

Asian-Pacific CTO CLUB

- History and Perspective -



Disclosure

Within the past 12 months, the presenter or their spouse/partner have had a financial interest/arrangement or affiliation with the organizations listed below.

Physician Name

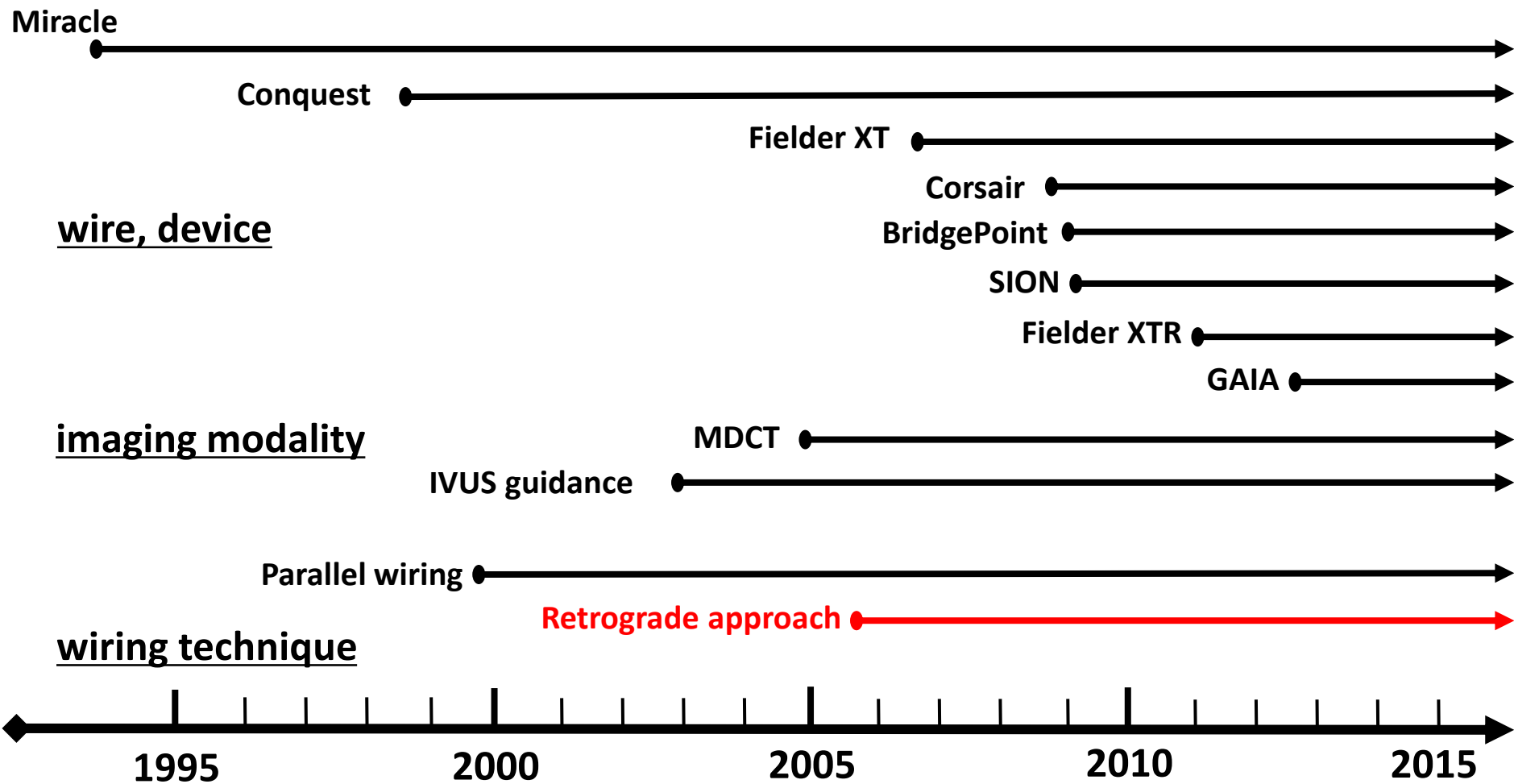
Etsuo Tsuchikane, MD, PhD

Company/Relationship

Boston Scientific, Japan Consultant

Asahi Intecc, Japan Consultant

Development of CTO-PCI procedure



*EuroCto Club
Founding Meeting*

Paris 14.12.2006



EURO CTO CLUB

Success 2006



Joachim Büttner

Gerald Werner

Dariusz Dudek

Jaques Koolen

Hans Bonnier

George Sianos

Nicolaus Reifart

Alfredo Galassi

2006.12.14

Goals

Promote angioplasty for treatment of CTO in Europe

- Exchange experience among the most experienced;
- Study technologies and strategies,
- Draw information from an own registry,
- Issue "state of the art" recommendations.
- Teaching courses



