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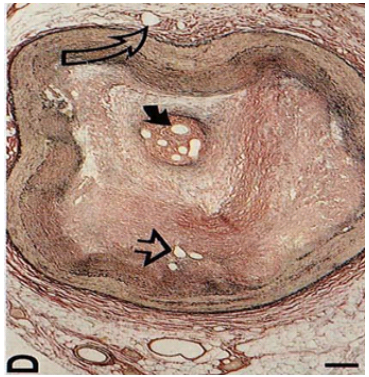
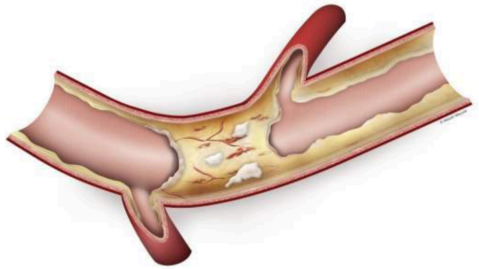
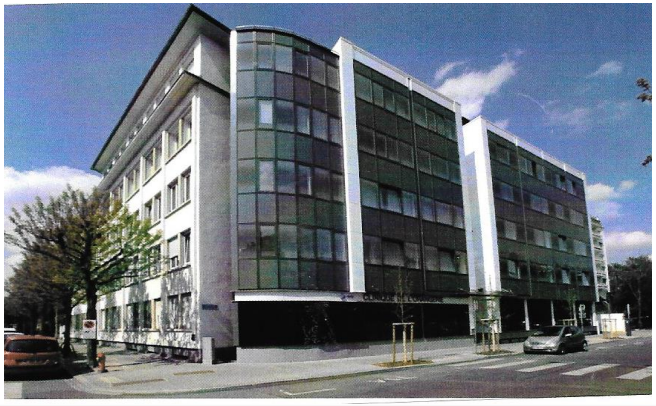
APPAC ACTUALISATIONS ET PERSPECTIVES EN PATHOLOGIE CARDIOVASCULAIRE





Actualités en CTO

Dr Nicolas LHOEST
GERC
Clinique de l'orangerie
STRASBOURG



Actualités en CTO

- Revue de la littérature
- Nouveaux scores
- Nouveaux Devices
- Futurs congrès

Actualités en CTO

- **Revue de la littérature**
- New scores
- New Devices
- Futurs congrès

Littérature

Results by Year

	Medline Publications
Feb 2006-2007	49
Feb 2007-2008	37
Feb 2008-2009	45
Feb 2009-2010	54
Feb 2010-2011	58
Feb 2014-2015	83
Feb 2015-2016	98

The collateral circulation of coronary chronic total occlusions

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KEYWORDS
- angiography
- chronic total occlusion
- collateral circulation

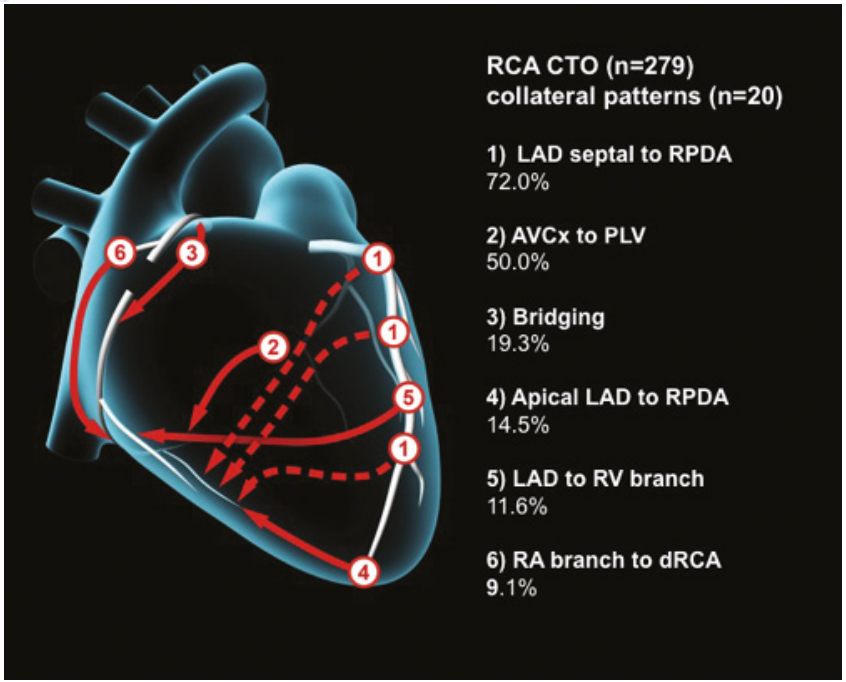
Abstract

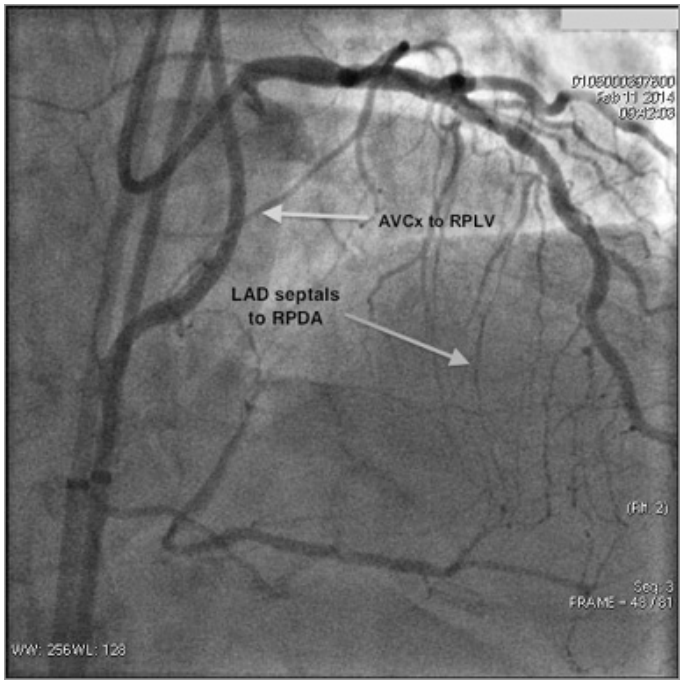
Aims: Despite advances in understanding the physiological role of collaterals in coronary chronic total occlusions (CTOs), collateral anatomy remains poorly defined. Our aim was to define the anatomy and interventional utility of collaterals within a large population of patients with CTOs.

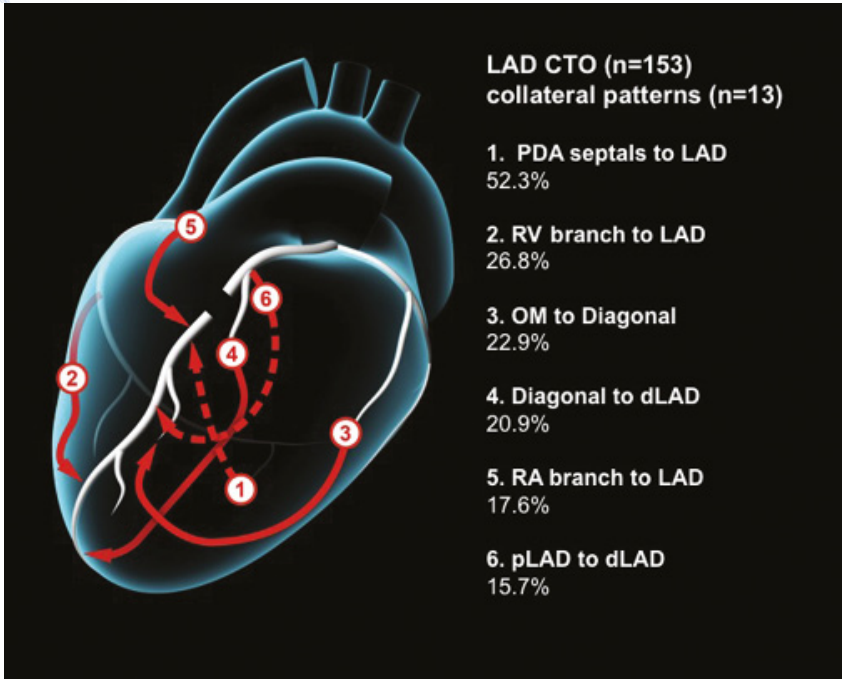
Methods and results: We studied the coronary angiograms of 481 patients with 519 CTOs at six centres in the UK over four years. Detailed angiographic analysis was performed by interventional cardiologists specialising in CTO percutaneous coronary intervention (PCI). All visible collaterals with a collateral connection (CC) grade ≥1 were recorded. A subgroup of CTOs (n=277) was assessed for interventional capability, defined as whether the collateral supply was able to facilitate retrograde access. We described 45 different collateral patterns: 20 in right coronary artery (RCA), 13 in left anterior descending (LAD), and 12 in circumflex artery CTOs. Septal collaterals from the LAD to the right posterior descending artery (RPDA), and from the posterior descending artery to the LAD were most common, and most often considered as having "interventional capability".

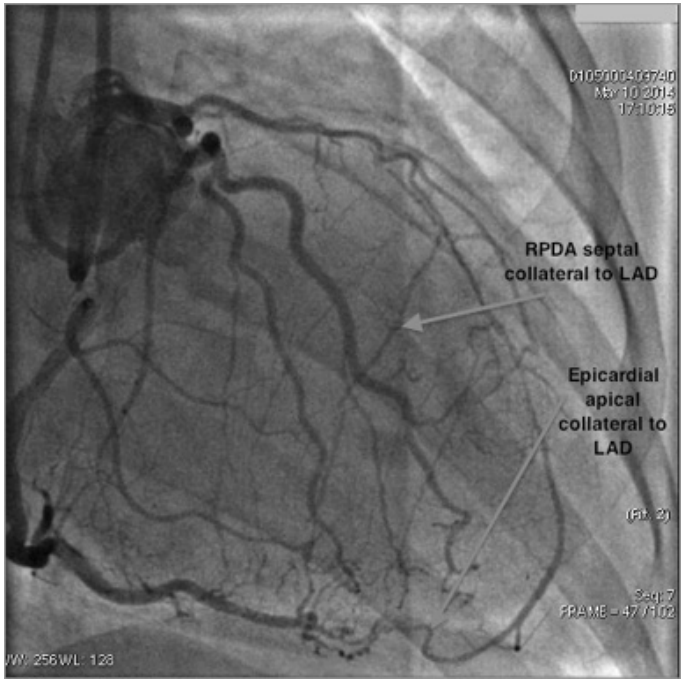
Conclusions: This is the largest analysis of collateral circulation anatomy in a population of patients with CTOs. We anticipate that these data will be of significant benefit in angiographic analysis and procedure planning for CTO PCI.

