

2011 ACCF/AHA/SCAI Guideline for Percutaneous Coronary Intervention

A Report of the American College of Cardiology Foundation/American Heart Association Task Force on Practice Guidelines and the Society for Cardiovascular Angiography and Interventions



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Classification of Recommendations and Levels of Evidence

| LEVEL OF EVIDENCE | SIZE OF TREATMENT EFFECT | | |
|-------------------|--|--|--|
| | CLASS I Benefit >>> Risk | CLASS IIa Benefit >> Risk | CLASS IIb Benefit ≥ Risk |
| LEVEL A | Recommendation that procedure or treatment is useful/effective. Evidence from multiple randomized trials or meta-analysis. | Recommendation that procedure or treatment is useful/effective. Evidence from single randomized trial or meta-analysis. | Recommendation that procedure or treatment is useful/effective. Evidence from single randomized trial or meta-analysis. |
| LEVEL B | Recommendation that procedure or treatment is useful/effective. Evidence from single randomized trial or meta-analysis. | Recommendation that procedure or treatment is useful/effective. Evidence from single randomized trial or meta-analysis. | Recommendation that procedure or treatment is useful/effective. Evidence from single randomized trial or meta-analysis. |
| LEVEL C | Recommendation that procedure or treatment is useful/effective. Evidence from expert opinion, case studies, or standard of care. | Recommendation that procedure or treatment is useful/effective. Evidence from expert opinion, case studies, or standard of care. | Recommendation that procedure or treatment is useful/effective. Evidence from expert opinion, case studies, or standard of care. |

Note: A recommendation with Level of Evidence B or C does not imply that the recommendation is weak. Many important clinical questions addressed in the guidelines do not lend themselves to clinical trials. Although randomized trials are unavailable, there may be a very clear clinical consensus that a particular test or therapy is useful or effective.

**Data available from clinical trials or registries about the usefulness/efficacy in different subpopulations, such as sex, age, history of diabetes, history of prior myocardial infarction, history of heart failure, and prior aspirin use.*

†For comparative effectiveness recommendations (Class I and II), studies that support the use of comparator verbs should include descriptions of the treatments or strategies being evaluated.



Classification of Recommendations and Levels of Evidence

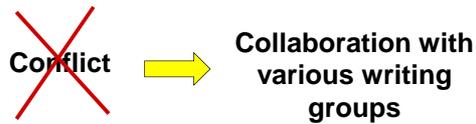
| | CLASS I Benefit >>> Risk Procedure/Treatment SHOULD be performed/administered | CLASS IIa Benefit >> Risk Additional studies with focused objectives needed IT IS REASONABLE to perform procedure/administer treatment | CLASS IIb Benefit ≥ Risk Additional studies with broad objectives needed, additional registry data would be helpful Procedure/Treatment MAY BE CONSIDERED | CLASS III No Benefit or CLASS III Harm COR III: No Benefit COR IIIa: Not helpful COR IIIb: Excess Cost w/o Benefit to Patients |
|--|---|---|--|--|
| Suggested phrases for writing recommendations | should be recommended is indicated is useful/effective/beneficial | is reasonable can be useful/effective/beneficial is probably recommended or indicated | may/might be considered may/might be reasonable usefulness/effectiveness is unknown/unclear/uncertain or not well established | COR III: No Benefit is not recommended is not indicated causes harm |
| Comparative effectiveness phrases ¹ | treatment/strategy A is recommended/indicated in preference to treatment B treatment A should be chosen over treatment B | treatment/strategy A is probably recommended/indicated in preference to treatment B it is reasonable to choose treatment A over treatment B | | COR III: Harm potentially harmful causes harm associated with excess morbidity/mortality should not be performed/administered/other |



Conflict



Conflict



- PCI and CABG Writing Groups co-wrote Revascularization section
- Revascularization section will be "dropped into" Stable Ischemic Heart Disease guidelines
- PCI and STEMI Writing Groups collaborated on STEMI recs
- UA/NSTEMI Writing Group consulted on UA/NSTEMI recs