EURO CTO CLUB

COUNCIL

President of EuroCTO club

Prof. Alfredo R. Galassi

Cannizzaro Hospital
University of Catania
Catania, Italy

President elect of EuroCTO club

Prof. George Sianos

AHEPA University Hospital
Thessaloniki, Greece

Past-President of EuroCTO club

Prof. Gerald S. Werner

Medizinische Klinik I Klinikum Darmstadt
Darmstadt, Germany

Board of EuroCTO club

Prof. Carlo Di Mario

Institute Imperial College
London, United Kingdom

Board of EuroCTO club

Dr. Alexandre Avran

Clinique Generale de Marignane
et Hopital privé Clairval
Marignane et Marseille, France

Board of EuroCTO club

Dr. Evald Høj Christiansen

Aarhus University Hospital, Skejby
Aarhus N- Denmark

Treasurer of EuroCTO club

Prof. Hans Bonnier

University Hospital Brussel
Brussel, Belgium

REQUIREMENTS FOR MEMBERSHIPS' APPLICATION

- **Full Member:** to become full member you have to have an experience of CTO revascularizations of at least 300 documented cases and, after 2 years of associate membership, you may be eligible upon application if you meet the requirements of at least 50 CTO cases per year uploaded to the ERCTO registry, a recommendation letter of 2 board members, and a final board evaluation.

Membership can only be upheld if a full member consecutively enters all personal CTO cases in the online registry of the club. **Failure to do so leads to termination of the membership upon decision of the board. All those who will not respond to repeated reminders and/or non contribute to the registry over a 2-year period (with at least of 50 cases per year), will be demoted to associate members.**

Alexandre Avran, *France*
Hans Bonnier, *Belgium*
Nicolas Boudou, *France*
Leszek Bryniarski, *Poland*
Alexander Bufo, *Germany*
Heinz Joachim Büttner, *Germany*
Mauro Carlino, *Italy*
Evald Høj Christiansen, *Denmark*
Carlo Di Mario, *United Kingdom*
Dariusz Dudek, *Poland*
Simon Elhadad, *France*
Andrejs Erglis, *Latvia*
Javier Escaned, *Spain*
Andrea Gagnor, *Italy*
Alfredo R. Galassi, *Italy*
Roberto Garbo, *Italy*
Luca Grancini, *Italy*


Valeri Ljubenov Gelev, *Bulgaria*
Anthony Gershlick, *United Kingdom*
Omer Goktekin, *Turkey*
Tevfik Gürmen, *Turkey*
Jan Harnek, *Sweden*
Guy Heyndrickx, *Belgium*
David Hildick-Smith, *United Kingdom*
Karl Isaaaz, *France*
Artis Kalnins, *Latvia*
Jacques Koolen, *Netherlands*
Bernward Lauer, *Germany*
Thierry Lefevre, *France*
Aigar Lismanis, *Latvia*
Yves Louvard, *France*
Victoria Martin, *Spain*
Kambis Mashayekhi, *Germany*

Markus Meyer-Gessner, *Germany*
Michael Pieper, *Switzerland*
Nicolaus Reifart, *Germany*
Gennaro Sardella, *Italy*
Antonio Serra, *Spain*
George Sianos, *Greece*
Horst Sievert, *Germany*
James C. Spratt, *Scotland*
Didier Tchetché, *France*
Leif Thuesen, *Denmark*
Daniel Weilenmann, *Switzerland*
Gerald S. Werner, *Germany*
Jaroslaw Wójcik, *Poland*



EURO CTO CLUB

EVENTS

 May 8th - 9th, 2015



4th European Live Summit on Retrograde CTO Revascularization

Live Cases from the University Hospital Zurich, Switzerland

www.ctoeuropeansummit.eu

 September 18th - 19th, 2015



Experts "Live" CTO Workshop 2015

Istanbul, Turkey

www.eurocto2015.com



About CTO Fundamentals

CTOFundamentals.org (CTOF) is an educational resource for interventional cardiologists and their support staff interested in advancing treatment of patients with Chronic Total Occlusions. Our mission is to provide training that will enable physicians to achieve proficient and efficient CTO angioplasty results and provide patients greater access to qualified operators.

