

## Japanese CTO PCI Expert Registry

Date	
Patient Name	
PCI ID	

Please fill in the columns highlighted in yellow with Ball Point pen.

←Please fill in the ID if lesion registration is done online

### Patient Basic Information 1

Please note that all fields followed by an asterisk must be filled in.

Patient registration category	<input type="radio"/> Case at the affiliated hospital <input type="radio"/> non-affiliated hospital (in own country) <input type="radio"/> non-affiliated hospital (overseas)			
Hospital Name*				
Hospital Dr. in Charge*	Name*		Title*	
	Tel. *		E-mail*	

Japanese Operator Name		Operator ID		Registration Date	
Patient identification code			Patient name Initials		
Patient Identification memorandum					

Basic Information	Date of Procedure*		Patient DOB		Age	
	SEX	<input type="radio"/> Male <input type="radio"/> Female	Height	cm	Weight*	kg

## Basic Information

Medical History	OMI <sup>1)</sup>	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown
	Prior CABG <sup>2)</sup>	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown
	Prior PCI	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown

1) OMI : Please mark "YES" if diagnosed OMI in past and myocardium is not well.

2) CABG History to be diagnosed at when at First PCI.

Risk Factor	Hypertension	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown
	Diabetes	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown Choose "Yes" for diabetes Current Treatment: <input type="radio"/> None <input type="radio"/> Dietary Only <input type="radio"/> Oral Anti diabetic Drug <input type="radio"/> Insulin Therapy
	Dyslipidemia	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown ※If Statin is prescribed, "Yes"
	Smoking	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown If Yes : <input type="radio"/> Currently Smoking <input type="radio"/> Smoking in Past ※"Smoking history" means over 1 month after stop-smoking
	ASO	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown
	Coexisted Heart Disease	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown If Yes : <input type="radio"/> family history <input type="radio"/> congenital heart disease <input type="radio"/> Valve disease <input type="radio"/> pacemaker implanted <input type="radio"/> Arrhythmia <input type="radio"/> Others :
	Comorbidity	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown If yes: <input type="radio"/> COPD <input type="radio"/> Dialysis <input type="radio"/> Cerebral Vascular Disorder <input type="radio"/> Others :

### <Definition of CTO>

1. TIMI 0 (no antegrade flow except bridging/ipsilateral collateral flow)
2. more than 3 months / unknown occlusion duration
3. a total occlusion in a major coronary artery with significant territory or a graft occlusion
4. Multi-occlusion in a same coronary artery (tandem CTO) is deemed to be a single CTO.

## Case Basic Information

Clinical application for CTO procedure	<input type="radio"/> Asympamatic Isch <input type="radio"/> Stable Angina <input type="radio"/> Unstable Angina <input type="radio"/> OMI <input type="radio"/> AMI		
Angina (CCS Classification)	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown If Yes <input type="radio"/> I <input type="radio"/> II <input type="radio"/> III <input type="radio"/> IV		
cardiac insufficiencyheart failure (NYHA Classification)	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown If Yes <input type="radio"/> I <input type="radio"/> II <input type="radio"/> III <input type="radio"/> IV		
ECG (CTO Area)	<input type="radio"/> Normal <input type="radio"/> Abnormal Q Wave <input type="radio"/> Abnormal ST-T		
Exercise Tolerance Test	<input type="radio"/> Not Tested <input type="radio"/> Negative <input type="radio"/> Positive <input type="radio"/> Unratable		
MSCT	<input type="radio"/> Not Tested <input type="radio"/> Tested <input type="radio"/> Unknown		
Pre Op Serum-Cre	mg/dl (Date:                    )	eGFR <sup>1)</sup>	
LVEF (%)	%	Assessment Procedure	<input type="radio"/> UCG <input type="radio"/> RI <input type="radio"/> MRI <input type="radio"/> LVG <input type="radio"/> MSCT
Asynergy (CTO area)	<input type="radio"/> Normal <input type="radio"/> Hypokinesis <input type="radio"/> Akinesis <input type="radio"/> Dyskinesis		
Residual Myocardium	<input type="radio"/> Existing <input type="radio"/> None <input type="radio"/> Unknown	Assessment Procedure	<input type="radio"/> UCG <input type="radio"/> RI <input type="radio"/> MRI <input type="radio"/> LVG <input type="radio"/> MSCT
EuroScore II <sup>2)</sup>			