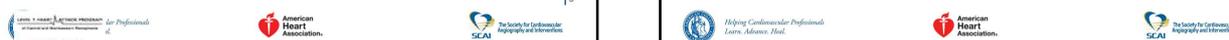


New lean, mean ACC/AHA guideline format

- Less text
- More evidence tables
- More summary charts

Table 3. Summary of Recommendations for Preprocedural Considerations and Interventions in Patients Undergoing PCI

| Recommendation | Class | Level of Evidence | Reference |
|---|-------|--------------------------|-----------------|
| Contraindications | | | |
| Patients should be screened for risk of contrast-induced kidney injury. | I | C | (173, 175) |
| Patients undergoing cardiac catheterization with contrast media should receive intravenous hydration. | I | B | (173, 175) |
| In patients with GFR conditions (creatinine clearance < 30 mL/min), the volume of contrast media should be minimized. | II | B | (173, 175) |
| Administration of heparin is not applicable for the prevention of contrast-induced kidney injury. | A | A | (173, 175) |
| Asymptomatic stenosis | | | |
| Patients with asymptomatic stenosis of an angiographically isolated in-vessel main branch vessel should not undergo percutaneous coronary intervention. | I | B | (182, 184, 186) |
| In patients with a prior history of stroke, treatment to stabilize or reduce atherosclerotic plaques is preferred for contrast-induced kidney injury. | II | C | (184, 186) |
| Stents | | | |
| Random order of a high-dose statin is considered before PCI to reduce the risk of periprocedural MI. | IIa | A, Strong recommendation | (180, 181) |
| | IIb | B, Weak recommendation | (181) |
| Wiring size | | | |
| All patients should be screened for risk of bleeding before PCI. | I | C | N/A |
| CO2 | | | |
| In patients undergoing PCI, the generalist clinician role should be emphasized and the degree of acute coronary intervention should be adjusted. | I | B | (188, 189) |
| Stents | | | |
| Patients should receive aspirin therapy about 300 to 325 mg before PCI. | I | B | (181, 184) |
| Patients not on aspirin therapy should be given aspirin about 325 mg before PCI. | I | B | (181, 184, 184) |



The most important new recommendations

CAD Revascularization

Heart Team Approach to Revascularization Decisions



Heart Team Approach to Revascularization Decisions



A Heart Team approach to revascularization is recommended in patients with unprotected left main or complex CAD.



Calculation of the STS and SYNTAX scores is reasonable in patients with unprotected left main and complex CAD.



CAD Revascularization

Revascularization to Improve Survival



Revascularization to Improve Survival: Left Main CAD Revascularization



CABG to improve survival is recommended for patients with significant ($\geq 50\%$ diameter stenosis) left main CAD.



PCI to improve survival is reasonable as an alternative to CABG in selected stable patients with significant ($\geq 50\%$ diameter stenosis) **unprotected left main CAD** with: 1) anatomic conditions associated with a low risk of PCI procedural complications and a high likelihood of a good long-term outcome (e.g., a low SYNTAX score ≤ 22), ostial or trunk left main CAD); and 2) clinical characteristics that predict a **significantly increased risk of adverse surgical outcomes** (e.g., STS-predicted risk of operative mortality $\geq 5\%$).



Revascularization to Improve Survival: Left Main CAD Revascularization (cont.)



PCI to improve survival is reasonable in patients with UA/NSTEMI when an **unprotected left main** coronary artery is the culprit lesion and the patient is **not a candidate for CABG**.



PCI to improve survival is reasonable in patients with acute STEMI when an **unprotected left main** coronary artery is the culprit lesion, distal coronary flow is TIMI (Thrombolysis In Myocardial Infarction) **grade < 3** , and PCI can be performed more rapidly and safely than CABG.



Revascularization to Improve Survival: Left Main CAD Revascularization (cont.)