CTOF has been founded by Faculty members Drs. Anthony DeMartini, Aaron Grantham, William Lombardi, Craig Thompson and Michael Wyman. They have gathered an international faculty of renowned interventional cardiologists whom have vast experience in CTO-PCI. Together the founders and faculty have performed over 5,000 CTO-PCI procedures and participated as faculty members, lecturers, panelists and organizers at over 100 international meetings.

Hybrid Approach

4 determinants for evaluation of angiogram

Proximal Cap Anatomy

Defined or Ambiguous ?

Occlusion length

<20mm or \geq 20mm ?

Target vessel

Good or poor ?, side-branches

Collaterals

Useable or not ?

Wire Escalation

Fielder XT

No Proximal Cap
Ambiguity
Lesion <20mm
Good target

Clear Path and
Target
CONFIANZA PRO
12g

Unclear Path and
Target,
+Tortuosity
PILOT 200

No Parallel!

No IVUS!

Dissection
Method
CROSSBOSS

ReEntry
Method
STINGRAY

Wire Escalation

Fielder XT

Proximal Cap
Ambiguity
Lesion \leq 20mm
Poor target

Clear Path and
Target
CONFIANZA PRO
12g

Unclear Path and
Target,
+Tortuosity
PILOT 200

Proximal Cap
Ambiguity
Lesion \geq 20mm
Poor target

Retrograde

Dissection ReEntry

Dissection
Method
KNUCKLE
WIRE

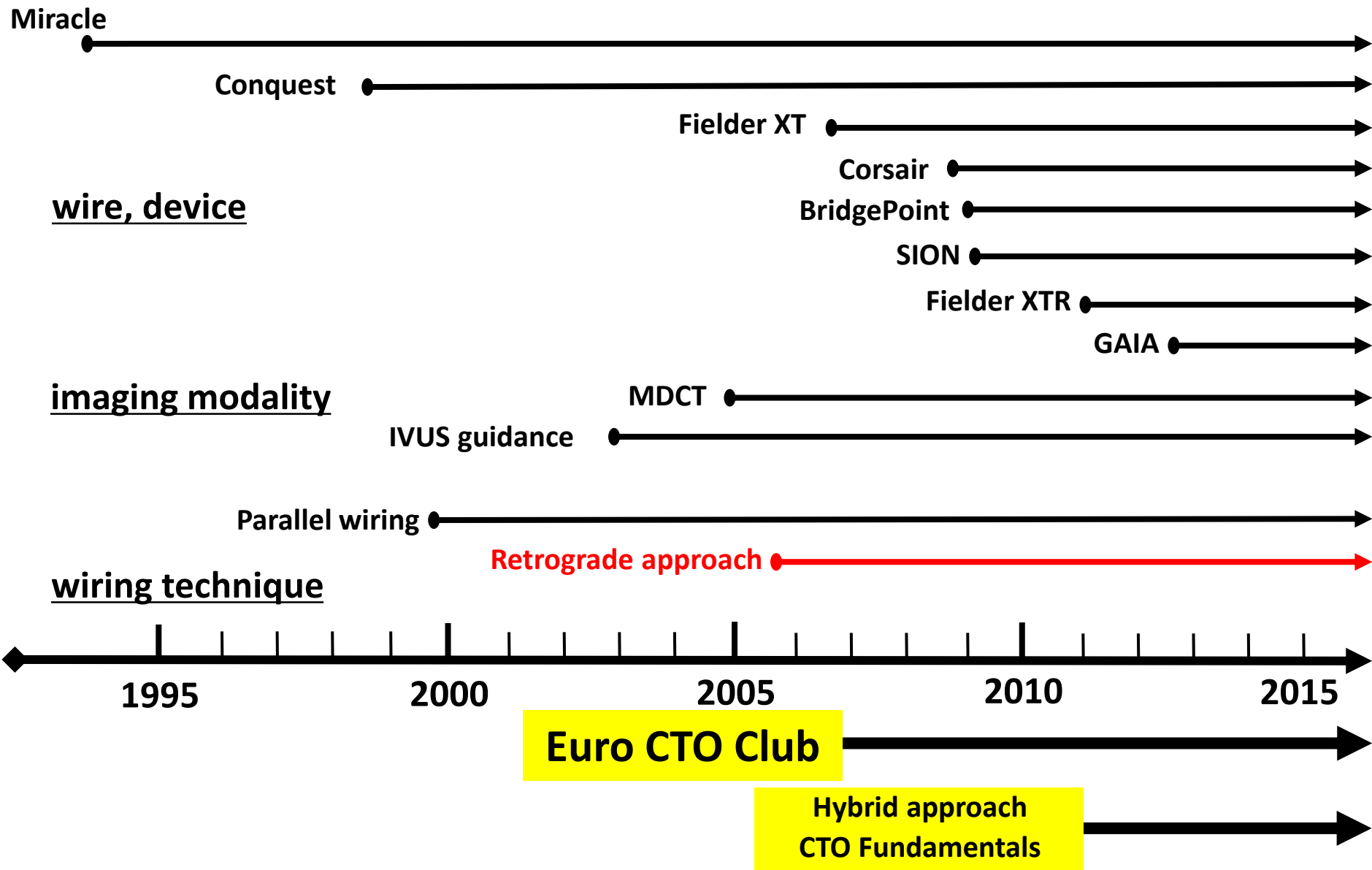
ReEntry
Method
REVERSE
CART

Refractory

ANTEGRADE

RETROGRADE

Development of CTO-PCI procedure







Asian-Pacific CTO CLUB

Kick-off Meeting@CIT2015, Beijing
March 19th, 2015



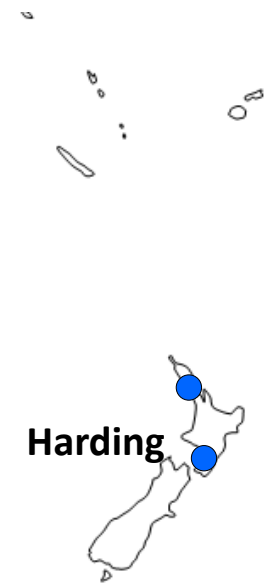
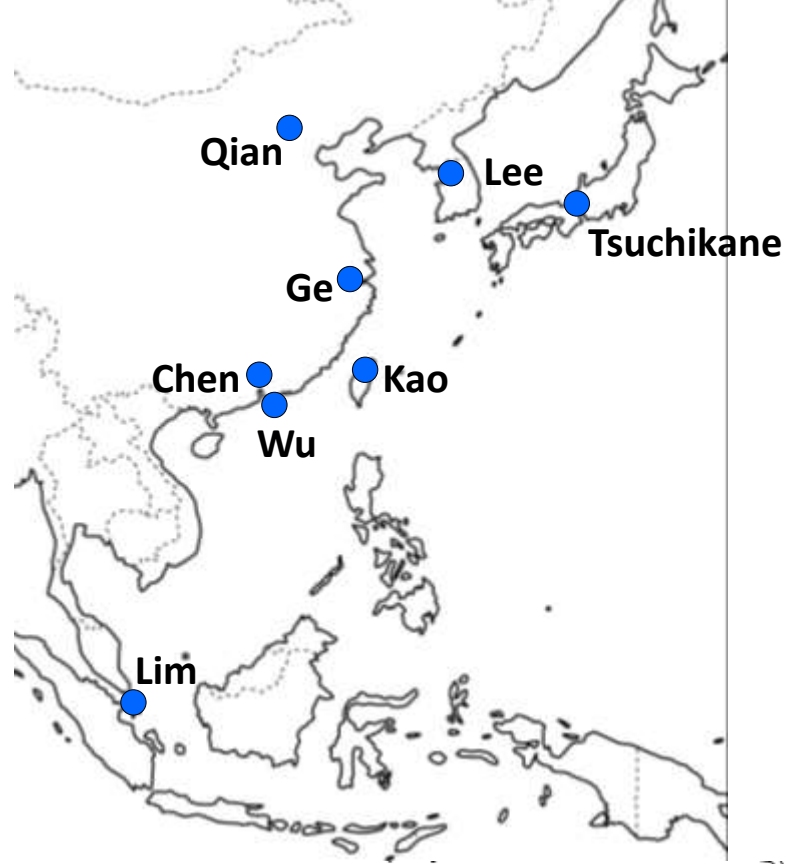
Objective

To promote CTO-PCI based on the well developed technology (devices, techniques) for more than 20 years in Asian-Pacific region.

