumflex. The left anterior descending gives rise to 3 diagonals and 4 septals. The left circumflex gives rise to 4 obtuse marginals and no posterolaterals. The right coronary gives rise to 2 RV marginals and no posterolaterals.

LAD: Mid-vessel lesion: [New vs recurrence ?](#) [Lesion length ?](#) There is a 100% [Occlusion + timing ?](#). Summary

LIMA graft to the mid LAD: [Target vessel 2 ?](#)

Discharge

The patient was transferred to a regular nursing floor.

Recommendations

[New recommendation](#)

The graft end points can be repositioned to different locations as needed. To do so, simply drag the graft end points to the desired locations.

Search Index Prior reports History PCI_5.0 Study Table Arteries Grafts Diagrams Conclusions Findings Report

Coronary diagram Include in report **SELECT DIAGRAM ▾**

Coronary arteries **Grafts**

Coronary grafts: #1

Type, origin, target

Graft type	LIMA
Y- or sequential graft	Sequential
Origin vessel	Aorta
Target segment	Mid
Target vessel	LAD
Target segment 2	Mid
Target vessel 2	LAD

Reference to prior study ▶

Description ▶

Location in vessel	
Overall	Normal
Visualization	Poorly visualized
Size	Normal-sized
Calcification	Present
Degeneration	Present
Disease	None
Antegrade flow	Normal
Course	Remote from chest

Prior interventions ▶

Intervention	Stent
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Graft Width

LAUNCHER IVG catheter was introduced. Contrast was injected. Images were obtained using multiple projections. 6. The catheter was exchanged for a 6FR Pigtail catheter. Artery sheath was detailed description placed. Tail IVB balloon was and given two inflations (L), Cypher OTW stent and deployed with two Right heart pressure colors. Left heart flex. The left anterior left circumflex gives rise There is a 100%

To add a lesion to the graft, click the Stenosis choice in the left side menu bar and then click the location in the graft. Additional specifics may be added on the findings data entry form. In this case, a 65% stenosis has been added to the LIMA graft to the LAD. The lesion endpoints may be dragged to customize the length of the lesion.

The screenshot displays a medical software interface for managing coronary artery disease. The main window shows a 'Coronary diagram' with various vessels labeled, including R CCA, L CCA, R SCA, L SCA, R IMA, L IMA, Aorta, AAo, DAo, left main, LCx, RCA, LAD, RM1, RM2, S1, S2, S3, S4, D1, D2, D3, D4, OM1, OM2, and OM4. A blue line indicates a 65% stenosis on the LIMA graft to the LAD. A black circle indicates a 100% stenosis on the LAD.

The 'Coronary grafts - Lesions' dialog box is open, showing the following details for 'Lesions: #1':

- Diagnostic description:
 - Starting segment in graft: Middle third
 - Stenosis (%): 65
 - Or other lesion type: Stenosis
 - New vs recurrence: De novo
 - Occlusion + timing: Occlusion - unknown
 - Length (mm):
 - More sites in this graft:
- Diagnostic detail:
 - Bifurcation lesion: No
 - Calcification: Present
 - Thrombus: Present
 - TIMI (pre-intervention): TIMI 3 (brisk)
 - FFR:
 - Instant wave-free ratio (iFR):
- Diagnostic impression:
 - Culprit for: Anginal symptoms
 - ACC lesion risk: Low (A)
- Intervention description:
 - Intervention outcome: Excellent
 - Primary intervention: Stent
 - Residual stenosis (%):

The '65' value in the 'Stenosis (%)' field is circled in red, and a red arrow points from it to the 65% label on the diagram.

The corresponding findings are updated in the *Findings viewer* and *Report viewer* as changes are made on the diagram.

Search
Index
Prior reports
History
PCI_5.0
Study
Table
Arteries
Grafts
Diagrams
Conclusions

Coronary diagram

Include in report SELECT DIAGRAM ▾

Add / remove vessels

Lesions

Chronic occlusion

Stenosis

Acute occlusion

Thrombus

Occlusion

Other

Aneurysm

Myocardial bridge

Stents

Prior stent

Stent in lesion

Grafts & Collaterals

Graft

Y-graft

Sequential

Collateral

Notes

Findings
Report

LAUNCHER IVG catheter was introduced. Contrast was injected. Images were obtained using multiple projections.

6. The catheter was exchanged for a 6FR Pigtail catheter.

7. Sheath exchange was performed. The right femoral artery sheath was exchanged for an 8Fr sheath 24cm sheath.

8. A stent was placed in the stenosis in the mid LAD. See detailed description below (1st lesion intervention).

1st lesion:

1. An AL1 7FR LAUNCHER IVG guiding catheter was placed.
2. A .014 Balanced Perf Stabiliz 180 IVW wire was placed across the lesion.
3. Balloon angioplasty was performed. A 3.0X13 Powersail IVB balloon was employed. The balloon was placed across the lesion and given two inflations with a maximum inflation pressure of 15 atm.
4. Stent placement was performed. A 2.5 mm (D) x 8 mm (L), Cypher OTW stent was used. The stent was advanced across the lesion and deployed with two inflations and a maximum pressure of 12 atm.

