

**National Audit of Percutaneous Coronary Interventions (NAPCI)
Overview of Quality Improvement (QI) metrics**

1 Overview of QI Metric: The use of intracoronary imaging to guide percutaneous coronary intervention (PCI) of left main stem lesions

QI Metric Description/Name	The use of intracoronary imaging (ICI) to guide PCI of left main stem lesions
Why is this important?	The use of intracoronary imaging assists in planning the PCI procedure, guiding which branches are to be treated with a stent and allows for the optimal preparation of the lesion and deployment of stents during LMS PCI. Intracoronary imaging is associated with fewer acute and longer-term complications and improves outcomes.
QI theme	Safety and Outcomes.
What is the standard to be met?	Intracoronary imaging should be used in more than 75% of PCI procedures of the unprotected LMS.
Key references to support the metric	See reference list. ^{1 2 3} 2021 ACC/AHA/SCAI Guideline for Coronary Artery Revascularisation ⁴ Class 2a, level of evidence B-R In patients undergoing coronary stent implantation, IVUS can be useful for procedural guidance, particularly in cases of left main or complex coronary artery stenting, to reduce ischemic events Class 2a, Level of evidence B-R In patients undergoing coronary stent implantation, OCT is a reasonable alternative to IVUS for procedural guidance, except in ostial left main disease
Numerator	All PCI procedures to treat LMS stenosis in patient without prior bypass grafts, on which either intravascular ultrasound or optical coherence tomography has been used. This is defined as: A PCI (3.11 lesions attempted >0), AND LMS – defined as ‘3.09 vessel attempted =2.Lmain’ AND unprotected LMS defined as ‘5.25 Left Main protected = 0.’



	AND either IVUS (3.19 option 1) OR OCT (3.19 option of 6) is selected.
Denominator	All PCI procedures to treat LMS stenosis in patient without prior bypass grafts. Defined as: A PCI (3.11 lesions attempted >0), AND LMS – defined as ‘3.09 vessel attempted =2.Lmain’ AND unprotected LMS defined as ‘5.25 Left Main protected = 0.’

2 Overview of QI metric: Proportion of elective cases treated as a day case

QI Metric Description/Name	Proportion of elective patients treated by PCI for stable symptoms who are treated as a day case
Why is this important?	Improved patient experience and cost savings.
QI theme	Effectiveness.
What is the standard to be met?	>75% as day cases The BCIS Domain Expert Working Group recommended that >75% of PCI procedures performed electively for stable symptoms should be discharged on the same day as the procedure.
Key references to support the metric	References in text below are in reference list at end of report. ^{5 6 7 8 9}
Numerator	Day case procedure for PCI for stable elective patients defined as: 2.03 Procedure Urgency = 1. Elective & 3.11 Number of lesions attempted >0 AND 3.01 Date and time of operation = same DATE as 4.04 Discharge Date.
Denominator	PCI for stable elective patients defined as: 2.03 Procedure Urgency = 1. Elective & 3.11 Number of lesions attempted >0.

3 Overview of QI metric: Utilisation of newer P2Y12 antiplatelet agents during primary PCI

QI Metric Description/Name	Utilisation of newer P2Y12 antiplatelet agents during Primary PCI
Why is this important?	Antiplatelet agents are one of the cornerstones for the treatment of heart attacks. They make platelets in the blood less sticky, reducing the risk of them clumping



	<p>together to form blood clots. Antiplatelet agents are also used following PCI to reduce the risk of clots developing within the stents.</p> <p>Two different types of antiplatelet are used, Aspirin and a P2Y12 inhibitor. Traditionally the P2Y12 inhibitor that has been used is Clopidogrel, although more recently large trials (TRITON-TIMI 38¹⁰ and PLATO¹¹) have shown that newer antiplatelet agents such as Prasugrel and Ticagrelor are associated with better clinical outcomes following PCI for acute coronary syndromes including ST-elevation myocardial infarction.</p> <p>A recent trial ISAAR REACT 5¹² has shown better outcomes associated with the use of Prasugrel compared to Ticagrelor.</p>
QI theme	Effectiveness, outcomes.
What is the standard to be met?	>75% use of a newer P2Y12 antiplatelet agent where a stent is deployed to treat STEMI, with a preference towards Prasugrel.
Key references to support the metric	<p>2017 ESC Guidelines for STEMI⁴</p> <p>Class 1, Level of evidence A</p> <p>A potent P2Y12 inhibitor (Prasugrel or Ticagrelor) or Clopidogrel is recommended for the treatment of STEMI during primary PCI (or Clopidogrel if there is a contra-indication to the newer agents or if they are not available)</p> <p>2020 ESC guidelines</p> <p>A P2Y12 receptor inhibitor is recommended in addition to aspirin and maintained over 12 months unless there are contraindications or an excessive risk of bleeding.</p> <p>Class 1, level of evidence B.</p> <p>Clopidogrel should be used when Prasugrel or Ticagrelor are not available, cannot be tolerated, or are contraindicated</p> <p>Class 1. Level of Evidence C</p> <p>Prasugrel should be preferred over Ticagrelor</p> <p>Class 2a. Level of Evidence B</p>
Numerator	<p>5.10 Drug therapy PreOp is one of:</p> <p>3. Clopidogrel</p> <p>8. Prasugrel</p> <p>9. Ticagrelor</p> <p>(only in PPCI cases as per below).</p>