To educate the next generation of Asian-Pacific CTO operators for the patients living in this region.

Directors

Ji Yan Chen	Guangdong General Hospital	China
Lei Ge	Zhongshan Hospital Fudan University	China
Scott Harding	Wellington Hospital	New Zealand
Paul Hsien-Li Kao	National Taiwan University Hospital	Taiwan
Seung-Whan Lee	Asan Medical Center	Korea
Soo Teik Lim	National Heart Centre Singapore	Singapore
Sidney Tsz Ho Lo	Liverpool Hospital	Australia
Jie Qian	Fu Wai Hospital	China
Etsuo Tsuchikane	Toyohashi Heart Center	Japan
Eugene B. Wu	Prince of Wales Hospital	Hong Kong



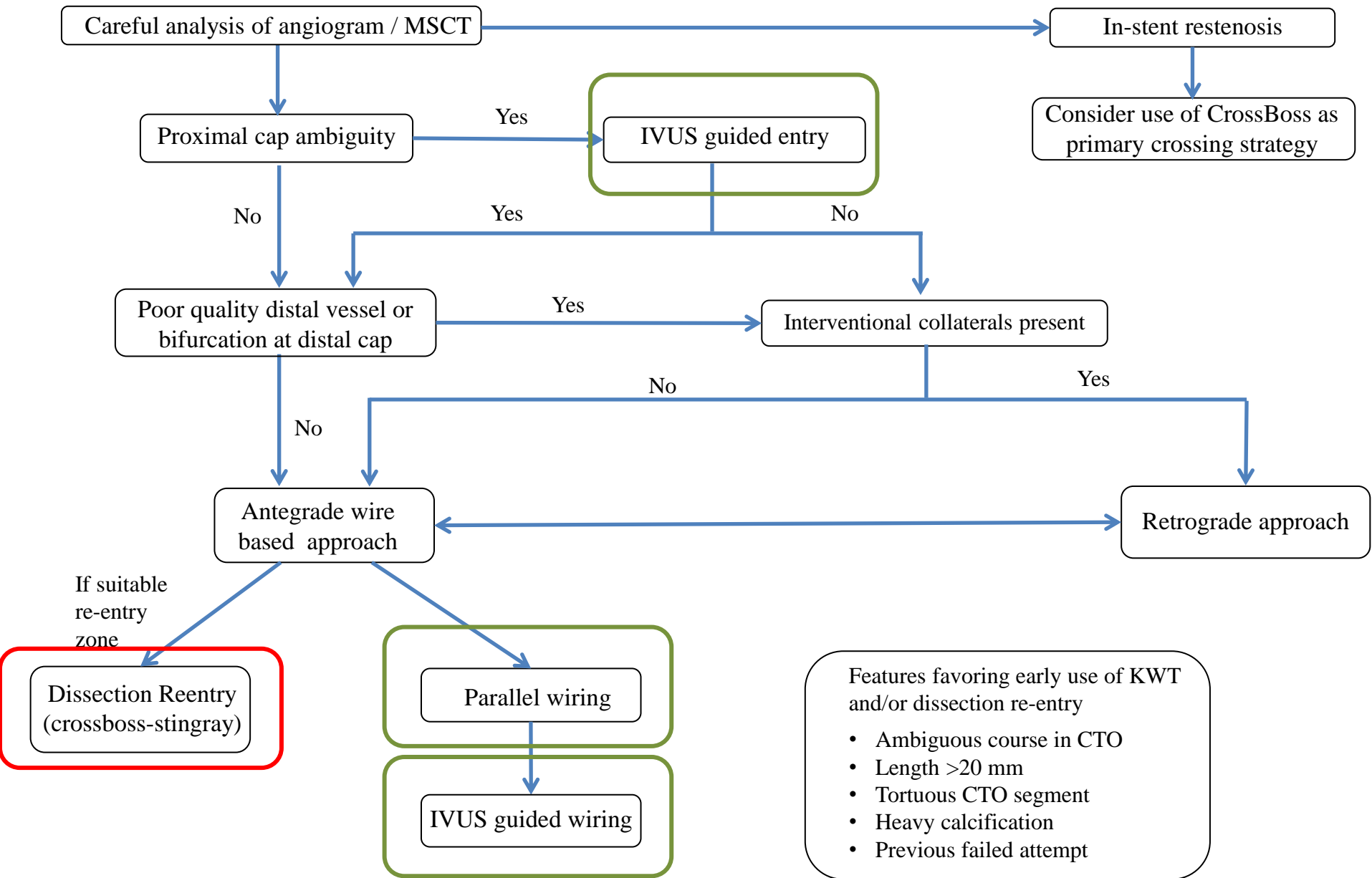
Supervisors

Jumbo Ge	Zhongshan Hospital Fudan University	China
Yang-Soo Jang	Severance Hospital, Yonsei University Hospital	Korea
Osamu Kato		Japan
Tian Hai Koh	National Heart Centre Singapore	Singapore
Sum Kin Leung	Keen Heart Medical Practice	HongKong
Jim Stewart	Auckland City Hospital	New Zealand
Yeujin Yang	Beijing Fuwai Hospital	China
Chiung-Jen Wu	Kaohsiung Chang Gung Memorial Hospital	Taiwan

What's AP CTO Club role and activity in AP region?

1. Development of AP CTO-PCI Algorithm





- Features favoring early use of KWT and/or dissection re-entry**
- Ambiguous course in CTO
 - Length >20 mm
 - Tortuous CTO segment
 - Heavy calcification
 - Previous failed attempt

Consider stopping if >3 hours, 3.7 x eGFR ml contrast, Air Kerma > 5 Gy unless procedure well advanced

What's AP CTO Club role and activity in AP region?

1. Development of AP CTO-PCI Algorithm
2. Web Site Open
3. APCTO Registry from course directors





Asia Pacific CTO Registry

APCTO Registry Database for 2016

hospitals name
edit

New
Registration

List

Logoff



Asia Pacific CTO Registry

Finish editing

New Registration TOP List Logoff

Date of procedure	
Entry number	XX_001

< Patient Enrollment >

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)
	↓ [non-affiliated hospital (in own country)/(overseas)] [Name of hospitals]
Name of hospitals	XX Hospital

Patient initials		Patient identify code	