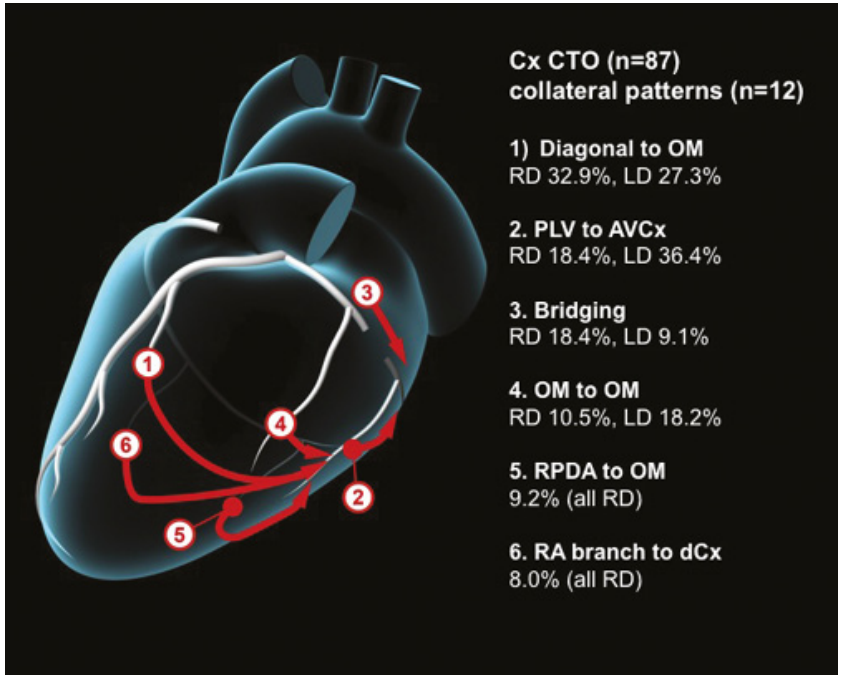
Circulation collatérale






LAD CTO (n=153)
collateral patterns (n=13)
1. PDA septals to LAD
52.3%
2. RV branch to LAD
26.8%
3. OM to Diagonal
22.9%
4. Diagonal to dLAD
20.9%
5. RA branch to LAD
17.6%
6. pLAD to dLAD
15.7%
1
2
3
4
5
6


RPDA septal collateral to LAD
Epicardial apical collateral to LAD



Cx CTO (n=87)
collateral patterns (n=12)

1) Diagonal to OM
RD 32.9%, LD 27.3%

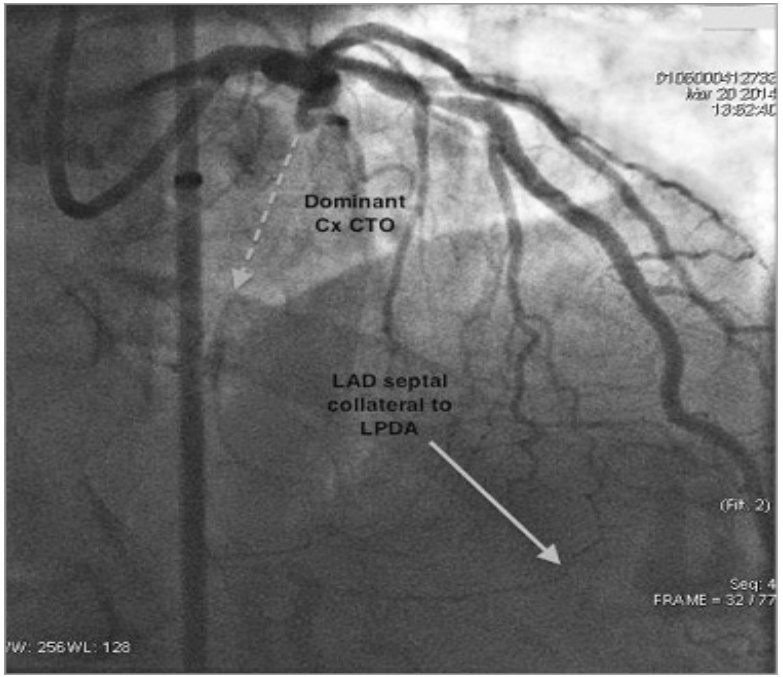
2. PLV to AVCx
RD 18.4%, LD 36.4%

3. Bridging
RD 18.4%, LD 9.1%

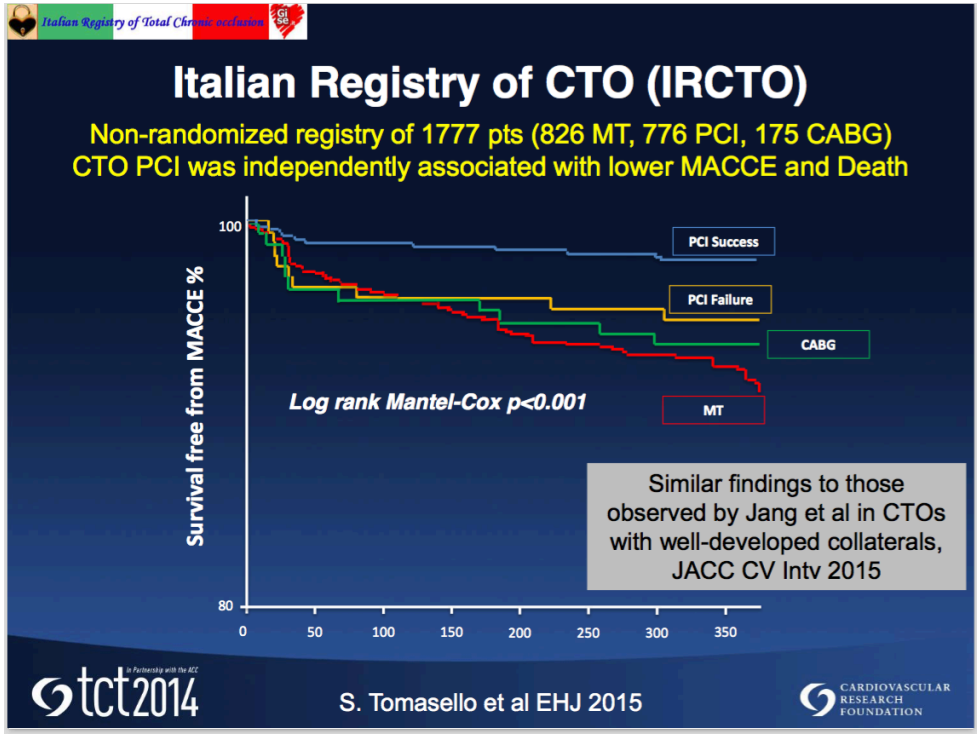
4. OM to OM
RD 10.5%, LD 18.2%

5. RPDA to OM
9.2% (all RD)

6. RA branch to dCx
8.0% (all RD)



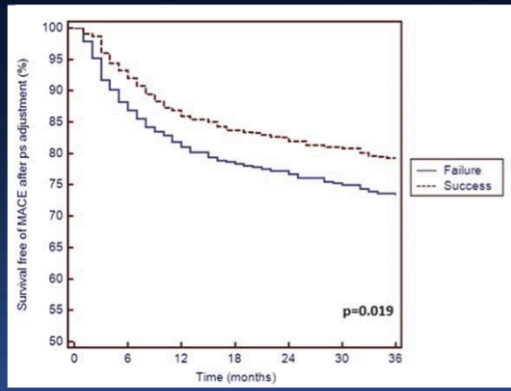
Pronostic


Italian Registry of Total Chronic occlusion
Italian Registry of CTO (IRCTO)
Non-randomized registry of 1777 pts (826 MT, 776 PCI, 175 CABG)
CTO PCI was independently associated with lower MACCE and Death
Survival free from MACCE %
100
80
0
50
100
150
200
250
300
350
PCI Success
PCI Failure
CABG
MT
Log rank Mantel-Cox p<0.001
Similar findings to those observed by Jang et al in CTOs with well-developed collaterals, JACC CV Intv 2015
tct2014
S. Tomasello et al EHJ 2015
CARDIOVASCULAR RESEARCH FOUNDATION

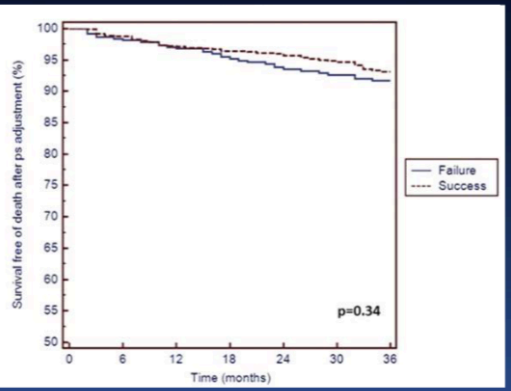
Outcomes Related to Single CTO PCI Success vs. Failure

Single center registry: 1,110 CTO pts, 734 with successful PCI

MACE (propensity-adjusted)



Survival (propensity-adjusted)



CTO success predicted freedom from revasc (including surgical)

CRF CARDIOVASCULAR RESEARCH FOUNDATION At the heart of innovation

Jaguszewski et al, CCI 2015

COLUMBIA UNIVERSITY MEDICAL CENTER
NewYork-Presbyterian

RX

Use of RadPad for CTO PCI

FIGURE 1. Demonstration of use of the radioabsorbent drape during preparation for percutaneous coronary intervention.

69 CTO PCIs with RadPad compared with 55 non-CTO PCIs without RadPad

Operator exposures were similar, despite 2-3X greater patient exposure

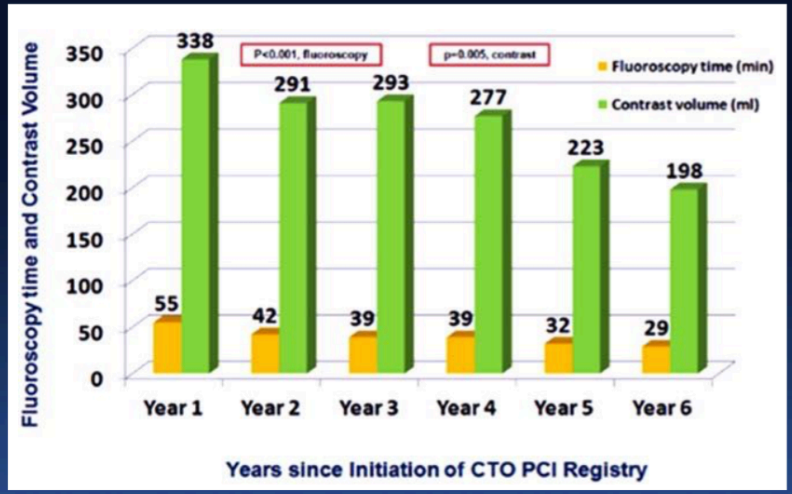
CRF CARDIOVASCULAR RESEARCH FOUNDATION At the heart of innovation

Shorrock et al, J Invasive Cardiol 2015

COLUMBIA UNIVERSITY MEDICAL CENTER
NewYork-Presbyterian

RX

Decreasing Contrast and Fluoro Time for CTO PCI: 3 center registry



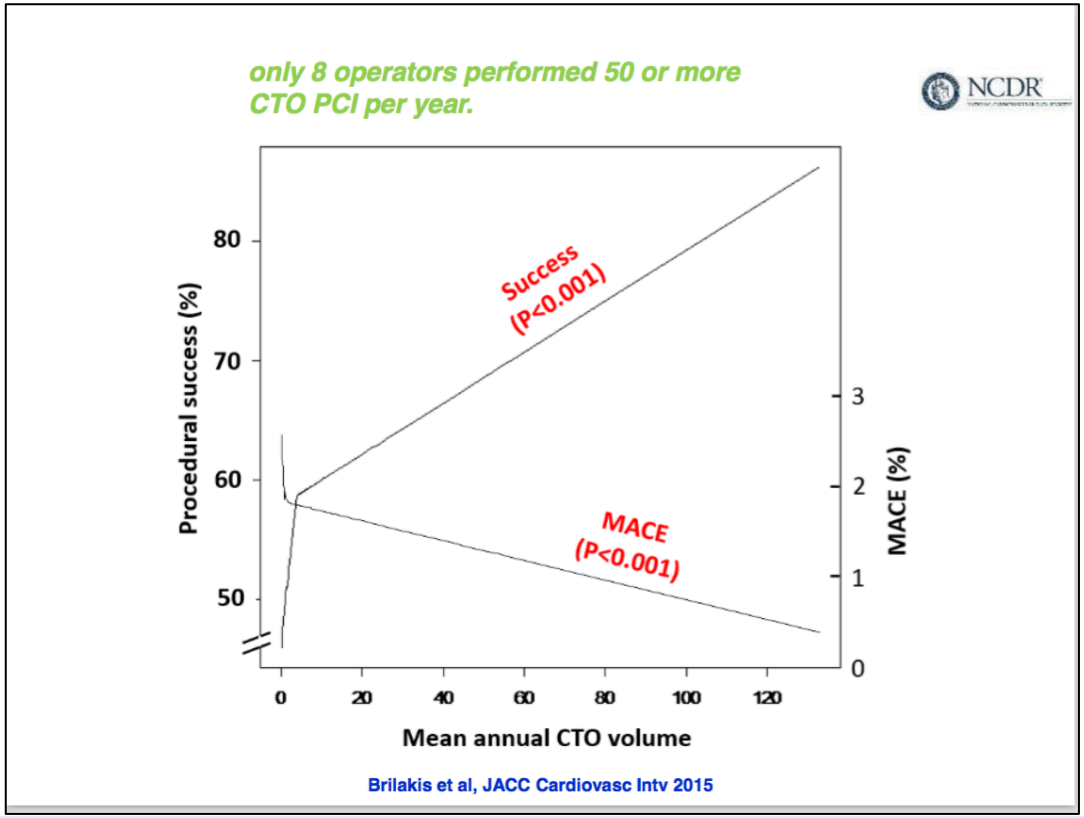
Decreases were observed in contrast to increasing technical success