PCI to improve survival may be reasonable as an alternative to CABG in selected stable patients with significant ($\geq 50\%$ diameter stenosis) **unprotected left main CAD** with: 1) anatomic conditions associated with a low to intermediate risk of PCI procedural complications and an intermediate to high likelihood of good long-term outcome (e.g., low-intermediate SYNTAX score < 33 , bifurcation left main CAD); and 2) clinical characteristics that predict an **increased risk of adverse surgical outcomes** (e.g., moderate-severe chronic obstructive pulmonary disease, disability from previous stroke, or previous cardiac surgery; STS-predicted risk of operative mortality $> 2\%$).



Revascularization to Improve Survival: Left Main CAD Revascularization (cont.)



Harm

PCI to improve survival **should not be performed** in stable patients with significant ($\geq 50\%$ diameter stenosis) unprotected left main CAD who have unfavorable anatomy for PCI and who are good candidates for CABG.



Revascularization to Improve Survival: Non-Left Main CAD Revascularization (cont.)



CABG with a LIMA graft to improve survival is reasonable in patients with a significant ($\geq 70\%$ diameter) stenosis in the proximal LAD artery and evidence of extensive ischemia.



It is reasonable to **choose CABG over PCI** to improve survival in patients with **complex 3-vessel CAD** (e.g., SYNTAX score >22) with or without involvement of the proximal LAD artery who are **good candidates for CABG**.



Revascularization to Improve Survival: Non-Left Main CAD Revascularization (cont.)



CABG is probably recommended in preference to PCI to improve survival in patients with multivessel CAD and diabetes mellitus, particularly if a LIMA graft can be anastomosed to the LAD artery.



The usefulness of CABG to improve survival is uncertain in patients with significant ($\geq 70\%$) stenoses in 2 major coronary arteries not involving the proximal LAD artery and without extensive ischemia.



Revascularization to Improve Survival: Non-Left Main CAD Revascularization (cont.)



The usefulness of PCI to improve survival is **uncertain** in patients with **2- or 3-vessel CAD** (with or without involvement of the proximal LAD artery) or **1-vessel proximal LAD disease**.



CABG might be considered with the primary or sole intent of improving survival in patients with SIHD with severe LV systolic dysfunction (EF $<35\%$) whether or not viable myocardium is present.



The usefulness of CABG or PCI to improve survival is uncertain in patients with previous CABG and extensive anterior wall ischemia on noninvasive testing.



Revascularization to Improve Survival: Non-Left Main CAD Revascularization (cont.)



Harm

CABG or PCI **should not be performed** with the primary or sole intent to improve survival in patients with SIHD with 1 or more coronary stenoses that are not anatomically or functionally significant (e.g., $<70\%$ diameter non-left main coronary artery stenosis, fractional flow reserve >0.80 , no or only mild ischemia on noninvasive testing), **involve only the left circumflex or right coronary artery, or subtend only a small area of viable myocardium.**



Revascularization to Improve Symptoms



CABG or PCI to improve symptoms is beneficial in patients with 1 or more significant ($\geq 70\%$ diameter) coronary artery stenoses amenable to revascularization and **unacceptable angina despite GDMT**.



CABG or PCI to improve symptoms is reasonable in patients with 1 or more significant ($\geq 70\%$ diameter) coronary artery stenoses and **unacceptable angina for whom GDMT cannot be implemented because of medication contraindications, adverse effects, or patient preferences.**



Revascularization to Improve Symptoms (cont.)



PCI to improve symptoms is reasonable in patients with **previous CABG**, 1 or more significant ($\geq 70\%$ diameter) coronary artery stenoses associated with ischemia, and **unacceptable angina despite GDMT**.



It is reasonable to **choose CABG over PCI** to improve symptoms in patients with **complex 3-vessel CAD** (e.g., SYNTAX score >22), with or without involvement of the proximal LAD artery who are **good candidates for CABG**.



