Completed QUADAS-2 assessments for all included studies:

Study ID: Alkadhi 2008[41]

Domain 1: patient selection

Describe methods of patient selection: Consecutive patients with chest pain, negative or equivocal stress test, intermediate risk of CAD and stable clinical conditions referred for ICA	
Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Yes
Could the selection of patients have introduced bias?	**RISK: LOW**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: Two independent observers who were blinded to clinical information and reference standard results. Disagreements resolved by consensus **Both per-patient and per-segment data were reported; non-diagnostic segments were classified as positive**	
Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: LOW**

Domain 3: reference standard

A. Risk of bias

Describe the reference standard and how it was conducted and interpreted: ICA, interpreted by one experienced observer, who was aware of clinical history but blind to CT results	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

A. Risk of bias

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: All patients received both tests **Describe the time interval between index and reference standard and any actions taken:** 10 ± 6 days (median 8 days, range 1–22 days)	
Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: LOW**

Study ID: Brodoefel 2008[46]

Domain 1: patient selection

Describe methods of patient selection:
Patients scheduled for ICA for suspected CAD or CAD progression. Seven patients with previous bypass surgery were excluded. Total number of included patients: 100, HHR 30, HCS 47

Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Unclear
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Two observers who were blinded to clinical information and reference standard results, decisions reached by consensus. Data were reported by segment only and it was not clear how non-diagnostic segments were classified. Where there were multiple lesions per segment, the segment was classified by the worst stenosis

Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	No
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: HIGH**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
ICA, interpreted by one observer, who was blind to CT results

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
Initial reasons for exclusion: refusal/withdrawal of consent (8), impaired renal function (2), previous bypass surgery (7), acute coronary syndrome necessitating immediate ICA (1). One patient with a normal CTA withdrew consent and did not receive the reference standard (excluded after enrolment). All other patients received both tests. However, it was not clear whether or not non-diagnostic segments were included in the analyses

Describe the time interval between index and reference standard and any actions taken:
All CT studies were performed the day before ICA

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	No
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	No
Could the patient flow have introduced bias?	**RISK: LOW**

CTA, computed tomography angiography.

Study ID: Brodoefel 2008[42]

Domain 1: patient selection

Describe methods of patient selection:
Patients scheduled for ICA for suspected CAD or CAD progression. Thirteen patients with bypass surgery were excluded. Total number of included patients: 125, obese patients: 44. It was not clear how many, if any, of the 13 excluded patients were in the obese category

Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Two observers who were blinded to clinical information and reference standard results, decisions reached by consensus. Data were reported by segment only and it was not clear how non-diagnostic segments were classified. Where there were multiple lesions per segment, the segment was classified by the worst stenosis

Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	No
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: HIGH**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
ICA, interpreted by one observer, who was blind to CT results

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
Of 145 screened patients 20 were excluded due to refusal of consent (10), withdrawal of consent (2), impaired renal function (3), previous bypass surgery (13), acute coronary syndrome necessitating immediate ICA (2)

All other patients received both tests and all segments appeared to have been included in the analysis; however, it was unclear how non-diagnostic segments were classified

Describe the time interval between index and reference standard and any actions taken:

All CT studies were performed the day before CT

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: LOW**

Study ID: de Graaf 2010[40]

Domain 1: patient selection

Describe methods of patient selection:
Patients with previous stent implantation, who were being assessed for recurrent chest pain and who received both CT and ICA. Some other 'difficult-to-image' subgroups were excluded; in particular, three patients with increased heart rate and contraindications to beta-blockers were excluded (total included: 53 patients)

Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Two observers who were blinded to reference standard results, decisions reached by consensus. Data were reported per stent and per patient and non-diagnostic stents and patients with at least one non-diagnostic stent were classified as positive. Overlapping stents were classified as one stent

Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: LOW**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
ICA, interpreted by one observer, who was blind to CT results

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
All patients received both tests and all segments and patients were included in the analyses

Describe the time interval between index and reference standard and any actions taken:
Time between CT and ICA was 14 ± 21 days and no interventions or changes to clinical condition occurred between examinations

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: LOW**

Study ID: LaBounty 2010[38]