CRF CARDIOVASCULAR RESEARCH FOUNDATION At the heart of innovation

Michael et al, CCI 2015

COLUMBIA UNIVERSITY MEDICAL CENTER
NewYork-Presbyterian

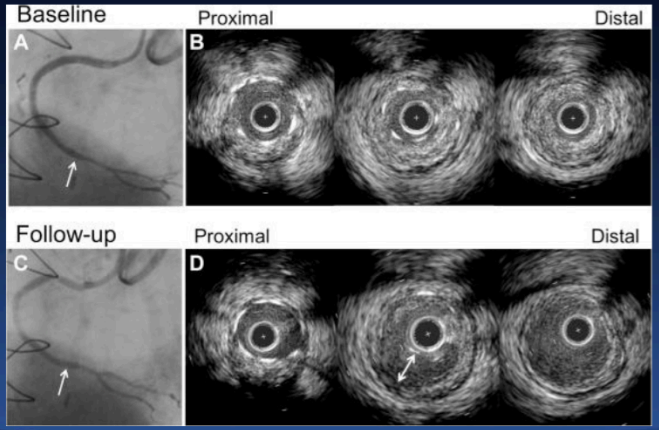
Opérateur et volume



Intimal et sous intimal

Serial IVUS Findings: CTO PCI with DES

40 CTOs systematically assessed
Distal vessel enlargement (positive remodeling) was seen
No variability with subintimal vs. luminal approach
Late stent malapposition seen in 42.5% (throughout segments)



CRF Cardiovascular Research Foundation At the heart of innovation

Saito et al, AJC 2016

Columbia University Medical Center
NewYork-Presbyterian

BVS

The role of BVS in CTO PCI : Mid-term Clinical Outcomes with Multi-imaging Techniques

CTO NYC 2016

Yaron Almagor M.D.
Antonio Serra M.D.

Director Interventional Cardiology
Shaare Zedek MC, Jerusalem
Sant Pau M.C , Barcellona

Methods

Wire Crossing

1st dilatation small balloon 1.25- 2.0mm

NTG 400 mcgr

IVUS analysis

Further dil. with NC /Cutting/ Rota + cutting

IVUS analysis

BVS implantation

OCT,IVUS analysis

Further dil. with NC if needed

Renal function & CK, US Troponin - Pre & 6, 12 & 24 hours post-PCI

Follow-up

Clinical FU by Phone Call: 1 month

Clinical Visit & MSCT/MRI: 6-8 month

Angio FU & OCT: 12 months

Clinical Visit & MSCT: 18 months

Clinical FU by Phone Call: 24 months, 3, 4 and 5 years

Study Profile

67 successful CTOs (2014-2015)

Clinical criteria (n=18)

5 patients excluded: Old patients with comorbilities

7 patients excluded: Patient or referent physician refuse

6 patients excluded: Live CTO courses with other DES

49 clinical eligible CTOs

Angiographic criteria (n=11)

5 patients excluded: Angio.Calcium.+ tortuosity

28.5% of clinical eligible CTOs were excluded due to predefined-angio criteria or PCI related complications

(1) Coronary perforation after balloon: stent graft

(1) Aorto-ostial disection after rotational atheretomy: 4mm DES

(1) Distal coronary disection after BVS: 2.25mm DES

35(44) Absorb CTO cases

CTO complexity (n=44)

CTO angiographic characteristics	
• Blunt stump type*	40.0 (14)
• Severe Tortuosity (Bending)*	11.4 (4)
• Significant Calcification*	34.3 (12)
• Previously Failed Lesion*	8.6 (3)
• Occlusion length ≥ 20mm*	31.4 (11)
CTO complexity (J-CTO Score)	
• Easy (score of 0)	25.6 (9)
• Intermediate (score of 1)	48.6 (17)
• Difficult (score of 2)	8.6 (3)
• Very difficult (score of ≥3)	17.2 (6)
• Occlusion length (mm)	18.6 ± 12.5
• Target Lesion length (mm)	35.9 ± 15.8

Unless specified otherwise, values are % and (n) of patients

Procedural Characteristics (n=44)

• Radial or bi-radial/femoral approach	60.0 (21)
• 6- Sheath Size	51.4 (18)
• Antegrade Strategy	85.7 (30)
• Number of GW used per lesion	1.8 ± 1.1
• Number of pre-dilatation balloons used per lesion	2.6 ± 0.97
• Plaque modification:	
✓ Cutting balloon pre-dilatation	71.4 (25))
✓ Rotational Aterecthomy	8.6 (3)
• Number of scaffolds used per lesion	2.2 ± 0.89
• Total scaffold lenght implanted per lesion, mm	52.5 ± 22.9
• Post-dilatation (0.5mm bigger NC balloon / scaffold)	62.9 (22)

Unless specified otherwise, values are % and (n) of patients

Immediate Results (n=44)

- **All scaffolds were successfully delivery and deployed**
- **Side Branch Occlusion (SBO)[6]:** as a reduction in TIMI flow to grade 0 or 1. Accordingly, side branches with pre-BVS implantation TIMI flow grade 0 or 1, were excluded

• Total number of visible analyzed SBs covered by BVS(n)	109
✓ Mean number/lesion	3.2 ± 1.4
✓ SB < 0.5mm	41.3 (45)
✓ SB ≥ 0.5mm	58.7 (64)
• Post-BVS SBO	6.4 (7)
✓ SB < 0.5mm	3.7 (4)
✓ SB ≥ 0.5mm	2.7 (3)

- **Dissection before BVS was observed in (4/7) 57% of all SBO cases (100% of SBO with bigger SB ≥ 0.5mm)**

6.- Muramatsu T, et al. JACC Cardiovasc Interv. 2013

Results (44)

	1-month FU (n=43)	6-months FU (n=35)
Overall Death	0	0
Cardiac	0	0
MI	0	0
TLR	0	0
MACE	0	0
BVS Thrombosis*	0	0
In-scaffold re-occlusion**		(2) 5.7%

ARC definition* *MSCT** (100% FU completed)*

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APPAC ACTUALISATIONS ET PERSPECTIVES EN PATHOLOGIE CARDIOVASCULAIRE

RECHARGE

Prof. Dr. Jo Dens
Drs. Joren Maeremans, MSc

29 January 2016

Boston Scientific

universiteit hasselt
KNOWLEDGE IN ACTION

Ziekenhuis Oost-Limburg

Brilakis et al., 2012

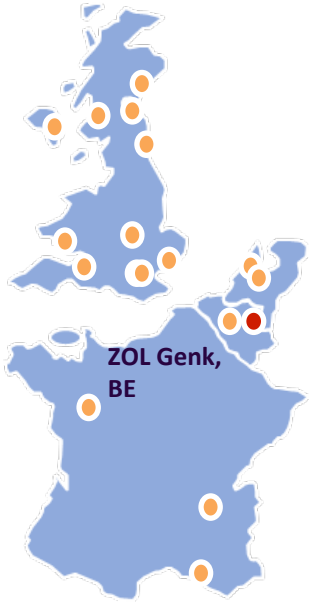
RECHARGE

- Prospective, non-randomized registry on CTO PCI
- Investigator-driven
- 4 European countries, 17 dedicated CTO-centers
- +- 1200 patients
- ***Validation of "The Hybrid algorithm"***

- Prof. Dr. Jo Dens (PI)

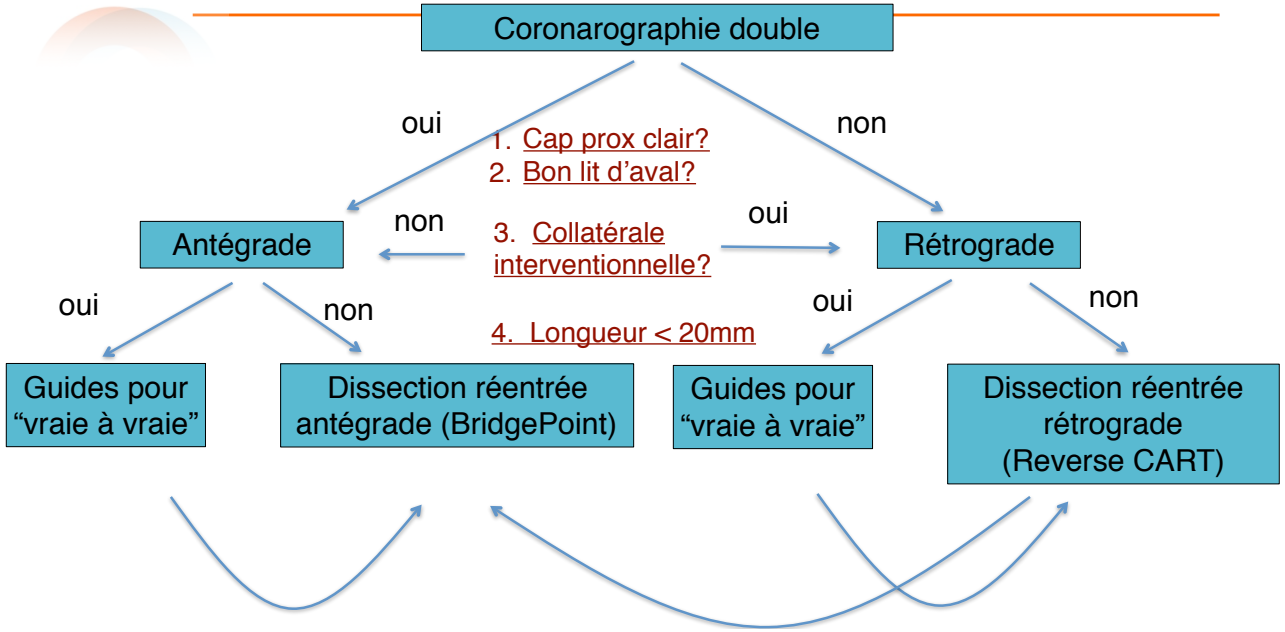
- Jan 14 – Oct 15

- 1229 CTOs included
- 1187 patients included



Dens J, Genk (BE)
Kayaert P, Brussels (BE)
Walsh S, Belfast (UK)
Hanratty C, Belfast (UK)
Spratt J, Edinburgh (UK)
McEntegart M, Glasgow (UK)
Kelly P, Basildon (UK)
Smith D, Swansea (UK)
Smith E, London (UK)
Irving J, Dundee (UK)
Bagnall A, Newcastle (UK)
Smith W, Nottingham (UK)
Strange J, Bristol (UK)
Agostoni P, Utrecht (NL)
Knaapen P, Amsterdam (NL)
Faurie B, Grenoble (FR)
Avran A, Marseille (FR)
Bressollette E, Nantes (FR)