Sex	<input type="radio"/> Male <input type="radio"/> Female		
Date of birth	Year	Month	Date
			Age
			Years old <small>%automatic calculation</small>
Registration already exists in this registry	<input type="radio"/> Yes <input type="radio"/> No		Previous procedure entry number

Follow up	<input type="radio"/> Yes <input type="radio"/> No
	Reason for "No":
	<input type="checkbox"/> Patient rejection <input type="checkbox"/> Previous PCI <input type="checkbox"/> Previous CABG <input type="checkbox"/> Other
	↓ [Other] Detailed Information

< Definition of CTO >

1. TIMI flow grade 0 on coronary angiography (TIMI 0=No antegrade flow or confirmed antegrade flow from bridging collateral or ipsicollateral. If antegrade flow is confirmed without significant bridge collateral, it is not recognized as CTO.)
2. Occlusion period of > 3 months or unknown
3. Includes CTO of the main branch (Seg1-3, 5-8, 11, 13) or equivalent branch (Seg4PL, 9/10, 12) or bypass graft. (to be determined by core lab).
4. Multiple CTOs on the same main coronary branch is counted as one CTO (tandem CTO = one lesion) |

Navigation

- 01. Patient Enrollment
- 02. Patient Basic Information 1
- 03. Patient Basic Information 2
Treatment strategy before the CTO-PCI
- 04. Lesion Basic information
- 05. CTO lesion characteristics
- 06. Recanalization approach
Procedure information
- 07. Procedure information Antegrade only
- 08-01. Procedure information Retrograde + Antegrade
- 08-02. Procedure information Retrograde + Antegrade
- 09. Procedure information Procedure success by Retrograde
Retrograde(+Antegrade)failure → Antegrade
- 10. Procedure outcome 1 Procedure outcome 2
- 11. In hospital Outcome
- 12. Follow up (1 year later)
- 13. Follow up (2 year later)
- 14. Follow up (3 year later)
- 15. Follow up (4 year later)
- 16. Follow up (5 year later)



Asia Pacific CTO Registry

Finish editing

New Registration

TOP

List

Logoff

< Patient Basic Information 1 >

Entry number XX_001

Check Box: multiple selection is available
 Radio button: multiple selection is not available