Domain 1: patient selection

Describe methods of patient selection: Abstract only, consecutive patients, stented patients likely to be a subgroup	
Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Unclear
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: Two blinded observers, disagreements resolved by a third observer. Only per-stent data were extractable	
Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	No
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: HIGH**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: ICA, interpreted by one blinded observer	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: Analyses were 'intention to diagnose', no further details reported **Describe the time interval between index and reference standard and any actions taken:** No details reported	
Was there an appropriate interval between index test and reference standard?	Unclear
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Leber 2007[43]

Domain 1: patient selection

Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Yes
Could the selection of patients have introduced bias?	**RISK: LOW**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Two investigators assessed CT, no details reported. CT was done before ICA. Data were reported per segment and per patient

Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: UNCLEAR**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
No details of angiography interpretation were reported

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Unclear
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: UNCLEAR**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
One patient was excluded from analysis owing to non-diagnostic CT imaging. Non-diagnostic segments ($n = 16$) were excluded from the analysis but it was not clear how many of these were in patients with HHR and/or AF. If all non-diagnostic segments were in patients with HHR and/or AF the maximum proportion of excluded segments would be 2.5%. In addition, it was not clear how non-diagnostic segments were distributed between patients and hence how their exclusion may have affected per-patient results

Describe the time interval between index and reference standard and any actions taken:
Time between CT and ICA was 1 day

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	No
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Lin 2010[44]

Domain 1: patient selection

Was a consecutive or random sample of patients enrolled?	No
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Unclear
Could the selection of patients have introduced bias?	**RISK: HIGH**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Two independent observers, blinding not reported

Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: UNCLEAR**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
ICA, interpreted by one observer, who was blind to CT results. Data were recorded per patient, per segment and per vessel

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
Nine patients were excluded because the time between index test and reference standard was > 3 months. The rest of the included patients received both tests and all segments and patients appear to have been included in the analyses

Describe the time interval between index and reference standard and any actions taken:
Time between CT and ICA was < 3 months

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: LOW**

Study ID: Marwan 2010[47]

Domain 1: patient selection

Describe methods of patient selection:
Consecutive patients with AF; 10 patients with rapid AF (HR > 100 b.p.m.) unresponsive to beta-blockers or calcium channel blockers and 14 patients with difficulty in holding their breath were excluded

Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: HIGH**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Two independent observers, blinding not reported but performed before ICA. Both per-patient and per-segment data were reported and non-diagnostic segments were classified as positive

Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: UNCLEAR**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
Evaluated by independent observer, no blinding reported, performed after CT

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Unclear
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: UNCLEAR**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
All included patients received both tests and all segments and patients appear to have been included in the analyses

Describe the time interval between index and reference standard and any actions taken:
Time between CT and ICA was < 24 hours

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: LOW**

Study ID: Meng 2009[48]

Domain 1: patient selection

Describe methods of patient selection: Consecutive patients with suspected CAD. Patients with previous stent implantation or bypass surgery were excluded. Not reported if any patients met exclusion criteria	
Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: Two independent observers, blind to reference standard results and clinical details. Only segment or per-artery data were reported for difficult-to-image patient groups	
Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	No
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: HIGH**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: One experienced cardiologist who was not involved in CT interpretation	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: Non-diagnostic segments were excluded from the analyses (25/1558 for all patients) but it was not clear how many non-diagnostic segments were in the HHR and HCS groups. If all non-diagnostic segments were in the smallest group (HCS), maximum possible proportion would be 7%. One patient was excluded but it is not clear whether this patient was in either the HHR ($n = 50$) or HCS ($n = 17$) groups. **Describe the time interval between index and reference standard and any actions taken:** Time between CT and ICA was < 24 hours	
Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	No
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Oncel 2007[49]

Domain 1: patient selection

Describe methods of patient selection:
Consecutive patients with AF and suspected CAD. Exclusion criteria were previous stent implantation or bypass graft, inability to follow breath-hold instructions, but no patients were excluded on the basis of these criteria

Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Yes
Could the selection of patients have introduced bias?	**RISK: LOW**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Two independent observers, blind to reference standard results. Data were reported per patient, per artery and per segment

Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: LOW**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
One experienced cardiologist who was blinded to CT results

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
Non-diagnostic segments were excluded from the analyses (13/225), approximately 6% of total. It was not clear how non-diagnostic segments were distributed between patients and hence how their exclusion may have affected per-patient results

Describe the time interval between index and reference standard and any actions taken:
Time between CT and ICA was 1 day

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Oncel 2008[50]