L'algorithme hybride de désobstruction moderne- *Approche initiales*



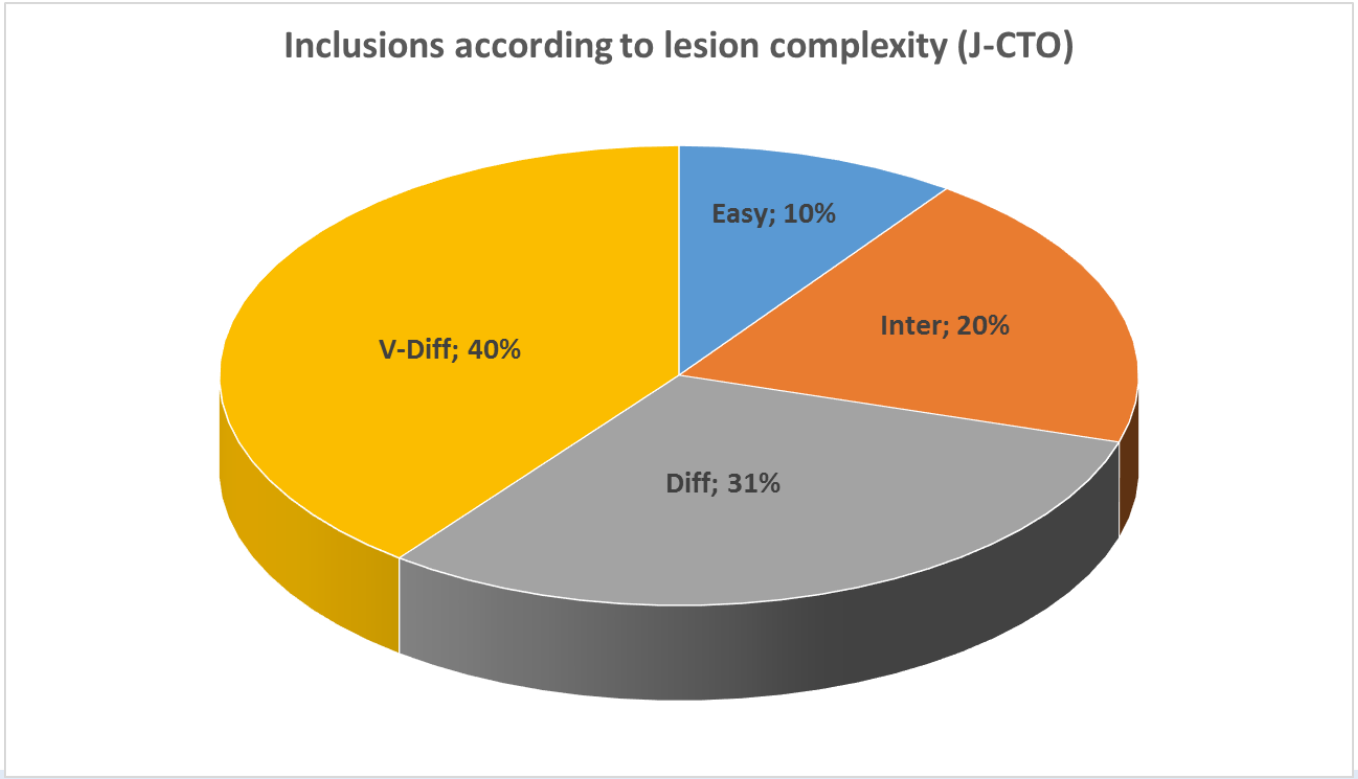
Brilakis E, Grantham JA, Rinfret S, et al. J Am Coll Cardiol Intv 2012

Demographic & angiographic characteristics

Taux de succés: 86 %

	Overall	Success	Failure
N°of inclusions	**1229**	**1063**	**166**
Age (years)	65 ± 12	65 ± 12	65 ± 13
Men (%)	85	85	86
Current smoker (%)	22	22	21
Hypertension (%)	62	61	69
Dyslipidemia (%)	67	67	69
Diabetes Mellitus (%)	26	26	31
Heart failure (%)	9	9	12
Previous MI (%)	39	38	48
Previous CABG (%)	17	15	36
Previous PCI (%)	57	57	58
Previous stroke (%)	6	6	7
Peripheral arterial disease (%)	14	13	19
CTO Target vessel			
RCA (%)	61	61	65
LCX (%)	23	24	18
LAD (%)	16	15	18
LMCA (%)	0.3	0.4	0.0
CTO length (≥20mm) (%)	59	56	78
Blunt stump (%)	50	46	70
Calcification (%)	59	56	75
Bend ≥45° (%)	34	31	52
Prior failed CTO-PCI (%)	22	21	27
Lack of "Interventional collaterals" (%)	34	34	38
In-stent restenosis (%)	10	10	9
J-CTO score	2.0 ± 1.0	1.9 ± 1.0	2.6 ± 0.7

Lesion complexity (J-CTO)



Procedural characteristics

	Overall	Success	Failure
N°of inclusions	**1229**	**1063**	**166**
Radial access only (%)	25	25	24
Dual injection (%)	77	76	85
Procedure time (min)	104 ± 72	95 ± 66	137 ± 104
Fluoroscopy time (min)	44 ± 57	40 ± 53	61 ± 24
Patient AK dose (Gray)	2.1 ± 1.6	1.9 ± 1.4	3.2 ± 2.0
Contrast volume (ml)	275 ± 135	265 ± 127	340 ± 162

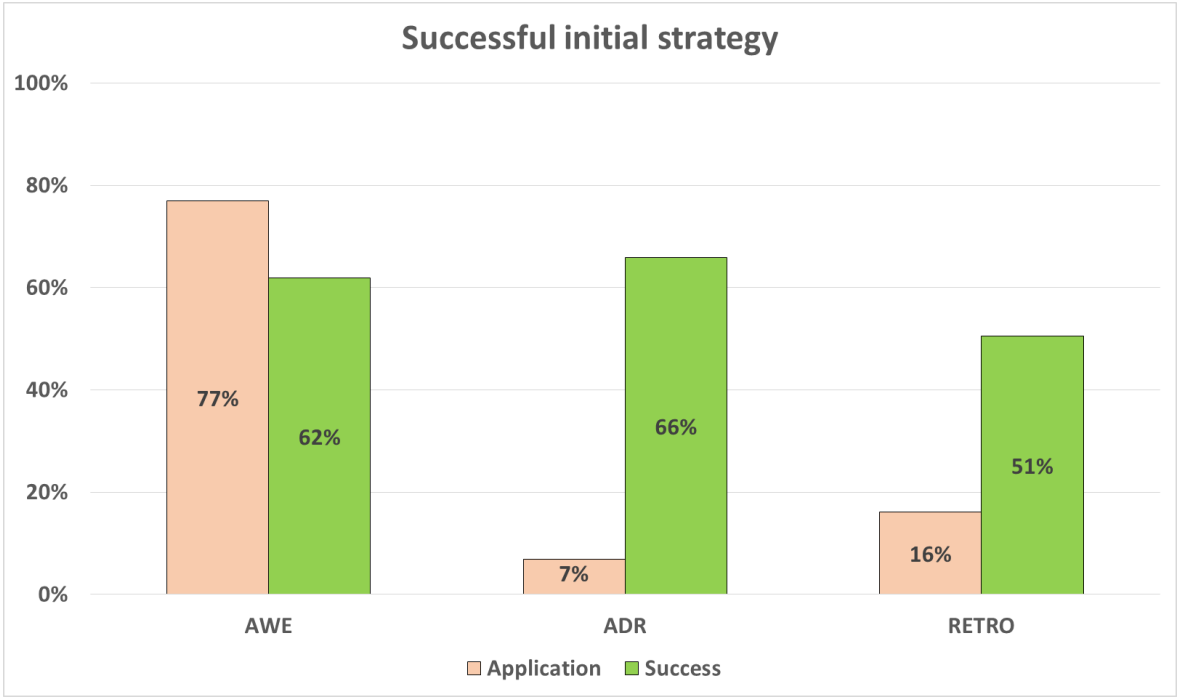
Materials

	Overall	Success	Failure	0	1	2	≥3
Nº inclusions (% success)	**1229**	**1063 (86)**	**166 (14)**	**117 (98)**	**242 (96)**	**375 (88)**	**495 (78)**
Guiding catheter	1.9 ± 0.9	1.9 ± 0.9	2.2 ± 0.9	1.7 ± 0.7	1.8 ± 0.9	2.0 ± 0.9	2.1 ± 0.9
Guidewires	5.2 ± 3.8	4.8 ± 3.6	7.5 ± 4.2	2.9 ± 2.0	3.8 ± 3.3	5.0 ± 3.6	6.5 ± 3.9
Balloons	3.5 ± 2.8	3.6 ± 2.7	2.6 ± 3.3	2.5 ± 1.5	3.0 ± 2.1	3.5 ± 2.3	4.6 ± 3.3
Stents	2.4 ± 1.1	2.4 ± 1.1	2.3 ± 1.6	1.8 ± 0.9	2.1 ± 1.0	2.4 ± 1.1	2.8 ± 1.1
Microcatheters	1.3 ± 0.5	1.2 ± 0.5	1.5 ± 0.8	1.1 ± 0.3	1.1 ± 0.4	1.2 ± 0.5	1.3 ± 0.6

Applied strategies according to outcome

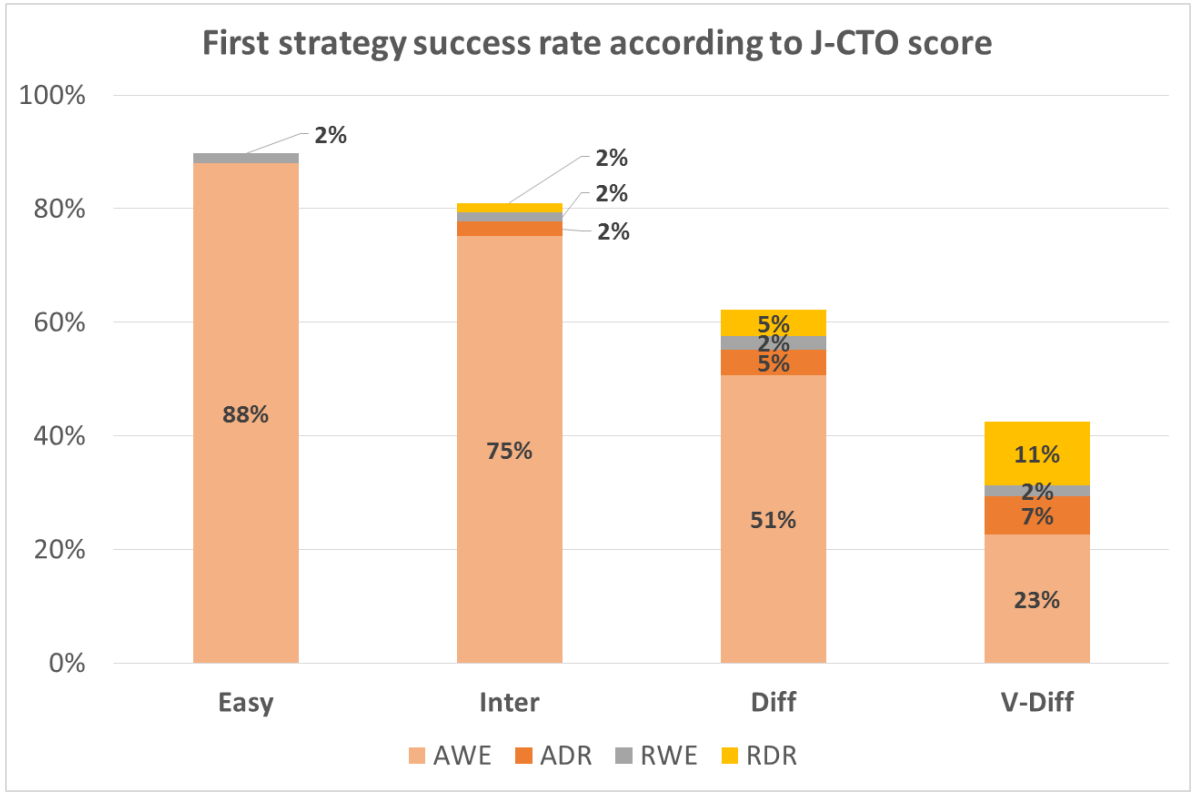
	Overall	Success	Failure
N° of inclusions	**1229**	**1063**	**166**
AWE (%)	81	82	77
ADR (%)	24	22	37
Retrograde (%)	41	36	71
Total number of strategies	1794	1488	306
Number of strategies	1.5 ± 0.7	1.4 ± 0.7	1.8 ± 0.8
Number of strategy changes	0.5 ± 0.7	0.4 ± 0.7	0.8 ± 0.8

