Identifying Inappropriate PCI Cases

Applying Appropriate Use Criteria to NYS PCIRS data

NYSDOH Percutaneous Coronary Interventions Reporting System (PCIRS)

- Contains patient level data for all PCIs performed submitted by all non-Federal hospitals performing PCI.
- Includes demographics, risk factors, procedural information and outcomes
- Carefully audited for completeness and accuracy
- Data used for public reporting of hospital and physician outcomes for over 20 years.

Appropriate Use Criteria for Coronary Revascularization

"ACCF/SCAI/STS/AATS/AHA/ASNC/HFSA/SCCT 2012 Appropriate Use Criteria for Coronary Revascularization Focused Update" (*J Am Coll Cardiol*, 2012;59(9):857-881).

Identify and rate over 100 clinical indications

- Based on combinations of 5 patient characteristics
  - clinical presentation
  - severity of angina
  - extent of ischemia on noninvasive testing
  - extent of medical therapy
  - extent of anatomic disease

Appropriate Use Criteria

Each clinical scenario is rated based on scores provided by expert panel.

Appropriate (7 to 9): Procedure is generally acceptable and is a reasonable approach for the indication.

Uncertain (4 to 6): Procedure may be generally acceptable and may be a reasonable approach for the indication. More research and/or patient information is needed to classify the indication definitively.

Inappropriate (1 to 3): Procedure is not generally acceptable and is not a reasonable approach for the indication.

May be additional factors for some individual patients requiring clinical judgment.

Appropriate Use Criteria

Indications divided into three main groups

- Acute Coronary Syndrome (ACS)
- No ACS and no CABG
- No ACS and prior CABG

This initiative applies only to patients with no ACS and no prior CABG

Variables Used to Classify Scenarios

Severity of angina

CCS Class I – IV or asymptomatic

Extent of ischemia on noninvasive testing

Stress test results (Low, intermediate or high risk) Or Ejection Fraction

Extent of medical therapy

Maximal Or Minimal / none

Extent of anatomic disease

Coronary artery disease - #, location, and type of vessels diseased. (e.g. proximal LAD, Left Main, CTO, borderline stenosis)

What kinds of patients are Inappropriate for PCI?

- Patients with Angina Symptoms: Inappropriate in a small number of scenarios when no non-invasive testing or low-risk findings on non-invasive testing and limited findings of coronary artery disease (e.g. borderline stenosis, a chronic total occlusion that is the only stenosis, or one or two vessel disease not involving the proximal LAD.)

- Asymptomatic patients: Inappropriate in a broader set of scenarios but still limited to findings of borderline stenosis, a chronic total occlusion that is the only stenosis, or one or two vessel disease not involving the proximal LAD.

- See AUC Table 2 for complete list of Indications for this subgroup.

AUC Table 2 clinical scenarios with appropriateness rating

Scenario	Criteria - table 2 patients w/o prior bypass (w/o ACS)	Asymptomatic	CCS 1 - 2	CCS 3-4
14	Ves. Dis: 1 - 2 w/o Prox LAD Non-invasive: Low risk Med Tx: No or minimal	I	I	U
15	Ves. Dis: 1 - 2 w/o Prox LAD Non-invasive: Low risk Med Tx: maximal	I	U	A
16	Ves. Dis: 1 - 2 w/o Prox LAD Non-invasive: Intermed. risk Med Tx: No or minimal	I	U	U
17	Ves. Dis: 1 - 2 w/o Prox LAD Non-invasive: Intermed. risk Med Tx: maximal	U	A	A
18	Ves. Dis: 1 - 2 w/o Prox LAD Non-invasive: High risk Med Tx: No or minimal	U	A	A
19	Ves. Dis: 1 - 2 w/o Prox LAD Non-invasive: High risk Med Tx: maximal	A	A	A
20	Ves. Dis: 1 - 2 w/o Prox LAD Non-invasive: Not done	I	U	A
21	Ves. Dis: 1 - 2 w/ 50-60% stenosis No FFR, IVUS performed Non-invasive: Not done	I*	I	I
22	Ves. Dis: 1 - 2 w/ 50-60% stenosis FFR / IVUS : Significant Non-invasive: Not done / equivocal result	I	U	A
23	Ves. Dis: 1 - 2 w/ 50-60% stenosis FFR / IVUS not significant Non-invasive: Not done / equivocal result	I	I	I
24	Ves. Dis: 1 CTO only Non-invasive: Low risk Med Tx: No or minimal	I	I	I