Domain 1: patient selection

Describe methods of patient selection: Consecutive patients with suspected in-stent restenosis. Patients with inability to breath-hold were excluded. Numbers not reported	
Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Unclear
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: Two independent observers, blind to reference standard results and clinical data. Data were reported per stent and per patient	
Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: LOW**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: One experienced cardiologist who was blinded to CT results	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: All patients and stents appeared to have been included in the analysis **Describe the time interval between index and reference standard and any actions taken:** Time between CT and ICA was 1 day	
Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: LOW**

Study ID: Pflederer 2009[51]

Domain 1: patient selection

Describe methods of patient selection:
Consecutive patients with suspected in-stent restenosis. Lesions with more than one implanted stent [two or more stents implanted in bifurcation lesions, contiguous or slightly overlapping stents, and stent-in-stent implantation, any stent diameter of <3.0 mm, and stents implanted in bypass grafts (31 patients)] were excluded as were patients with AF ($n=6$) with a total of 112 patients included

Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: HIGH**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Two experienced observers jointly classified images; blinding was not reported. Data were reported per stent and per patient and non-diagnostic stents were classified as positive for the per-patient analysis

Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: UNCLEAR**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
One experienced cardiologist who was blinded to CT results

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2×2 table:
All patients who met the inclusion criteria appear to have been included in the analysis. Fifteen stents were not included in the analysis; it was unclear how these were distributed between patients and hence how the per-patient analysis may have been affected

Describe the time interval between index and reference standard and any actions taken:
Time between CT and ICA was 1 day

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Unclear
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Pflederer 2010[34]

Domain 1: patient selection

Describe methods of patient selection: Previously revascularised patients who were scheduled for ICA	
Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Yes
Could the selection of patients have introduced bias?	**RISK:UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: Abstract only, no detail of interpretation reported. Data reported per stent and per bypass graft	
Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	No
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: HIGH**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: Abstract only, no detail of interpretation reported	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Unclear
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: UNCLEAR**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: All patients appear to have been included in the analyses **Describe the time interval between index and reference standard and any actions taken:** NR	
Was there an appropriate interval between index test and reference standard?	Unclear
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Pugliese 2011[52,53]

Domain 1: patient selection

Describe methods of patient selection:
Patients with chest pain and previous stent implantation. Some other difficult-to-image subgroups were excluded (six for irregular heart rhythm/AF, total included 100)

Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Index test was interpreted blind to the reference standard results. Data were reported per stented lesion

Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	No
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: HIGH**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
Two experienced readers evaluated the DSCT studies independently; the readers were unaware of the findings of conventional angiography

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
A total of 133 patients with chest pain after stent implantation were referred for conventional angiography; 33 were excluded, four because of renal impairment, three owing to contrast allergy, six due to AF/irregular heart rate, and 20 did not give informed consent. All included patients/stented lesions appear to have been included in the analysis. Non-diagnostic segments were classified as positive

Describe the time interval between index and reference standard and any actions taken:
NR

Was there an appropriate interval between index test and reference standard?	Unclear
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Rist 2009[54]

Domain 1: patient selection

Describe methods of patient selection: Patients with chronic AF, referred for CT angiography	
Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Yes
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: Scans interpreted by two observers, blind to clinical information and other test results. Data were reported per segment and per patient	
Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: LOW**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: Interpreted by a single observer blind to CT results	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2x2 table: 21/68 participants received the reference standard; all of these patients appear to have been included in the analysis. Non-diagnostic segments ($n=81$) were excluded and it was not clear how many of these were in patients included in the diagnostic accuracy analysis (maximum possible proportion 22.3%). The selection criteria for the 21 patients with the reference standard were unclear **Describe the time interval between index and reference standard and any actions taken:** Mean time between CT and ICA was 20 ± 26 days (range 1 to 97 days)	
Was there an appropriate interval between index test and reference standard?	Unclear
Did all patients receive a reference standard?	No
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	No
Could the patient flow have introduced bias?	**RISK: HIGH**

Study ID: Rixe 2009[35]

Domain 1: patient selection

Describe methods of patient selection: Consecutive patients with suspected CAD and AF	
Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Yes
Could the selection of patients have introduced bias?	**RISK: LOW**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: Abstract only, no detail of interpretation reported. Data reported per patient and per segment. Data were evaluated by two experts in consensus. Unassessable segments were considered to be positive	
Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: UNCLEAR**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: Abstract only, no detail of interpretation reported	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Unclear
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: UNCLEAR**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: All patients appear to have been included in the analyses; non-diagnostic segments were classified as positive **Describe the time interval between index and reference standard and any actions taken:** NR	
Was there an appropriate interval between index test and reference standard?	Unclear
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Ropers 2007[39]