CAD Revascularization

Hybrid Coronary Revascularization



Hybrid Coronary Revascularization

I IIa IIb III



Hybrid coronary revascularization (defined as the planned combination of LIMA-to-LAD artery grafting and PCI of ≥ 1 non-LAD coronary arteries) is reasonable in patients with 1 or more of the following:

- a. Limitations to traditional CABG, such as a heavily calcified proximal aorta or poor target vessels for CABG (but amenable to PCI); **or**
- b. Lack of suitable graft conduits; **or**
- c. Unfavorable LAD artery for PCI (i.e., excessive vessel tortuosity or chronic total occlusion).



Hybrid Coronary Revascularization (cont.)

I IIa IIb III



Hybrid coronary revascularization (defined as the planned combination of LIMA-to-LAD artery grafting and PCI of ≥ 1 non-LAD coronary arteries) may be reasonable as an alternative to multivessel PCI or CABG in an attempt to **improve the overall risk-benefit ratio of the procedures.**



Preprocedural Considerations

Radiation Safety



Radiation Safety

I IIa IIb III



Cardiac catheterization laboratories should ---routinely record relevant available patient procedural radiation dose data (e.g., total air kerma at the international reference point [$K_{a,r}$], air kerma air product [P_{KA}], fluoroscopy time, number of cine images), and ---should define thresholds with corresponding follow-up protocols for patients who receive a high procedural radiation dose.



Preprocedural Considerations

Contrast-Induced Acute Kidney Injury



Contrast-Induced Acute Kidney Injury (cont.)

I IIa IIb III

 No Benefit

Administration of N-acetyl-L-cysteine is **not useful** for the prevention of contrast-induced AKI.



Preprocedural Considerations

Anaphylactoid Reactions



Preprocedural Considerations

Statin Treatment



Statin Treatment

Statin-naïve patients:
I IIa IIb III


Administration of a high-dose statin is reasonable **before** PCI to reduce the risk of statin therapy.

Patients on chronic periprocedural MI:
I IIa IIb III




Preprocedural Considerations

Bleeding Risk



Bleeding Risk

I IIa IIb III


All patients should be evaluated for risk of bleeding before PCI.



Preprocedural Considerations

PCI in Hospitals Without On-Site Surgical Backup



PCI in Hospitals Without On-Site Surgical Backup

I IIa IIb III

Primary PCI is reasonable in hospitals without on-site cardiac surgery, provided that appropriate planning for program development has been accomplished.

I IIa IIb III

Elective PCI might be considered in hospitals without on-site cardiac surgery, provided that appropriate planning for program development has been accomplished and rigorous clinical and angiographic criteria are used for proper patient selection.



Procedural Considerations

Vascular Access



Vascular Access

I IIa IIb III

The use of radial artery access can be useful to decrease access site complications.



Procedural Considerations

PCI in Specific Clinical Situations



PCI in Specific Clinical Situations: UA/NSTEMI (cont.)

I IIa IIb III

An early invasive strategy (i.e., diagnostic angiography with intent to perform revascularization) is indicated in initially stabilized UA/NSTEMI patients (without serious comorbidities or contraindications to such procedures) who have an **elevated risk** for clinical events.



PCI in Specific Clinical Situations: UA/NSTEMI (cont.)



The selection of PCI or CABG as the means of revascularization in the patient with ACS should generally be based on the same considerations as those without ACS.



Procedural Considerations

PCI in Specific Clinical Situations: STEMI



PCI in Specific Clinical Situations: STEMI-Primary PCI of the Infarct Artery



Primary PCI should be performed in patients within 12 hours of onset of STEMI.



Primary PCI should be performed in patients with STEMI presenting to a hospital with PCI capability within **90 minutes** of first medical contact as a systems goal.



PCI in Specific Clinical Situations: STEMI- Primary PCI of the Infarct Artery (cont.)



Primary PCI should be performed in patients with STEMI **presenting to a hospital without PCI capability within 120 minutes** of first medical contact as a systems goal.



Primary PCI should be performed in patients with STEMI who develop severe heart failure or cardiogenic shock and are suitable candidates for revascularization as soon as possible, irrespective of time delay.



PCI in Specific Clinical Situations: STEMI- Primary PCI of the Infarct Artery (cont.)