Hemodynamics

Circulatory function table

Basic hemodynamic protocols. SV pressure protocols. Right heart pressure protocols. PA pressure protocols. PV pressure protocols. Left heart pressure protocols. Right-sided protocols. Left-sided

Coronary arteries

The left main bifurcates normally into the LAD and circumflex. The left anterior descending gives rise to 3 diagonals and 4 septals. The left circumflex gives rise to 4 obtuse marginals and no posterolaterals. The right coronary gives rise to 2 RV marginals and no posterolaterals.

LAD: Mid-vessel lesion: New vs recurrence ? Lesion length ? There is a 100% Occlusion + timing ?. Summary

LIMA graft to the mid LAD: Target vessel 2 ? Mid-graft lesion: New vs recurrence ? Length ? There is a 65% stenosis. Summary

Discharge

The patient was transferred to a regular nursing floor.

Recommendations

New recommendation

To record additional details about a graft, click on the graft vessel within the diagram and then click the Findings button on the context menu, at the top of the diagram. The findings data entry form for that graft is displayed.

The screenshot displays a medical software interface for coronary artery disease management. The main window shows a **Coronary diagram** with a **Graft** highlighted in green. A red arrow points from the **Findings** button in the **Graft** context menu to the **Findings** data entry form.

Coronary diagram includes a sidebar with categories: Lesions (Chronic occlusion, Acute occlusion, Occlusion, Aneurysm, Stenosis, Thrombus, Other, Myocardial bridge), Stents (Prior stent, Stent in lesion), Grafts & Collaterals (Graft, Y-graft, Sequential, Collateral), and Notes.

The **Graft** context menu has buttons for **Delete Graft**, **Edit shape**, **Findings** (circled in red), and **Width**.

The **Findings** data entry form for **Coronary grafts: #1** includes the following fields:

- Type, origin, target
 - Graft type: LIMA
 - Y- or sequential graft: Sequential
 - Origin vessel: Aorta
 - Target segment: Mid
 - Target vessel: LAD
 - Target segment 2: Mid
 - Target vessel 2: LAD
- Reference to prior study
- Description
 - Location in vessel: Overall
 - Overall: Normal
 - Visualization: Poorly visualized
 - Size: Normal-sized
 - Calcification: Present
 - Degeneration: Present
 - Disease: None
 - Antegrade flow: Normal
 - Course: Remote from chest
- Prior interventions
 - Intervention: Stent

The diagram shows the coronary arteries (RCCA, LCCA, RSCA, LSCA, RIMA, LIMA, Aorta, AAo, DAo, left main, LCx, RCA, LAD, RCA, RM1, RM2, S1, S2, S3, S4, D1, D2, D3, OM1, OM2, OM4) and a graft (green line) connecting the Aorta to the LAD. Stenosis is indicated by black bars with percentages (65% and 100%).

In the findings data entry form, you can add information such as graft type and location, vessel morphology, and prior interventions performed in that vessel.

The screenshot displays a medical software interface for coronary artery analysis. The main window shows a 'Coronary diagram' with a central 'Graft' window and a 'Coronary grafts: #1' data entry form. The diagram includes labels for various vessels: R CCA, L CCA, R SCA, L SCA, R IMA, L IMA, Aorta, AAo, DAo, left main, LCx, RCA, LAD, S1, S2, S3, S4, D1, D2, D3, D4, RM1, RM2, OM1, OM2, OM3, OM4. A green line represents a graft, with a 65% stenosis marker and a 100% stenosis marker. The 'Coronary grafts: #1' form is highlighted with a red circle and contains the following fields:

- Description**
 - Location in vessel: [Dropdown]
 - Overall: Normal [Dropdown]
 - Visualization: Poorly visualized [Dropdown]
 - Size: Normal-sized [Dropdown]
 - Calcification: Present [Dropdown]
 - Degeneration: Present [Dropdown]
 - Disease: None [Dropdown]
 - Antegrade flow: Normal [Dropdown]
 - Course: Remote from chest [Dropdown]
- Prior interventions**
 - Intervention: Stent [Dropdown]
 - Intervened segment: [Dropdown]
 - Stent properties: Drug-eluting [Dropdown]
 - Prior procedure date: 2020-06-03 [Dropdown]
 - Prior procedure timeframe: [Dropdown]
 - Create new in-stent lesion: [Toggle]
- Spasm**: [Dropdown]
- Lesions**
 - Diagnostic description: [Dropdown]
 - Starting segment in graft: Middle third [Dropdown]

The interface also includes a top navigation bar with 'Search', 'Index', 'Prior reports', 'History', 'PCI_5.0', 'Study', 'Table', 'Arteries', 'Grafts', 'Diagrams', 'Conclusions', 'Findings', and 'Report'. A left sidebar contains 'Add / remove vessels', 'Lesions' (Chronic occlusion, Stenosis, Acute occlusion, Thrombus, Occlusion, Other, Aneurysm, Myocardial bridge), 'Stents' (Prior stent, Stent in lesion), 'Grafts & Collaterals' (Graft, Y-graft, Sequential, Collateral), and 'Notes'. The bottom right corner shows a 'Findings' panel with text: 'LAUNCHER IVG catheter was introduced. Contrast was injected. Images were obtained using multiple projections. 6. The catheter was exchanged for a 6FR Pigtail catheter.' and 'artery sheath was... detailed description...'. The bottom left corner features the 'ASCEND' logo.



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