Domain 1: patient selection

Describe methods of patient selection: Consecutive patients referred for coronary angiography for suspected CAD. Patients with HHR were included but patients not in sinus rhythm and patients with previous stent implantation or bypass graft were excluded (numbers not reported)	
Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: Scans interpreted by one observer, blind to clinical information and reference standard results. Data were reported per segment, per artery and per patient	
Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: LOW**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: Interpreted by a separate single observer, blinding not reported	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Unclear
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: UNCLEAR**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: All patients were included in the analyses, non-diagnostic segments/arteries/patients were classified as positive **Describe the time interval between index and reference standard and any actions taken:** Mean time between CT and ICA was 1.4 days (range 0–11 days)	
Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: LOW**

Study ID: Ropers 2008[37]

Domain 1: patient selection

Describe methods of patient selection:
Patients with previous bypass graft. Abstract only, no further details reported. For the graft based analysis only the patent grafts were assessed for stenosis by the authors. With the information given this could be corrected for the graft based results but it is unclear if and how this affected the patient and the segment based analysis

Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	Unclear
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Abstract only, no details of interpretation reported

Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: UNCLEAR**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
Abstract only, no details of interpretation reported

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Unclear
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: UNCLEAR**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 x 2 table:
All patients were included in the per-patient and bypass graft analyses; non-diagnostic segments and occluded grafts were excluded from the per-segment analysis. It was not clear how these were distributed between patients and therefore how the per-patient analysis may have been affected

Describe the time interval between index and reference standard and any actions taken:
Time between CT and ICA was not reported

Was there an appropriate interval between index test and reference standard?	Unclear
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Scheffel 2006[55]

Domain 1: patient selection

Describe methods of patient selection:
Patients who had undergone ICA for suspected CAD. Patients with irregular heart rates were not excluded. Patients with previous stent implantation or bypass graft were excluded (numbers not reported)

Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Scans interpreted by two independent observers, blinding not reported. Data were reported per segment

Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	No
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: HIGH**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
Interpreted by a separate single observer, blind to CT results

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
All patients/segments appear to have been included in the analyses, although it was not clear how non-diagnostic segments were classified

Describe the time interval between index and reference standard and any actions taken:
Mean time between CT and ICA was 14 ± 9 days

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: LOW**

Study ID: Tsiflikas 2010[56,57]

Domain 1: patient selection

Describe methods of patient selection: Patients without stable sinus rhythm, scheduled for ICA. Seventeen stented segments were excluded (total included 536)	
Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: Index test interpreted blind to reference standard results and clinical information. Only per-segment data were available	
Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	No
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: HIGH**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: Interpreted blind to index test	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: All patients who met the inclusion criteria received the index test and reference standard, but not all segments appear to have been included in the analysis (unclear how non-diagnostic segments were classified). It was not clear how the possible exclusion of segments may have affected per-patient analysis. Segments with very poor image quality or stents were excluded and there were inconsistencies in the numbers of segments reported **Describe the time interval between index and reference standard and any actions taken:** Examination with quantitative coronary angiography within 1 day after DSCT	
Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Unclear
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Van Mieghem 2007[36]

Domain 1: patient selection

Describe methods of patient selection: Symptomatic patients scheduled for invasive angiography, who had previous PCI with large diameter (≥ 3 mm) stents). Patients with previous bypass graft were excluded (numbers not reported)	
Was a consecutive or random sample of patients enrolled?	Unclear
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: No details of how index test results were interpreted were reported	
Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: UNCLEAR**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: No details of how reference standard results were interpreted were reported	
Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Unclear
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: UNCLEAR**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: All patients appeared to have been included in the analysis. Both in-stent restenoses and native vessel stenoses were included in the analysis **Describe the time interval between index and reference standard and any actions taken:** NR	
Was there an appropriate interval between index test and reference standard?	Unclear
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: UNCLEAR**

Study ID: Weustink 2009[45]

Domain 1: patient selection

Describe methods of patient selection:
Consecutive patients with suspected or known CAD. Patients with AF ($n=6$) or previous revascularisation ($n=103$), i.e. total of 109 patients (10.5%) were excluded

Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: HIGH**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Observers were blinded for reference standard

Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: LOW**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
Interpreted blind to CT results

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
1143 consecutive patients were enrolled who met the inclusion criteria. 155 were excluded because they gave no informed consent (52) or had a CABG (103). Of the 988 patients referred for CTCA 61 were excluded based on the exclusion criteria (35 patients due to renal dysfunction, 12 with known contrast allergy, 6 AF with fast ventricular response and 8 due to scan failure). Of the 927 patients still in the study 444 (48%) had the reference standard. It was not reported how those patients were selected

Describe the time interval between index and reference standard and any actions taken:
The reference standard was performed within 4 weeks before or after CT

Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	No
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	No
Could the patient flow have introduced bias?	**RISK: HIGH**

Study ID: Weustink 2009[58]

Domain 1: patient selection

Describe methods of patient selection: Symptomatic patients after revascularisation. Patients in AF were excluded [$n=2$ (3.3%)]	
Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: LOW**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted: CT scans interpreted by two observers. The radiologists were blinded to the results of the reference standard. Full-accuracy data are only available for segment based data	
Were the index test results interpreted without knowledge of the results of the reference standard?	Unclear
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	No
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: HIGH**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted: Interpreted by one cardiologist, blind to CT results	
Is the reference standard likely to correctly classify the target condition?	Yes
SOWere the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

A. Risk of bias

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table: Of 58 consecutive patients after surgical revascularisation 6 were excluded: 1 due to a known allergy to iodinated contrast material, 2 due to impaired renal function, 2 due to AF, and 1 due to logistic inability to undergo a CT scan before ICA **Describe the time interval between index and reference standard and any actions taken:** ICA was performed within 4 weeks of CTCA	
Was there an appropriate interval between index test and reference standard?	Yes
Did all patients receive a reference standard?	Yes
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	Yes
Could the patient flow have introduced bias?	**RISK: LOW**

Study ID: Zhang 2010[59]

Domain 1: patient selection

Describe methods of patient selection:
Consecutive patients with suspected CAD who underwent both dual-source CTCA and CAG and gave informed consent were included. Patients not in sinus rhythm, obese patients and patients with high coronary calcium were not excluded, but patients with previous stent (4) or bypass surgery (none) were excluded (total included: 113, HCS: 12, HHR: 70); it was unclear how the four excluded patients were distributed between these two groups

Was a consecutive or random sample of patients enrolled?	Yes
Was a case–control design avoided?	Yes
Did the study avoid inappropriate exclusions?	No
Could the selection of patients have introduced bias?	**RISK: UNCLEAR**

Domain 2: index test

If more than one index test was used, please also complete the comparative study domain.

Describe how the index test results were interpreted:
Interpreted blind to reference standard

Were the index test results interpreted without knowledge of the results of the reference standard?	Yes
Did the study prespecify the threshold for a positive result?	Yes
Did the study avoid using multiple data sets per patient (reporting of per-segment data only)?	Yes
Could methods used to conduct or interpret the index test have introduced bias?	**RISK: LOW**

Domain 3: reference standard

Describe the reference standard and how it was conducted and interpreted:
Interpreted blind to CT results

Is the reference standard likely to correctly classify the target condition?	Yes
Were the reference standard results interpreted without knowledge of the results of the index test?	Yes
Could methods used to conduct or interpret the reference standard have introduced bias?	**RISK: LOW**

Domain 4: flow and timing

Draw a flow chart for the study *or* describe any patients who did not receive the index test and/or reference standard or who were excluded from the 2 × 2 table:
Information partially contradictory

121 patients with suspected CAD gave informed consent and had both CTCA and CAG. Six patients were excluded because they did not meet the inclusion criteria (four because of stent follow-up, one who did not receive a CAG because of occluded iliac arteries, one due to chest pain during examination); 113 patients were included (for two patients information on why they were excluded from the study was lacking)

Describe the time interval between index and reference standard and any actions taken:
Range: 1–155 days, mean: 18 ± 29 days

Was there an appropriate interval between index test and reference standard?	Unclear
Did all patients receive a reference standard?	Unclear
Did patients receive the same reference standard?	Yes
Were all patients included in the analysis?	No
Could the patient flow have introduced bias?	**RISK: UNCLEAR**