Primary PCI might be considered in asymptomatic patients with STEMI and higher risk presenting between 12 and 24 hours after symptom onset.



Harm

PCI **should not be performed** in a **noninfarct artery** at the time of primary PCI in patients with STEMI without hemodynamic compromise.



Delayed or Elective PCI in Patients with STEMI



PCI of a hemodynamically significant stenosis in a patent infarct artery >24 hours after STEMI may be considered as part of an invasive strategy.



PCI of a **totally occluded infarct artery** >24 hours after STEMI **should not be performed** in asymptomatic patients with 1- or 2-vessel disease if patients are hemodynamically and electrically stable and do not have evidence of severe ischemia.



PCI in Specific Clinical Situations: Cardiogenic Shock



PCI is recommended for patients with acute MI who develop cardiogenic shock and are suitable candidates.



A **hemodynamic support device** is recommended for patients with cardiogenic shock after STEMI who do not quickly stabilize with pharmacologic therapy.



PCI in Specific Clinical Situations: Revascularization Before Noncardiac Surgery



Routine prophylactic coronary revascularization **should not be performed** in patients with stable CAD before noncardiac surgery.



Elective noncardiac surgery **should not be performed** in the 4 to 6 weeks after balloon angioplasty or BMS implantation or the 12 months after DES implantation in patients in whom the P2Y₁₂ inhibitor will need to be discontinued perioperatively.



Procedural Considerations

Coronary Stents



Before implantation of DES, the interventional cardiologist should discuss with the patient the need for and duration of DAPT and the ability of the patient to comply with and tolerate DAPT.



PCI/STEMI

DES is useful as an alternative to BMS to reduce the risk of restenosis in cases in which the risk of restenosis is increased and the patient is likely to be able to tolerate and comply with prolonged DAPT.



UA/NSTEMI



Procedural Considerations

Adjunctive Diagnostic Devices



Procedural Considerations

Adjunctive Therapeutic Devices



Thrombectomy



Aspiration thrombectomy is reasonable for patients undergoing primary PCI.

Procedural Considerations

Percutaneous Hemodynamic Support Devices

Percutaneous Hemodynamic Support Devices



Elective insertion of an appropriate hemodynamic support device as an adjunct to PCI may be reasonable in carefully selected high-risk patients.

Oral Antiplatelet Therapy (cont.)



A loading dose of a P2Y₁₂ receptor inhibitor should be given to patients undergoing PCI with stenting. Options include:



- Clonidogrel 600 mg (ACS and non-ACS patients).
- Prasugrel 60 mg (ACS patients).
- Ticagrelor 180 mg (ACS patients).**

Oral Antiplatelet Therapy (cont.)



The duration of P2Y₁₂ inhibitor therapy after stent implantation should generally be as follows:

- In patients receiving a stent (BMS or DES) during PCI for ACS, P2Y₁₂ inhibitor therapy should be given for at least 12 months. Options include: clopidogrel 75 mg daily, prasugrel 10 mg daily, and **ticagrelor 90 mg twice daily.**
- In patients receiving a DES for a non-ACS indication, clopidogrel 75 mg daily should be given for at least 12 months if patients are not at high risk of bleeding.
- In patients receiving a BMS for a non-ACS indication, clopidogrel should be given for a minimum of 1 month and ideally up to 12 months (unless the patient is at increased risk of bleeding; then it should be given for a minimum of 2 weeks).

Oral Antiplatelet Therapy (cont.)



After PCI, it is reasonable to use **81 mg per day of aspirin in preference to higher maintenance doses.**



If the risk of morbidity from bleeding outweighs the anticipated benefit afforded by a recommended duration of P2Y₁₂ inhibitor therapy after stent implantation, earlier discontinuation (e.g., <12 months) of P2Y₁₂ inhibitor therapy is reasonable.

Intravenous Antiplatelet Therapy : STEMI (cont.)



In patients undergoing primary PCI with abciximab, it may be reasonable to administer **intracoronary abciximab**.