Primary strategy - outcomes

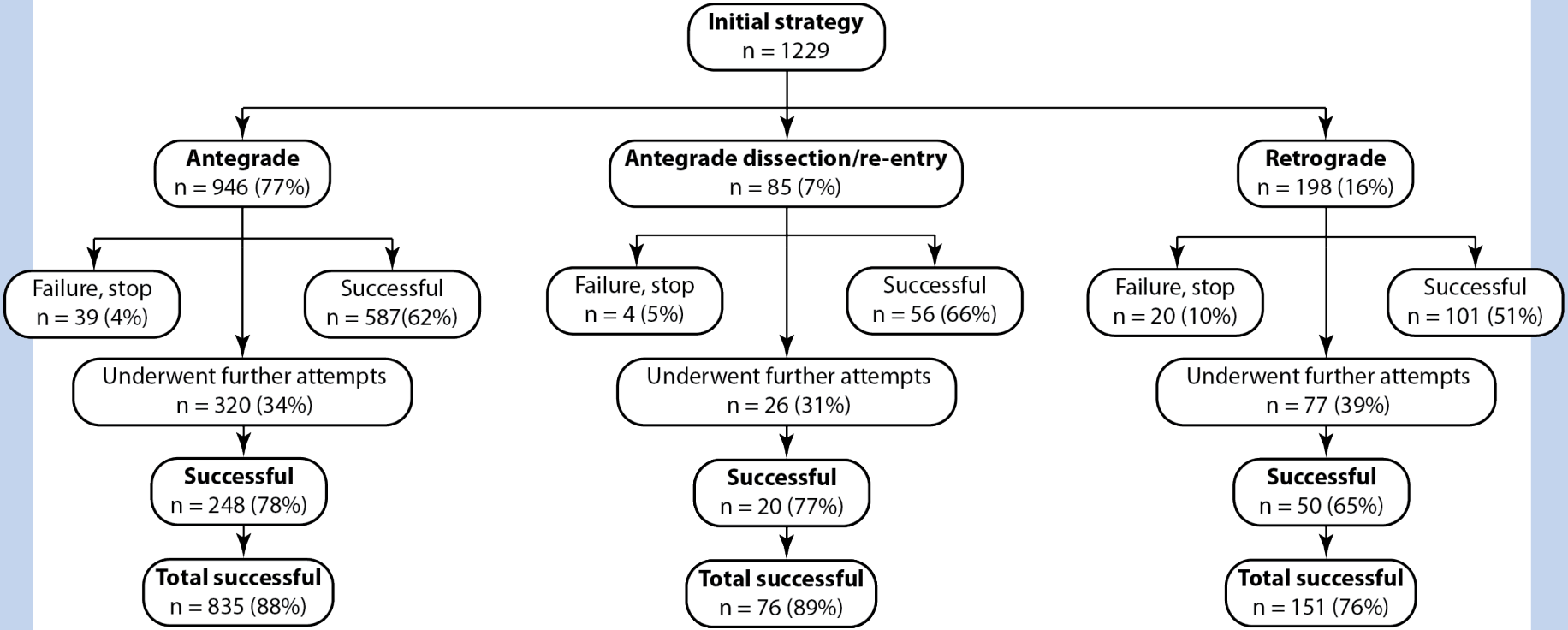


Overall primary strategy success = 60%

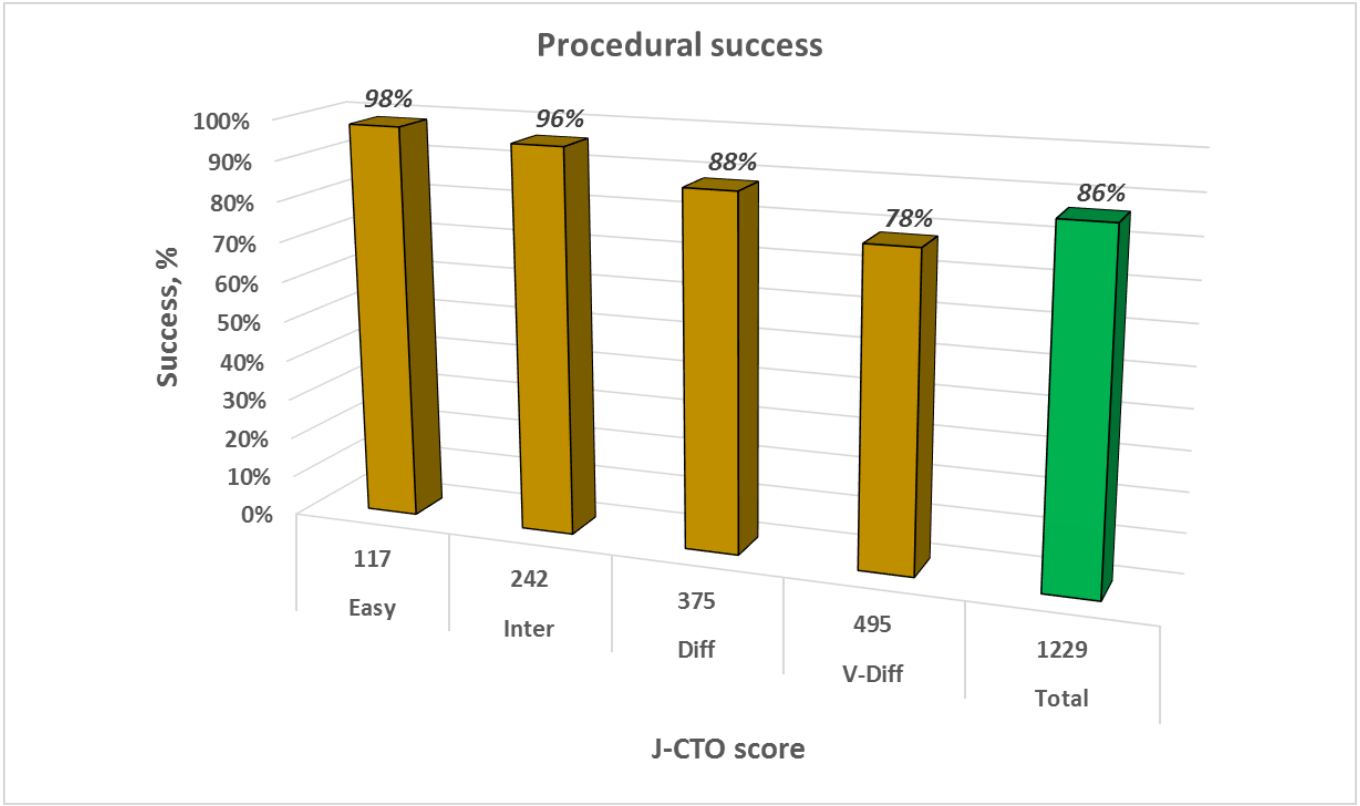
Primary strategy – outcomes acc. J-CTO



Outcomes according to primary strategy



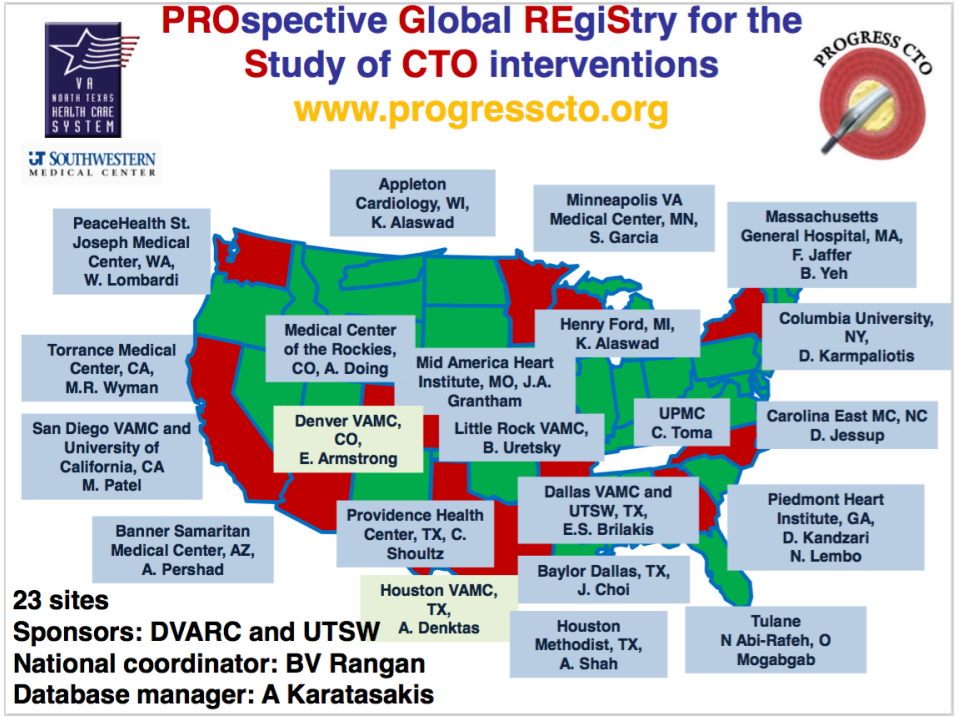
Self-reported procedural success



Actualités en CTO

- Revue de la littérature
- **New scores**
- New Devices
- Futurs congrès

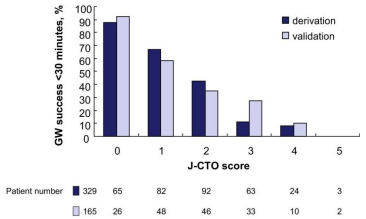
Progress CTO registry



Score

J-CTO Score

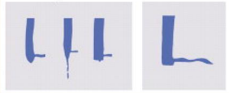
494 native CTO lesions
Crossing within 30 minutes



Morino, Y. et al. JACC Intv 2011;4:213-221

Variables and definitions

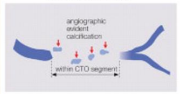
Tapered / **Blunt**



Entry with any tapered tip or dimple indicating direction of true lumen is categorized as "tapered".

Entry shape
☐ Tapered (0)
☐ Blunt (1)
point

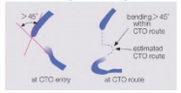
Calcification



Regardless of severity, 1 point is assigned if any evident calcification is detected within the CTO segment.

Calcification
☐ Absence (0)
☐ Presence (1)
point

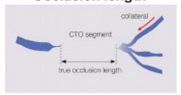
Bending >45degrees



One point is assigned if bending > 45 degrees is detected within the CTO segment. Any tortuosity separated from the CTO segment is excluded from this assessment.

Bending >45°
☐ Absence (0)
☐ Presence (1)
point

Occlusion length



Using good collateral images, try to measure "true" distance of occulusion, which tends to be shorter than the first impression.