### <pretreatment therapeutic strategy>

Target revascularization <sup>1)</sup>	<input type="radio"/> Plan for Target revascularization <input type="radio"/> non complete revascularization If choose "No" for target revascularization residual artery: <input type="checkbox"/> RCA <input type="checkbox"/> LAD <input type="checkbox"/> LCX <input type="checkbox"/> LMT <input type="checkbox"/> Graft Reason of incomplete revascularization : <input type="checkbox"/> Residual myocardium <input type="checkbox"/> small vessel / small Myocardial perfusion <input type="checkbox"/> Technically difficult <input type="checkbox"/> clinically significance
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- 1) Plan for Target revascularization : It has a significant lesion (main coronary branch) for complete revascularization
- 2) Treating period (staged PCI) regardless of the times of hospitalization





- 1) Several CTO's at the same main branch
- 2) an existence of collateral with a diameter over 1mm at the CTO inlet or outlet , and has series of CTO lesion at the collateral inlet.
- 3) maximum diameter of channel (CC0:no series of channel、CC1: $\leq 0.4$ mm、CC2: $> 0.4$ mm)
- 4) Minor: interspersed calcification, Moderate: calcification under 50%of diameter of blood vessel , Severe: calcification over 50%of diameter of blood vessel
- 5) Straight: a bending of under 70° or none, Minor: a bending of over 70°, Moderate: 2 bending's of over 70° or a bending of 90° severe: 2 bending's of over 90° or a bending of over 120°

6) blunt



no stump



### <CTO procedure info (lesion1)>

<b>Recanalization approach (Recanalization approach)</b>	
*Required to be filled out for all procedures	
Access site for CTO branch	<input type="checkbox"/> femoral <input type="checkbox"/> radial <input type="checkbox"/> brachial
guiding catheter for CTO branch	<input type="checkbox"/> 5Fr <input type="checkbox"/> 6Fr <input type="checkbox"/> 7Fr <input type="checkbox"/> 8Fr
Strategy	<input type="radio"/> Antegrade only <input type="radio"/> Retrograde(+Antegrade) <input type="radio"/> Retrograde(+Antegrade) Unsuccessful → Antegrade
Crossing of CTO GW	<input type="radio"/> Successful <input type="radio"/> Unsuccessful <input type="radio"/> Unable to verify
Examination time through GW crossing	<input type="radio"/> Min. <input type="radio"/> Unknown
Usage of IVUS	<input type="radio"/> Yes <input type="radio"/> No
	If "Yes": <input type="checkbox"/> entry Identification <input type="checkbox"/> wire guide <input type="checkbox"/> reverse CART <input type="checkbox"/> Other(                                  )
First crossing device via antegrade	<input type="radio"/> Crossed <input type="radio"/> Uncrossed
	If "Crossed" <input type="checkbox"/> Rx <input type="checkbox"/> OTW <input type="checkbox"/> Penetration catheter <input type="checkbox"/> Rotablator <input type="checkbox"/> Laser <input type="checkbox"/> Other(                                  )
Special technique for crossing the device via antegrade (Final)	<input type="radio"/> Yes <input type="radio"/> No
	If "Yes": <input type="checkbox"/> Balloon anchor <input type="checkbox"/> Tornus <input type="checkbox"/> Parent and child catheter <input type="checkbox"/> Crushed wire <input type="checkbox"/> Rota-wire replacement <input type="checkbox"/> Other(                                  )

※   : Needs to be filled out by both operator and core laboratory

#### 【Definitions of the strategies】

##### ① Antegrade only

Case in which started method without the possibility of Retrograde and finished the method only with antegrade OR Case in which retrograde was suspected, but did not try crossing retrograde channel(injection, contrast medium came through but channel untouched) and finished with only antegrade.

In case of this category been chosen, only "antegrade only" item needs to be filled out (other categories are not required)

② **Retrograde(+Antegrade)**

Including Case in which Retrograde channel crossed and prepared for Retrograde but wire continuously crossed antegrade Retro +Ante technique (Kissing wire Cross,Reverse CART,CART etc.)