Scenario	Criteria - table 2 patients w/o prior bypass (w/o ACS)	Asymptomatic	CCS 1 - 2	CCS 3-4
25	Ves. Dis: 1 CTO only Non-invasive: Low risk Med Tx: maximal	I	U	U
26	Ves. Dis: 1 CTO only Non-invasive: Intermed. risk Med Tx: No or minimal	I	U	U
27	Ves. Dis: 1 CTO only Non-invasive: Intermed. risk Med Tx: maximal	U	U	A
28	Ves. Dis: 1 CTO only Non-invasive: High risk Med Tx: No or minimal	U	U	A
29	Ves. Dis: 1 CTO only Non-invasive: High risk Med Tx: maximal	U	A	A
30	Ves. Dis: 1 involving Prox LAD Non-invasive: Low risk Med Tx: No or minimal	U	U	A
31	Ves. Dis: 1 involving Prox LAD Non-invasive: Low risk Med Tx: maximal	U	A	A
32	Ves. Dis: 1 involving Prox LAD Non-invasive: Intermed. risk Med Tx: No or minimal	U	U	A
33	Ves. Dis: 1 involving Prox LAD Non-invasive: Intermed. risk Med Tx: maximal	U	A	A
34	Ves. Dis: 1 involving Prox LAD Non-invasive: High risk Med Tx: No or minimal	A	A	A
35	Ves. Dis: 1 involving Prox LAD Non-invasive: High risk Med Tx: maximal	A	A	A

AUC Table 2 clinical scenarios with appropriateness rating (continued)

Scenario	Criteria - table 2 patients w/o prior bypass (w/o ACS)	Asymptomatic	CCS 1 - 2	CCS 3-4
36	Ves. Dis: 2 involving Prox LAD Non-invasive: Low risk Med Tx: No or minimal	U	U	A
37	Ves. Dis: 2 involving Prox LAD Non-invasive: Low risk Med Tx: maximal	U	A	A
38	Ves. Dis: 2 involving Prox LAD Non-invasive: Intermed. risk Med Tx: No or minimal	U	A	A
39	Ves. Dis: 2 involving Prox LAD Non-invasive: Intermed. risk Med Tx: maximal	U	A	A
40	Ves. Dis: 2 involving Prox LAD Non-invasive: High risk Med Tx: No or minimal	A	A	A
41	Ves. Dis: 2 involving Prox LAD Non-invasive: High risk Med Tx: maximal	A	A	A
42	3 vessel CAD (no left main) Non-invasive: Low risk w/ nl EF Med Tx: No or minimal	U	U	A
43	3 vessel CAD (no left main) Non-invasive: Low risk w/ nl EF Med Tx: maximal	U	A	A
44	3 vessel CAD (no left main) Non-invasive: Intermed. risk Med Tx: No or minimal	A	A	A
45	3 vessel CAD (no left main) Non-invasive: Intermed. risk Med Tx: maximal	A	A	A
46	3 vessel CAD (no left main) Non-invasive: High risk Med Tx: No or minimal	A	A	A

Scenario	Criteria - table 2 patients w/o prior bypass (w/o ACS)	Asymptomatic	CCS 1 - 2	CCS 3-4
47	3 vessel CAD (no left main) Non-invasive: High risk Med Tx: maximal	A	A	A
48	3 vessel CAD (no left main) Abnormal LV systolic function	A	A	A
49	Left main stenosis	A	A	A

Questions?