Procedural Considerations

PCI in Specific Anatomic Situations

Chronic Total Occlusions



PCI of a **CTO** in patients with appropriate clinical indications and suitable anatomy is reasonable when performed by operators with appropriate expertise.

Bifurcation Lesions



Provisional side-branch stenting should be the **initial approach** in patients with bifurcation lesions when the side branch is not large and has only mild or moderate focal disease at the ostium.



It is **reasonable to use elective double stenting** in patients with complex bifurcation morphology involving a large side branch where the risk of side-branch occlusion is high and the likelihood of successful side-branch re-access is low.

Vascular Closure Devices



Patients considered for vascular closure devices should undergo a **femoral angiogram** to ensure anatomic suitability for deployment.



The use of **vascular closure devices** is reasonable for the purposes of achieving faster hemostasis and **earlier ambulation** compared with the use of manual compression.



No Benefit

The routine use of vascular closure devices **is not recommended** for the purpose of decreasing vascular complications, including bleeding.

Postprocedural Considerations

Postprocedural Antiplatelet Therapy

Postprocedural Antiplatelet Therapy (cont.)



Continuation of clopidogrel, prasugrel or ticagrelor **beyond 12 months** may be considered in patients undergoing DES placement.



Postprocedural Considerations

Proton Pump Inhibitors and Antiplatelet Therapy



PPIs and Antiplatelet Therapy



PPI should be used in patients with history of **prior GI bleed** who require DAPT.



PPI use is reasonable in patients with **increased risk of GI bleeding** (advanced age, concomitant use of warfarin, steroids, nonsteroidal anti-inflammatory drugs, H pylori infection, etc.) who require DAPT.



No Benefit

Routine use of a PPI is **not recommended** for patients at low risk of GI bleeding, who have much less potential to benefit from prophylactic therapy.



Clopidogrel Genetic Testing



Genetic testing might be considered to identify whether a patient at **high risk for poor clinical outcomes** is predisposed to inadequate platelet inhibition with clopidogrel.



When a patient predisposed to inadequate platelet inhibition with clopidogrel is identified by genetic testing, treatment with an **alternate P2Y₁₂ inhibitor** (e.g., prasugrel or ticagrelor) might be considered.



No Benefit

The **routine** clinical use of genetic testing to screen clopidogrel-treated patients undergoing PCI is **not recommended**.



Platelet Function Testing



Platelet function testing may be considered in patients at **high risk for poor clinical outcomes**.



In clopidogrel-treated patients with high platelet reactivity, **alternative agents**, such as prasugrel or ticagrelor, might be considered.



No Benefit

The **routine** clinical use of platelet function testing to screen clopidogrel-treated patients undergoing PCI is **not recommended**.



Exercise Testing



In patients entering a formal cardiac rehabilitation program after PCI, treadmill exercise testing is reasonable.



No Benefit

Routine, periodic stress testing of asymptomatic patients after PCI without specific clinical indications **should not be performed**.



Cardiac Rehabilitation



Medically-supervised exercise programs (**cardiac rehabilitation**) should be recommended to patients after PCI, particularly for moderate- to high-risk patients for whom supervised exercise training is warranted.



Quality and Performance Considerations

Quality and Performance



Quality and Performance



Every PCI program should operate a quality improvement program that routinely: a) reviews quality and outcomes of the entire program; b) reviews results of individual operators; c) includes risk adjustment; d) provides peer review of difficult or complicated cases, and; e) performs random case reviews.



Every PCI program should participate in a regional or national PCI registry for the purpose of benchmarking its outcomes against current national norms.



Operator and Institutional Competency and Volume (cont.)



Primary PCI for STEMI should be performed by experienced operators who perform more than **75 elective PCI procedures per year** and, ideally, at least 11 PCI procedures for STEMI per year. Ideally, these procedures should be performed in institutions that perform more than 400 elective PCIs per year and more than 36 primary PCI procedures for STEMI per year.