③ **Retrograde(+Antegrade)Unsuccessful → Antegrade**

Cases in which; Failed to cross Retrograde channel / Unable to complete operation due to complication

(EX; perforation, dissection, Thrombus) of Retrograde system/ Operation continued after removing retrograde system

In this chosen category, retrograde+antegrade items are required to be filled out

## &lt;CTO Procedure information (Lesion1)&gt;

【STENT information lesion1】	
Stenting	<input type="radio"/> Yes <input type="radio"/> No
Used STENT	<input type="checkbox"/> BMS <input type="checkbox"/> DES <input type="checkbox"/> BVS
Bifurcation stenting	<input type="radio"/> Yes <input type="radio"/> No
	If "Yes", bifurcation stenting method: <input type="checkbox"/> single stenting <input type="checkbox"/> double stenting
Number of stent- CTO branch only	( )
	For over 2 stents- stent overlap: <input type="radio"/> Yes <input type="radio"/> No
Maximum diameter of the used stent	<input type="radio"/> <2.5mm <input type="radio"/> 2.5~2.9 <input type="radio"/> 3.0~3.4 <input type="radio"/> >3.5mm
Sum of stent length	mm (The sum of stent length used for CTO branch)
Used DES	<input type="checkbox"/> Promus <input type="checkbox"/> Xience <input type="checkbox"/> Nobori <input type="checkbox"/> Resolute <input type="checkbox"/> Endeavor <input type="checkbox"/> Ultimaster <input type="checkbox"/> Synergy <input type="checkbox"/> Other product name ( )
post STENT balloon	Post dilatation (MAX) mm
Usage of DEB	<input type="radio"/> Yes <input type="radio"/> No If yes, DEB diameter: mm

【Antegrade only】 *Only if "Antegrade only" was chosen at strategy.	
Usage of contrast medium	<input type="radio"/> Yes <input type="radio"/> No
Crossed guide wire via Antegrade	<input type="radio"/> Successful <input type="radio"/> Unsuccessful
	Reason of "Unsuccessful": <input type="checkbox"/> GW unable to pass CTO <input type="checkbox"/> device failed to reach CTO <input type="checkbox"/> Suspension of PCI due to complication <input type="checkbox"/> Other( )
1 <sup>st</sup> guide wire via antegrade	Name of product:
1 <sup>st</sup> guide wire via antegrade for crossing CTO	Name of product:
Last wire /Crossed wire	<input type="radio"/> Last (Finally used GW) <input type="radio"/> Crossed (GW used to cross)
	Name of product:

Method or special device for Last wire/Crossed wire	<input type="checkbox"/> single wire <input type="checkbox"/> double wire method <input type="checkbox"/> IVUS guide crossing <input type="checkbox"/> STAR <input type="checkbox"/> Stingray <input type="checkbox"/> other technic / devices ( )
GW Usage of step up / step down method	<input type="radio"/> Yes <input type="radio"/> No If "Yes": <input type="radio"/> step up <input type="radio"/> step down <input type="radio"/> both
Used OTW or Penetration catheter	<input type="radio"/> Yes <input type="radio"/> No If "Yes", name of product: <input type="checkbox"/> Corsair <input type="checkbox"/> Finecross <input type="checkbox"/> Crusade <input type="checkbox"/> Tornus <input type="checkbox"/> Caravel <input type="checkbox"/> GuideLiner <input type="checkbox"/> Guidezila <input type="checkbox"/> OTW <input type="checkbox"/> Other( )

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### <CTO procedure info(Lesion1)>