Occl.Length
☐ <20mm (0)
☐ ≥20mm (1)
point

Re-try lesion

Is this Re-try (2nd attempt) lesion ? (previously attempted but failed)

Re-try lesion
☐ No (0)
☐ Yes (1)
point

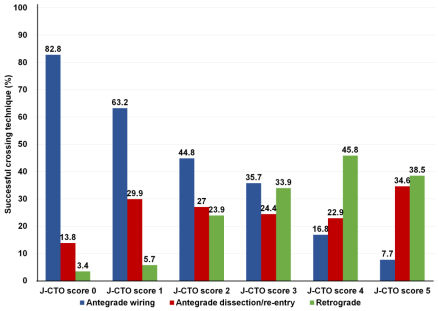
Category of difficulty (total point)
☐ easy (0) ☐ Intermediate (1)
☐ difficult (2) ☐ very difficult (≥3)

Total ____ points

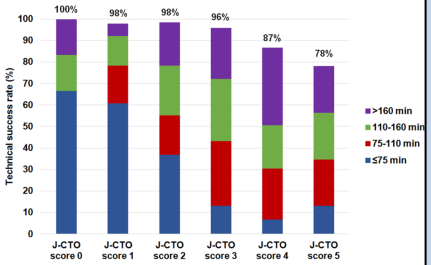
Validation of J-CTO Score in PROGRESS CTO

1/2012 to 7/2014
6 centers, n=650 lesions

J-CTO score and CTO PCI approach



Technical success, procedural time



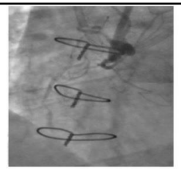
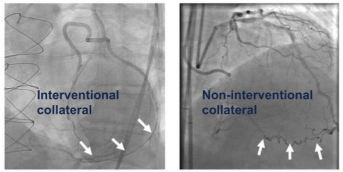
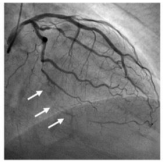
Christopoulos, Wyman, Alaswad, Karmpaliotis, Lombardi, Grantham, Yeh, Jaffer, Cipher, Rangan, Christakopoulos, Kypreos, Lembo, Kandzari, Garcia, Thompson, Banerjee, Brilakis.
Circ Cardiovasc Interv. 2015;8:e002171

New score

Progress CTO score

PROGRESS CTO

Christopoulos, Kandzari, Yeh, Jaffer, Karmpaliotis, Wyman, Alaswad, Lombardi, Grantham, Moses, Christakopoulos, Tarar, Rangan, Lembo, Garcia, Cipher, Thompson, Banerjee, Brilakis.
JACC Intv 2016;9:1–9

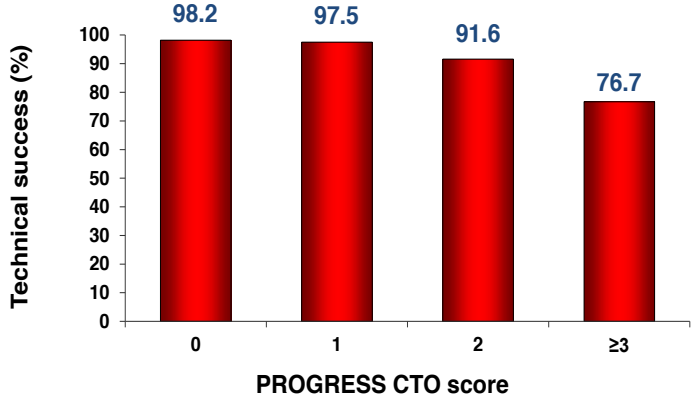
Proximal cap ambiguity (1 point)		Poor cap visualization or absence of clearly tapered stump
Absence of "interventional" collaterals (1 point)		
Moderate/ severe tortuosity (1 point)		2 bends>70 degrees or 1 bend>90 degrees
Circumflex CTO (1 point)		

PROGRESS CTO

PROspective Global REgiStry for the Study of CTO interventions

www.progresscto.org

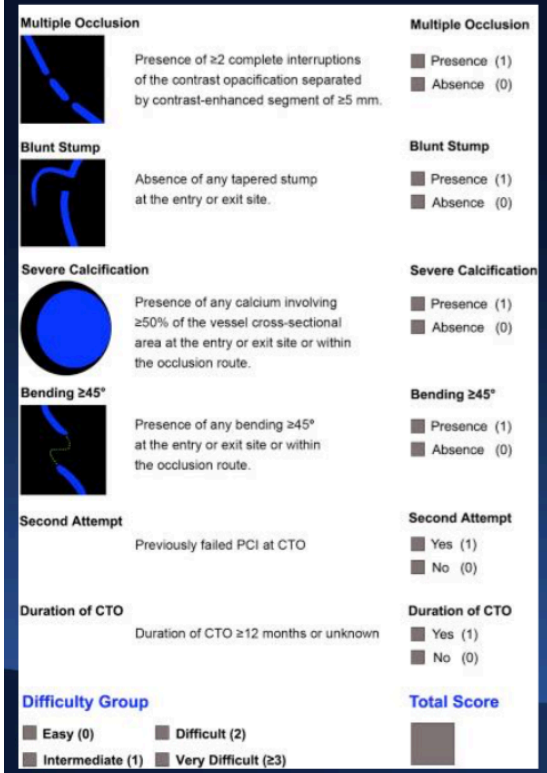
781 patients
7 US centers
2012-2015



Christopoulos, Kandzari, Yeh, Jaffer, Karmpaliotis, Wyman, Alaswad, Lombardi, Grantham, Moses, Christakopoulos, Tarar, Rangan, Lembo, Garcia, Cipher, Thompson, Banerjee, Brilakis. *JACC Intv 2016;9:1–9*

New Scoring Algorithms

CT-RECTOR



CL-SCORE

Independent Predictive Variables

	OR	Score
Severe calcified lesion	2.72	2
Previous CABG	2.49	1.5
Lesion length ≥20 mm	2.04	1.5
Previous MI	1.6	1
Blunt stump	1.39	1
Non-LAD CTO location	1.56	1

Alessandrino et al,
JAC CV Intv 2015

Opolski et al
JACC CV Intv 2015

Actualités en CTO

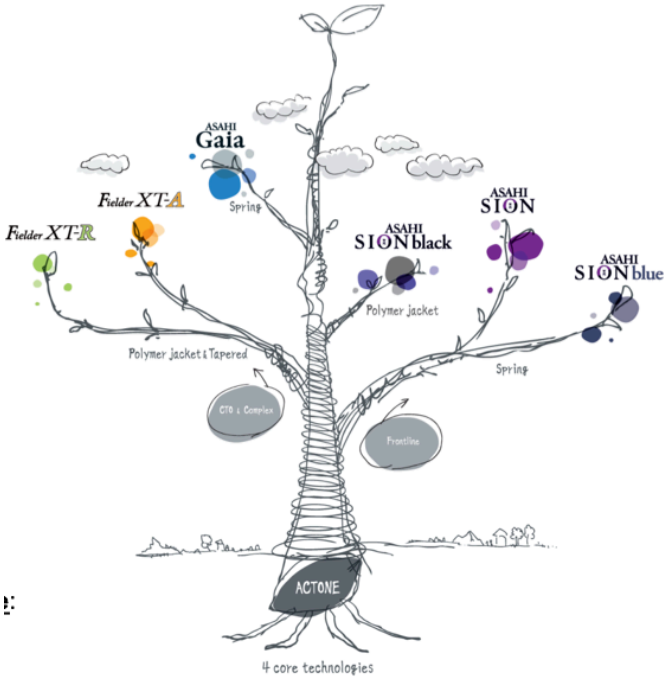
- Revue de la littérature
- Nouveaux scores
- **Nouveaux Devices**
- Futurs congrès

(New) Device Reports

Category	Author	Journal/Meeting
MultiCross FIM	Mitsutake	CCI
CrossBoss Tips and Tricks	Kwan	J Invasive Cardiol
BridgePoint Systematic Review	Wosik	J Invasive Cardiol
Excimer Laser for CTO Procedures	Sapontis	CCI
Extended Usage of GuideLiner	Chan	Eurointervention
GHOST-CTO	La Manna	CCI
ABSORB-PILOT (BVS)	Vaquerizo	AJC, Eurotintervention
3 center BVS in CTO	Goktekin	J Invasive Cardiol
Positive remodeling / Pulsatile Function after BVS	Tanaka	JACC CV Intv
BVS in False Lumen	Latib	Circ CV Intv
CT follow-up of BVS after CTO	Ojeda	AJC

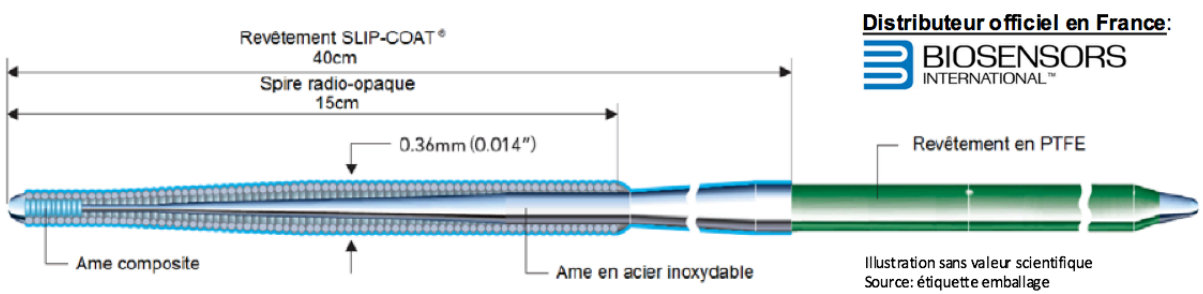
Guides

SION TECC
Leading to the NEXT



Your dreams. Woven together.
ASAHI INTECC

Gaia



Distributeur officiel en France:
BIOSENSORS INTERNATIONAL™

3 versions de Gaia pour affronter diverses configurations anatomiques

ASAHI Gaia First	Diamètre : 0.010" (0.26mm) – 0.014" (0.36mm) Charge de l'extrémité : 1.7gf
ASAHI Gaia Second	Diamètre : 0.011"mm (0.28mm) – 0.014"mm (0.36mm) Charge de l'extrémité : 3.5gf
ASAHI Gaia Third	Diamètre : 0.012"mm (0.30mm) – 0.014" (0.36mm) Charge de l'extrémité : 4.5gf

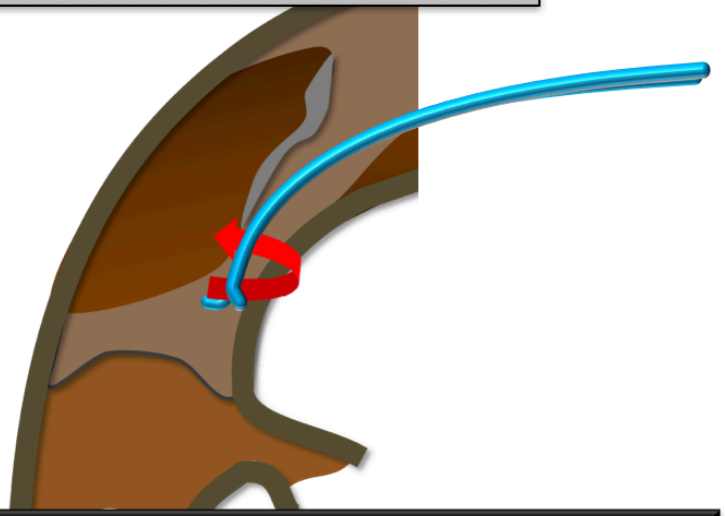
Limites des guides conventionnels : le "coup de fouet" ou "whip motion"

ASAHI Gaia
PTCA GUIDE WIRE

Contrôle de l'extrémité distale

✓ "Whip" ou "coup de fouet": accumulation du torque

Illustration sans valeur scientifique

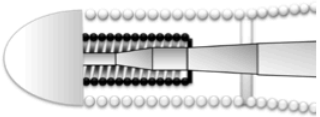


Le "whip" rend le contrôle directionnel impossible, lorsque soudainement le torque accumulé se libère au niveau de l'extrémité distale.