It is reasonable that operators with acceptable volume (**≥75 PCI procedures per year**) perform elective/urgent PCI at low-volume centers (200 to 400 PCI procedures per year) with onsite cardiac surgery.



Operator and Institutional Competency and Volume (cont.)



It is reasonable that low-volume operators (<75 PCI procedures per year) perform elective/urgent PCI at high-volume centers (>400 PCI procedures per year) with onsite cardiac surgery. Ideally, operators with an annual procedure volume <75 should only work at institutions with an activity level of more than 600 procedures per year. Operators who perform <75 procedures per year should develop a defined mentoring relationship with a highly experienced operator who has an annual procedural volume of at least 150 procedures per year.



Operator and Institutional Competency and Volume (cont.)



The benefit of primary PCI for STEMI patients eligible for fibrinolysis when performed by an operator who performs <75 procedures per year (<11 PCIs for STEMI per year) is not well established.



It is **not recommended** that elective/urgent PCI be performed by low-volume operators (<75 procedures per year) at low-volume centers (200 to 400 procedures per year) with or without onsite cardiac surgery. **An institution with a volume of <200 procedures per year, unless in a region that is underserved because of geography, should carefully consider whether it should continue to offer this service.**



Operator and Institutional Competency and Volume

I IIa IIb III
 Elective/urgent PCI should be performed by operators with acceptable annual volume (≥75 procedures) at high-volume centers (>400 procedures) with onsite cardiac surgery.

I IIa IIb III
 Elective/urgent PCI should be performed by operators and institutions whose current risk-adjusted outcomes statistics are comparable to those reported in contemporary national data registries.



Are the 2011 PCI Guidelines Evidence Based?

Tricoci: all 2008 ACC/AHA Guidelines

Level of Evidence

A

B

C

Tricoci P et al. Scientific evidence underlying the ACC/AHA clinical practice guidelines. JAMA 2009;301:831-841



Are the 2011 PCI Guidelines Evidence Based?

Tricoci: all 2008 ACC/AHA Guidelines

| Level of Evidence | ACC/AHA Guidelines |
|-------------------|--------------------|
| A | 11% |
| B | 41% |
| C | 48% |

Tricoci P et al. Scientific evidence underlying the ACC/AHA clinical practice guidelines. JAMA 2009;301:831-841



Are the 2011 PCI Guidelines Evidence Based?

Tricoci: all 2008 ACC/AHA Guidelines

| Level of Evidence | ACC/AHA Guidelines | 2005 PCI Guidelines |
|-------------------|--------------------|---------------------|
| A | 11% | 10% |
| B | 41% | 41% |
| C | 48% | 49% |

Tricoci P et al. Scientific evidence underlying the ACC/AHA clinical practice guidelines. JAMA 2009;301:831-841



Are the 2011 PCI Guidelines Evidence Based?

Tricoci: all 2008 ACC/AHA Guidelines

| Level of Evidence | ACC/AHA Guidelines | 2005 PCI Guidelines | 2011 PCI Guidelines | p |
|-------------------|--------------------|---------------------|---------------------|-------------|
| A | 11% | 10% | 12% | 0.04 |
| B | 41% | 41% | 54% | |
| C | 48% | 49% | 34% | |

Tricoci P et al. Scientific evidence underlying the ACC/AHA clinical practice guidelines. JAMA 2009;301:831-841



Summary

2011 PCI Guidelines quote SCAI Consensus Documents

| | | |
|----------------------------------|-------------------|------|
| Contrast media during PCI | Klein et al | 2009 |
| Radiation safety | Chambers et al | 2011 |
| Ad hoc PCI | Blankenship et al | 2004 |
| Anaphylactoid contrast reactions | Goss et al | 1995 |
| No surgery-on-site PCI | Dehmer et al | 2007 |



Summary

2011 PCI Guidelines

- Easier to read and reference
- More evidence based
- Agree with other new guidelines (STEMI, CABG, SIHD)
- More comprehensive than prior guidelines
- Address important new issues, techniques, and drugs



Thanks