Height	<input type="text"/>	cm	Weight	<input type="text"/>	Kg
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History	OMI	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown
	CABG history	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown
	PCI history	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown

※ OMI: previously diagnosed as OMI and deterioration of vascular muscle movement is confirmed=Yes
 ※ CABG history: Use diagnostic data which was confirmed at the first PCI

Coronary Risk Factor	Hypertension	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown
	Diabetes mellitus	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown If "Yes", current treatment for DM <input type="checkbox"/> None <input type="checkbox"/> Diet <input type="checkbox"/> Oral antidiabetic <input type="checkbox"/> Insulin
	Hyperlipidemia	<input type="radio"/> Yes <input checked="" type="radio"/> No <input type="radio"/> Unknown ※ IF oral Statin "Yes", please mark at "Yes"
	Smoking	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown If "Yes": <input type="radio"/> Currently smoking <input checked="" type="radio"/> Smoked in the past ※ ※ more than 1month passed after stopped smoking
	Peripheral artery disease	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown
	CAD Family History	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown
	Comorbidities	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> Unknown If "Yes", name of Comorbidities: <input type="checkbox"/> Congenital heart disease <input type="checkbox"/> Cardiomyopathy <input type="checkbox"/> Valvular disorder <input type="checkbox"/> Other <input type="checkbox"/> Permanent Pacemaker implanted <input type="checkbox"/> Arrhythmia

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- 16. Follow up (5 year later)



Asia Pacific CTO Registry

Finish editing

New Registration

TOP

List

Logoff

< Procedure outcome 1 >

Entry number XX_001

Residual stenosis	<input type="radio"/> <10 <input type="radio"/> 10-20 <input type="radio"/> 20-30 <input type="radio"/> 30-50 <input type="radio"/> 50-90 <input type="radio"/> 90-100
Final runoff	<input type="radio"/> TIMI 0/1 <input type="radio"/> TIMI 2 <input type="radio"/> TIMI 3
Main side branch occlusion	<input type="radio"/> No <input type="radio"/> YES (Occlusion caused by making sub-intimal space)
Procedure success	<input type="radio"/> Success <input type="radio"/> Unsuccessful
	Reason for "Unsuccessful":
	<input type="checkbox"/> GW uncross <input type="checkbox"/> PCI complication <input type="checkbox"/> device uncross <input type="checkbox"/> inadequate dilatation or poor run-off <input type="checkbox"/> main side branch occlusion caused by making sub-intimal space <input type="checkbox"/> Other
	<input type="button" value="Other Detailed Information"/>

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- 16. Follow up (5 year later)

< Procedure outcome 2 >

Procedure time ¹⁾	(<input type="text"/>)min	Contrast dose ²⁾	(<input type="text"/>)ml
Fluoroscopic time ³⁾	(Frontal+ Lateral) Total <input type="text"/> minutes <small>*automatic calculation</small>		
	Frontal (↓)	(<input type="text"/>) min	Lateral (→) (<input type="text"/>) min
Absorbed dose ⁴⁾ (mGy)	(Frontal+ Lateral) Total <input type="text"/> mGy <small>*automatic calculation</small>		

What's AP CTO Club role and activity in AP region?

1. Development of AP CTO-PCI Algorithm
 2. Web Site Open
 3. APCTO Registry from course directors
- Educational Training Program
 - Workshop in each regional annual meeting for young physician's CTO training w/wo proctorship
 - Web-cast Live Demonstration?
 - To share CTO live-demonstration through web-cast for education purpose
 - Other??



What's AP CTO Club activities in AP region



– Jun. 17-18 CTO Club in Nagoya



What's AP CTO Club activities in AP region

- “Umbrella” covering CTO workshops and major meetings in AP region
 - Jun. 19-20 CTO Club in Nagoya
 - Aug. 21-22 Guangzhou CTO Workshop in China
 - Sep. 11-12 CTO Interventions Live course in Singapore
 - Oct. 23-24 CTOCC in Shanghai
 - Oct. 29-31 CCT in Kobe
 - Nov. 18-20 ANZCCT in Brisbane

 - Jan. 8-9 TTT in Taipei
 - Jan. 21-23 Asia PCR in Singapore
 - Mar. 17-20 CIT in Beijing
 - Apr. 26 CTO Live@TCT AP in Seoul
 - Jun. 9-10 ANZCTO Club in Perth
 - Jun. 17-18 CTO Club in Nagoya

2015

2016