ASAHI Gaia™ : une autre expérience du guide pour CTO

ASAHI Gaia PTCA GUIDE WIRE

Extrémité distale conique



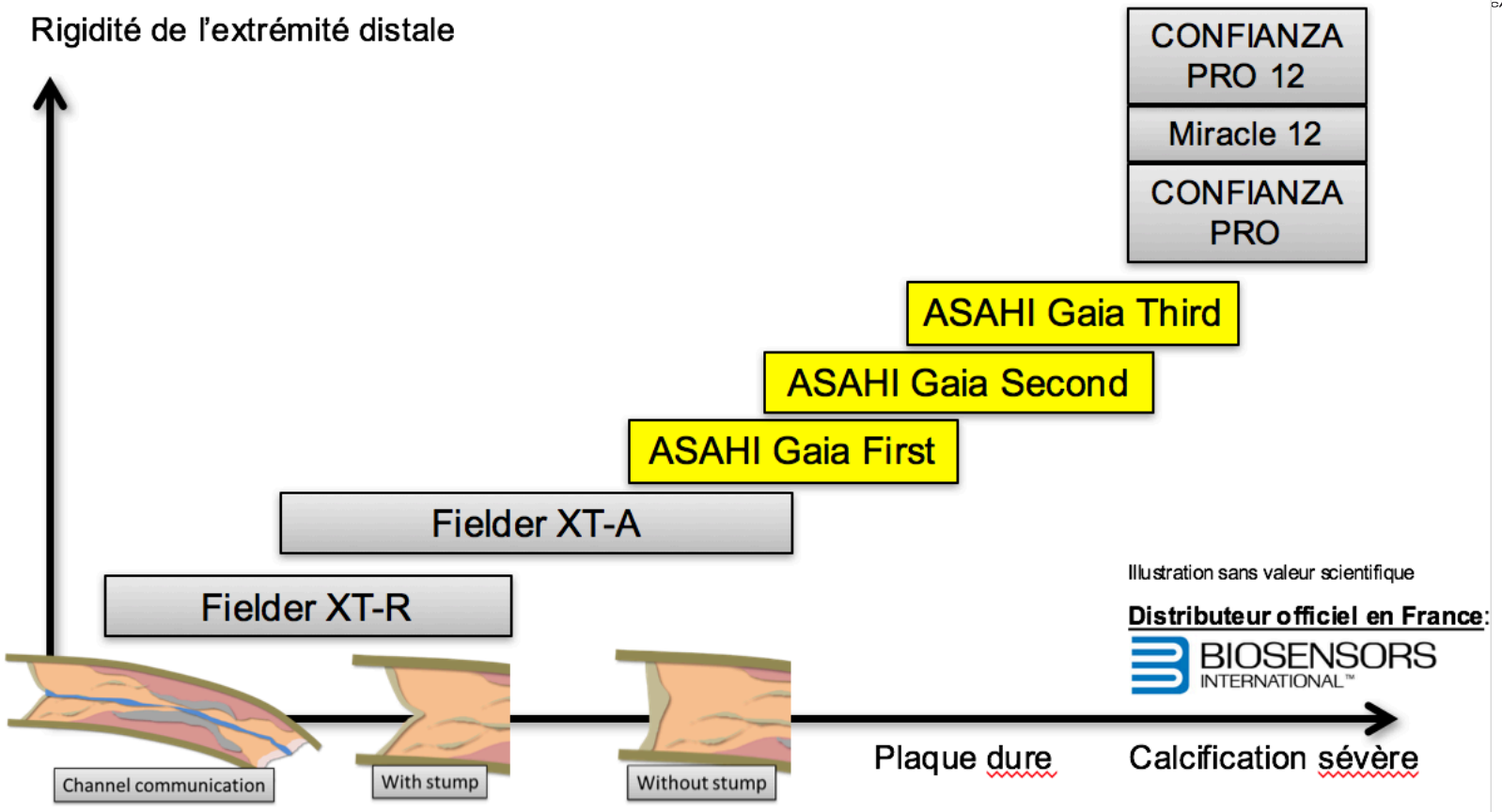
Ame composite SION TECC

Extrémité préformée sur 1mm

Objectif: amélioration de la capacité de pénétration

Objectif: amélioration du contrôle du torque

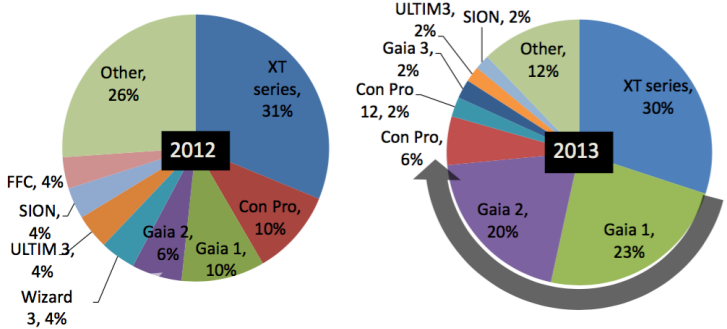
Objectif: amélioration de la durabilité de la forme du guide et de son contrôle directionnel

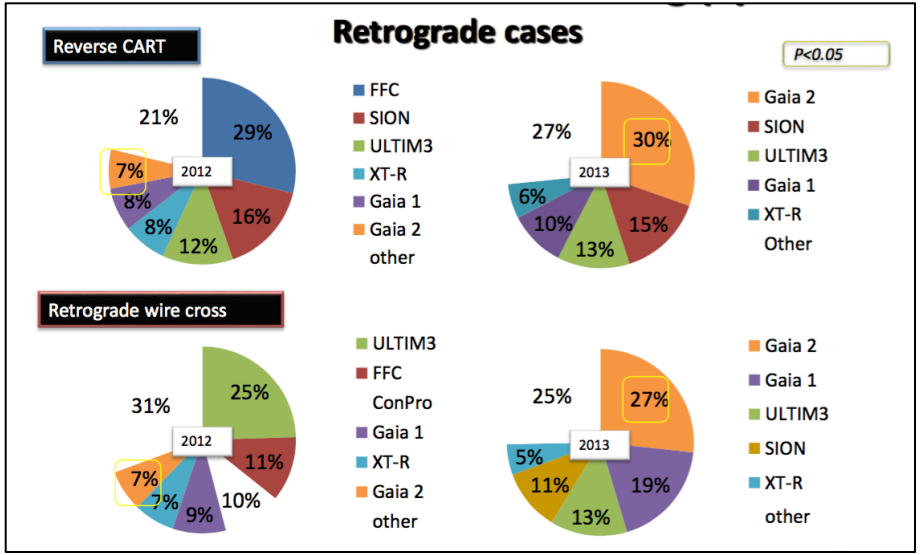

Rigidité de l'extrémité distale
CONFIANZA PRO 12
Miracle 12
CONFIANZA PRO
ASAHI Gaia Third
ASAHI Gaia Second
ASAHI Gaia First
Fielder XT-A
Fielder XT-R
Illustration sans valeur scientifique
Distributeur officiel en France:
BIOSENSORS INTERNATIONAL
Channel communication
With stump
Without stump
Plaque dure
Calcification sévère

Guidewire for CTO crossing (2)

Antegrade alone

	Total (2201)	2012 (1063)	2013 (1138)	P
Guidewire cross	92.7% (2040)	91.8% (976)	93.5% (1064)	0.1300

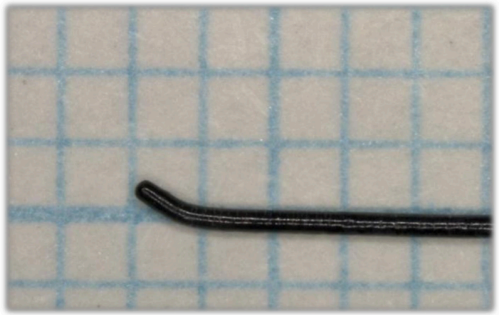




Seirei Hamamatsu General Hospital, Japan
Hisayuki Okada CTO SUMMIT 2016

SION black

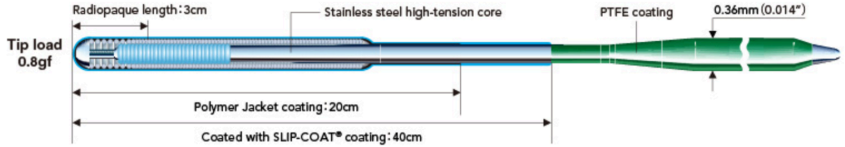
Pre-shape

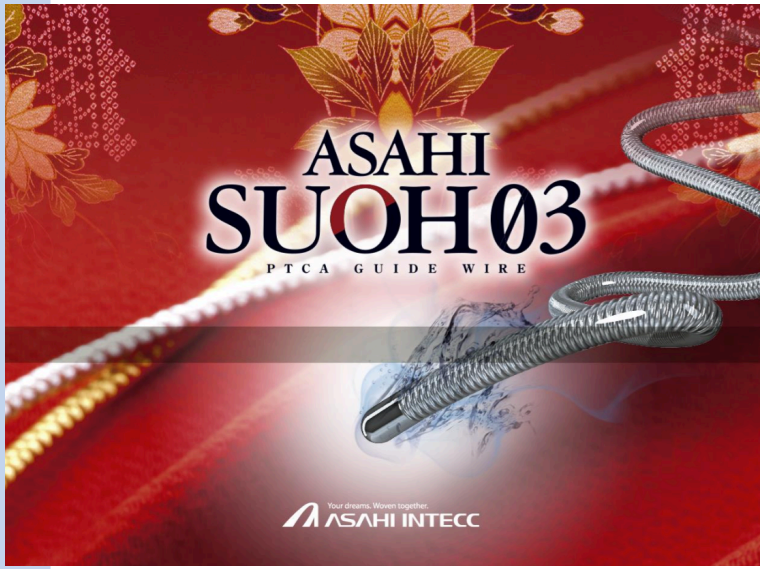


Characteristics

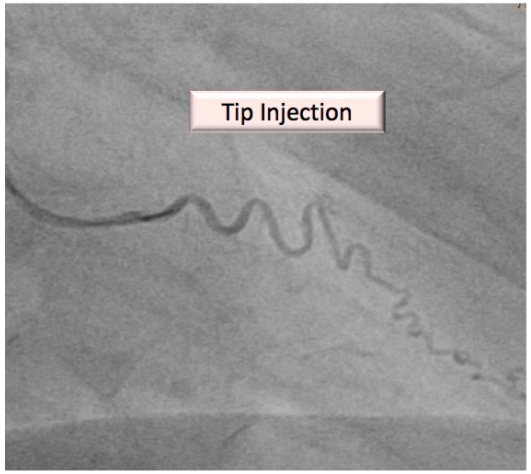
- **Polymer Jacket + SION TECC**
  Designed with greater lubricity, control and durability.
- **Improved Flexibility**
  ASAHI SION black is more flexible than conventional polymer jacket guide wires, for improved safety and vessel trackability.
- **Durable tip for shape retention**
  SION TECC is designed to maintain tip shape for vessel selectivity and catheter positioning.
- **Precise torque response**
  SION TECC provides precise torque response in tortuous vessel.

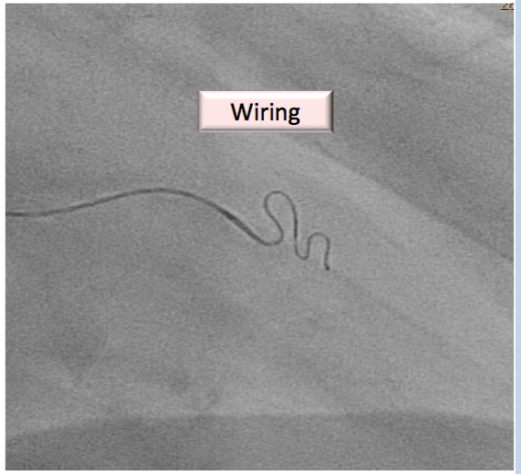
ASAHI SION black





Good trackerbility



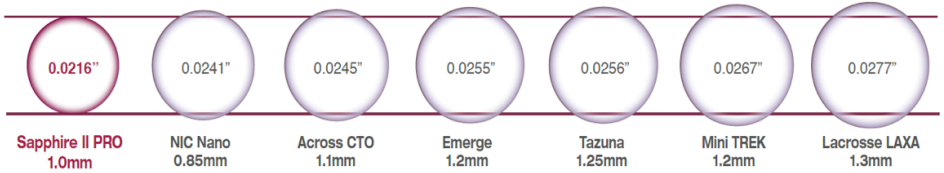


Non disponible

Ballons

SAPPHIRE II PRO
Coronary Dilatation Catheter

Sapphire II PRO, the workhorse for CTO procedure



Features	Benefits
Different balloon material for small sizes	Better material robustness
Increased inner lumen wall thickness	Less guidewire friction
New tip material	Lower entry profile, better crossability
Better secondary profile	Good for multiple inflations – cost savings