【Retrograde + Antegrade】	
*Fill in if chosen Retrograde + Antegrade and retro+ante unsuccessful → ante in strategy.	
Retrograde indication	<input type="radio"/> Accessed Retrograde for Antegrade backup, but crossed with Antegrade <span style="background-color: #00ff00; padding: 2px;">*If this item is chosen, fill in only the *1 parts</span> <input type="radio"/> Changed course to Retrograde due to failure of Antegrade <input type="radio"/> Initially scheduled to pursue retrograde (Ante/Retro order regardless)
Antegrade GW <span style="background-color: #00ff00; padding: 2px;">1)</span>	<input type="radio"/> Yes <input type="radio"/> No If "yes" name of product: ( )
Antegrade start CTO GW <span style="background-color: #00ff00; padding: 2px;">1)</span>	<input type="radio"/> Yes <input type="radio"/> No If "yes" name of product: ( )
Completed /Crossed Antegrade GW <span style="background-color: #00ff00; padding: 2px;">1)</span>	<input type="radio"/> Completed ( Final GW used ) <input type="radio"/> Crossed (crossed GW) <input type="radio"/> None If "Completed" or "Crossed", Name of product: ( )
Procedure method or special device used to complete/cross GW <span style="background-color: #00ff00; padding: 2px;">1)</span>	<input type="checkbox"/> single wire <input type="checkbox"/> double wire method <input type="checkbox"/> IVUS guide crossing <input type="checkbox"/> STAR <input type="checkbox"/> Stingray <input type="checkbox"/> other technic / devices ( )
GW step up / step down method <span style="background-color: #00ff00; padding: 2px;">1)</span>	<input type="radio"/> Yes <input type="radio"/> No If "Yes": <input type="radio"/> step up <input type="radio"/> step down <input type="radio"/> both
Antegrade-Usage of Penetration catheter /Special device <span style="background-color: #00ff00; padding: 2px;">1)</span>	<input type="radio"/> Yes <input type="radio"/> No If "Yes", Name of product: <input type="checkbox"/> Corsair <input type="checkbox"/> Finecross <input type="checkbox"/> Crusade <input type="checkbox"/> Tornus <input type="checkbox"/> Caravel <input type="checkbox"/> GuideLiner <input type="checkbox"/> Guidezila <input type="checkbox"/> OTW <input type="checkbox"/> Other catheter( ) <input type="checkbox"/> Other special device( )
fluoro time for Antegrade GW <span style="background-color: #00ff00; padding: 2px;">1)</span>	<input type="radio"/> min. <input type="radio"/> Unknown











- 3) Procedure time is defined as the time from the start of wire operation to the final angiography in the CTO procedure
- 4) Contrast medium dose is defined as the dose administered only in the CTO procedure
- Fluoroscopy time is defined as the time spent only for the CTO procedure
  - Adsorbed dose is defined as the dose deposited only in the CTO procedure

## The condition within a month after PCI procedure

The visit within a month(or Two) after discharge	<input type="radio"/> Yes <input type="radio"/> None <input type="radio"/> Unknown
	In the case of non-visit, the contact hospital and Doctor
	Address
	Hospital
	TEL
Doctor	
CCS	<input type="radio"/> 0 <input type="radio"/> I <input type="radio"/> II <input type="radio"/> III <input type="radio"/> IV <input type="radio"/> Unknown
Radiating Dermatitis	<input type="radio"/> None <input type="radio"/> Yes <input type="radio"/> Unknown If yes: <input type="radio"/> Only blushing <input type="radio"/> Ulceration <input type="radio"/> Requirement for surgery <input type="radio"/> Unknown
Serum Cre after procedure (24hr<<1month)	mg/dl    (date of measurement:                    )
Renal dysfunction (including CIN)	<input type="checkbox"/> None <input type="checkbox"/> more than 25% Increase in s-Cre <input type="checkbox"/> more than 0.5mg/dl increase in s-Cre
Non-fatal MI	<input type="radio"/> None <input type="radio"/> Yes <input type="radio"/> Unknown
Revascularization	<input type="radio"/> None <input type="radio"/> re-PCI <input type="radio"/> CABG <input type="radio"/> Unknown
Cerebrovascular Disorder	<input type="radio"/> None <input type="radio"/> Yes <input type="radio"/> Unknown
Stent Thrombosis	<input type="radio"/> None <input type="radio"/> possible <input type="radio"/> definite ST <input type="radio"/> Unknown    (                    days)
Other complications	<input type="radio"/> None <input type="radio"/> Related to CTO-PCI <input type="radio"/> Non-related to CTO-PCI Comments:) <input type="radio"/> Unknown
Death	<input type="radio"/> None <input type="radio"/> Non-cardiac death <input type="radio"/> Cardiac death <input type="radio"/> Unknown Comments:) <input type="radio"/> Unknown
Follow-up imaging	<input type="radio"/> None <input type="radio"/> Yes <input type="radio"/> Unknown If yes: <input type="radio"/> CAG <input type="radio"/> MSCT,                    days after procedure restenosis: <input type="radio"/> restenosis(QCA DS>50%) <input type="radio"/> reocclusion <input type="radio"/> none