Denominator	Primary PCI where a stent is used, defined as: 3.11 Number of lesions attempted >0 AND 2.02 Indication for Intervention = 4. ACS - Primary PCI for STEMI (no lysis) AND 3.15 Number Stents used >0.
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Hospital codes

AEI	Royal Albert Edward Infirmary	GUH	Grange University Hospital	PMS	Great Western Hospital
AH		GWH	Queen Elizabeth Hospital Woolwich	QAP	Queen Alexandra Hospital
M	BMI Alexandra Hospital	HAI	Hairmyres Hospital	QEB	Queen Elizabeth Hospital Birmingham
ALT	Altnagelvin Hospital	HAM	Hammersmith Hospital	RAD	John Radcliffe Hospital
AM		HBP	Spire Hospital Hull and East Riding	RAI	Raigmore Hospital
G	Wycombe Hospital	HH	Harefield Hospital	RCH	Royal Cornwall Hospital
ANT	St Anthony's Hospital	HHW	Wellington Hospital	RDE	Royal Devon and Exeter Hospital
BAS	Essex Cardiothoracic Centre	HSC	Harley Street Clinic	RFH	Royal Free Hospital
BAT	Royal United Hospital Bath	IPS	Ipswich Hospital	RHH	Ross Hall Hospital
BED	Bedford Hospital	KCH	Kings College Hospital	RHI	Calderdale Royal Hospital
BHL	Liverpool Heart and Chest Hospital	KGH	Kettering General Hospital	RIA	Aberdeen Royal Infirmary
BHR	Royal Berkshire Hospital	KIM	KIMS Hospital	RSC	Royal Sussex County Hospital
BLA	Royal Blackburn Hospital	KMH	Kings Mill Hospital	RVB	Royal Victoria Hospital
BMI	BMI Meriden Hospital	KSX	Tunbridge Wells Hospital	SAL	Salisbury District Hospital
BOU	Royal Bournemouth Hospital	LBH	London Bridge Hospital Luton and Dunstable University Hospital	SBH	Barts Health Centre
BRD	Bradford Royal Infirmary	LDH		SCM	James Cook University Hospital
BRI	Bristol Royal Infirmary	LGI	Yorkshire Heart Centre	SCU	Scunthorpe General Hospital
BRY	Acute Pennine Trust Fairfield	LIN	Lincoln County Hospital	SGH	Southampton General Hospital
BSM	Southmead Hospital	LIS	Lister Hospital	SMH	Spire Manchester Hospital
CG		LNH	Leeds Nuffield Hospital	SPC	Spire Cardiff Hospital
H	Conquest Hospital	MAY	Croydon University Hospital	SPH	St Peter's Hospital
CH		MDW	Medway Maritime Hospital	SPN	Spire Nottingham (SPN)
G	Cheltenham General Hospital	MHO	Manor Hospital	SSP	Spire Shawfair Park Hospital
CHH	Castle Hill Hospital	MOR	Morrison Hospital	STH	St Thomas' Hospital
CHN	Nottingham City Hospital	MPH	Musgrove Park Hospital	STO	University Hospital of North Staffordshire
CL		MRI	Manchester Royal Infirmary Nuffield Health Bournemouth Hospital	SUN	Sunderland Royal Hospital
W	North Wales Cardiac Centre	NBO		TOR	Torbay Hospital
CMI	Cumberland Infirmary	NCR	New Cross Hospital	UHW	University Hospital of Wales
CR		NGS	Northern General Hospital	VIC	Blackpool Victoria Hospital
G	Craigavon Hospital	NHB	Royal Brompton Hospital Basingstoke and North Hampshire Hospital	WAL	University Hospital Coventry
CR		NHH		WAT	Watford General Hospital
O	Cromwell Hospital	NIN	Ninewells Hospital Norfolk and Norwich University Hospital	WDH	Dorset County Hospital
DER	Royal Derby Hospital Eastbourne District General Hospital	NOR		WEX	Wexham Park Hospital
DGE		NPH	Northwick Park Hospital	WHH	William Harvey Hospital
DUC	Duchy Hospital				
DUD	Birmingham City Hospital				
DVH	Darent Valley Hospital				
EBH	Birmingham Heartlands Hospital				
ERI	Edinburgh Heart Centre				
ESU	East Surrey Hospital				
FRE	Freeman Hospital				



FRM	Frimley Park Hospital	NTH	Northampton General Hospital	WMU	West Middlesex University Hospital
GE					
O	St George's Hospital	PAP	Royal Papworth Hospital	WRC	Worcester Royal Hospital
GG	Diana Princess of Wales Hospital,				
H	Grimsby	PHB	BMI Priory Hospital	WRG	Worthing Hospital
GHB	Spire Hospital Bristol	PHN	BMI Park Hospital	WYT	Wythenshawe Hospital
GJH	Golden Jubilee National Hospital	PIN	Pinderfields General Hospital	YDH	York District Hospital
GRL	Glenfield Hospital	PLY	Derriford Hospital		

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