OrbusNeich™
Pioneers in life-changing technologies

Micro-cathéter

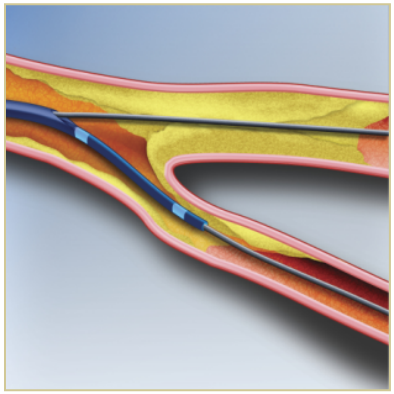
Micro-cathéter double lumière

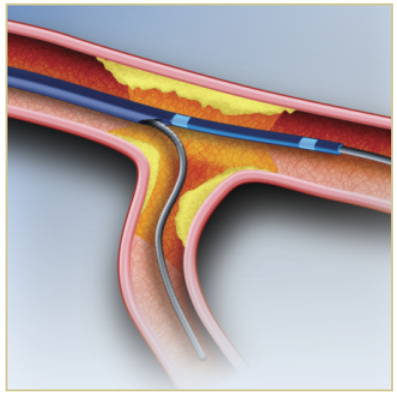
Support de guide

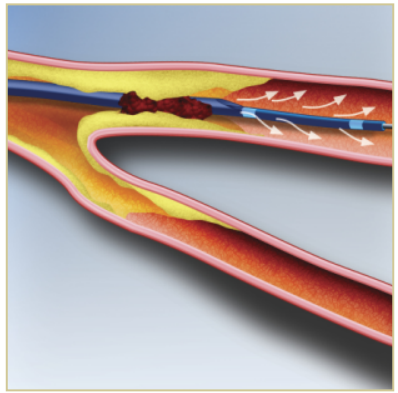
Accès branche latérale

Injection sélective contraste

Twin-Pass
dual access catheters

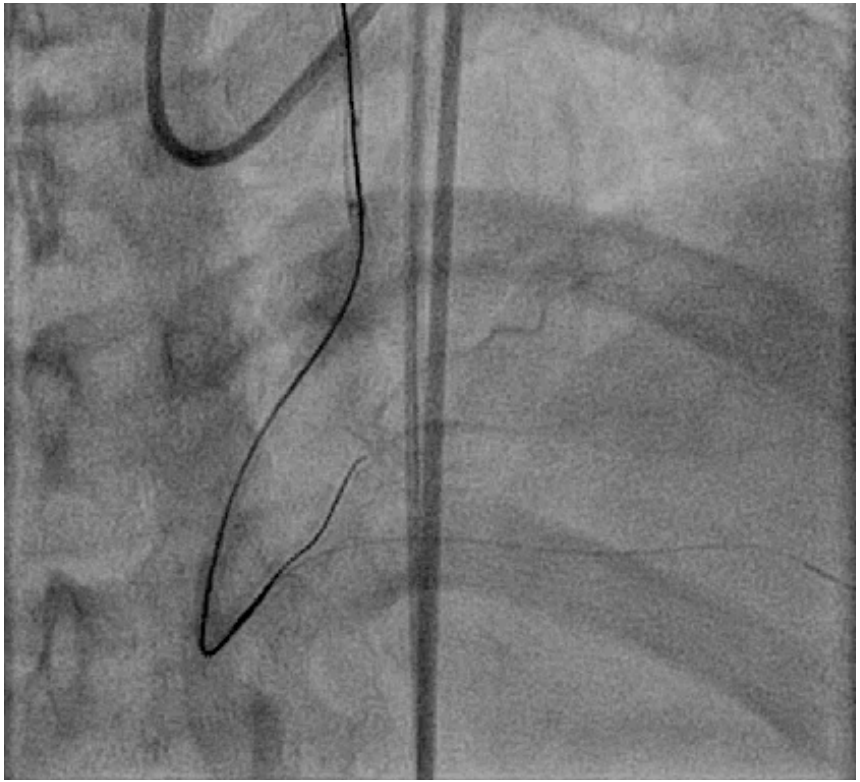


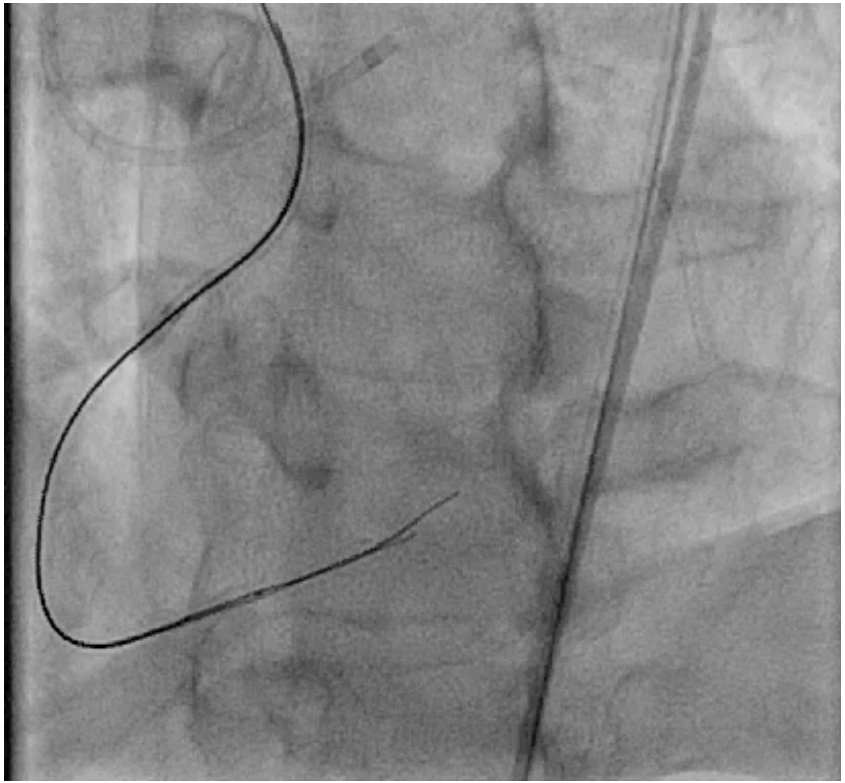


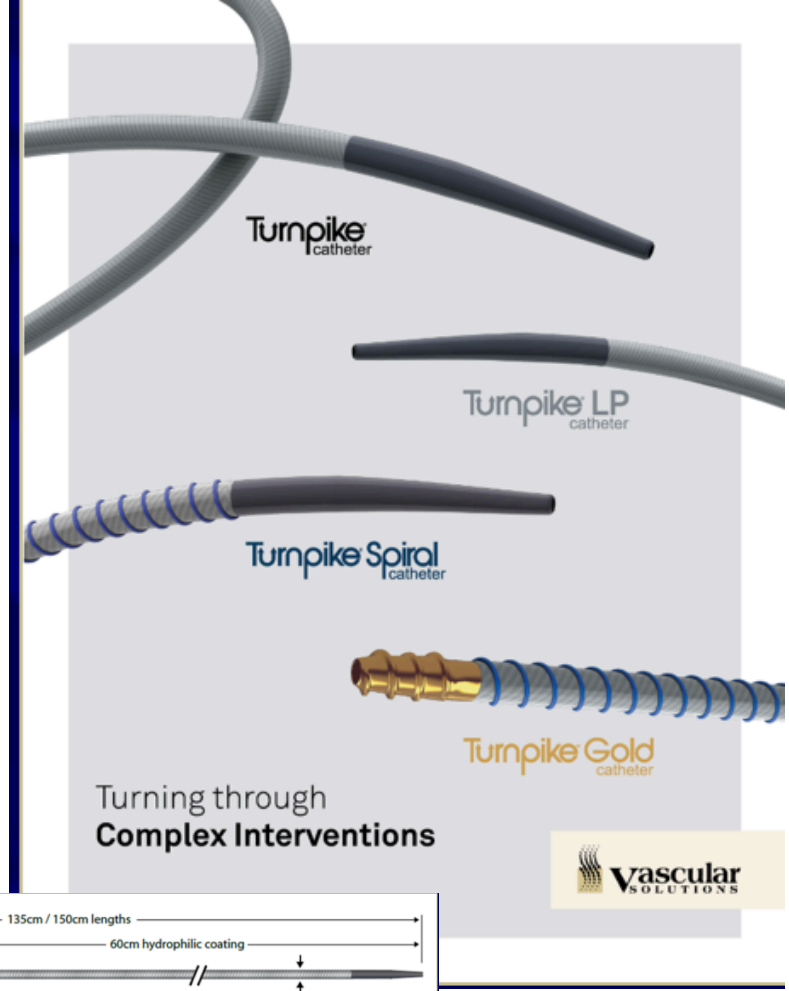


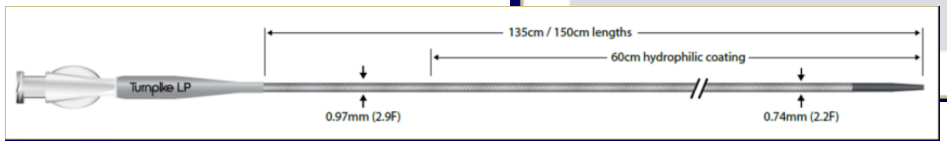
Vascular Solutions

Twin pass





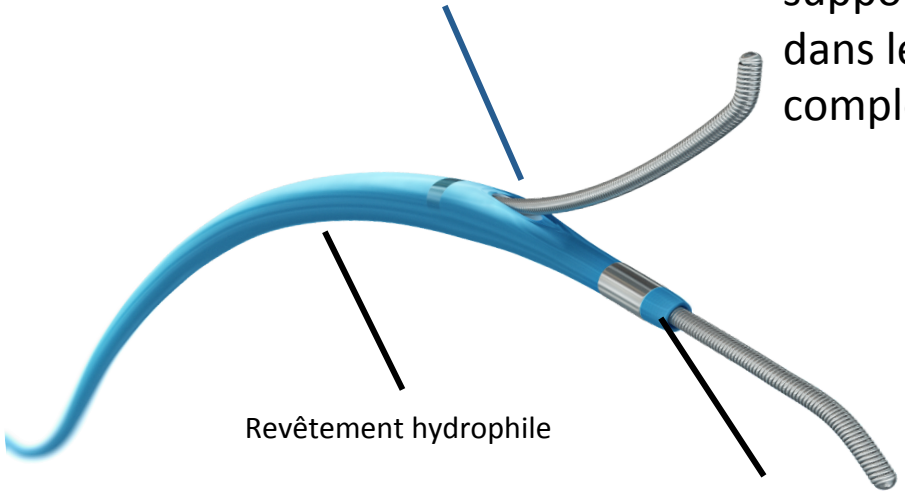

Turnpike catheter
Turnpike LP catheter
Turnpike Spiral catheter
Turnpike Gold catheter
Turning through
Complex Interventions
vascular SOLUTIONS


135cm / 150cm lengths
60cm hydrophilic coating
Turnpike LP
0.97mm (2.9F)
0.74mm (2.2F)

FineDuo*

Micro-cathéter Double lumière

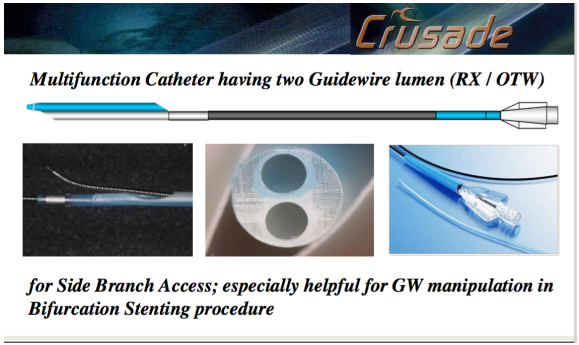
Lumière coaxiale (OTW)
pour le 2ème guide, l'injection de produit de contraste ou de médicaments.



Lumière à échange rapide (RX) pour le 1er guide et l'échange de guide

Micro-cathéter Multifonctionnel à 2 lumières (RX/OTW):

- À chaque fois qu'un bon support de guide est nécessaire dans les angioplasties complexes.

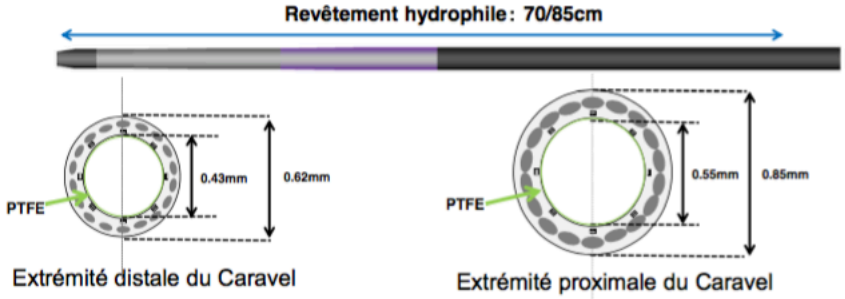


** En attente du marquage CE*

Distributeur officiel en France:

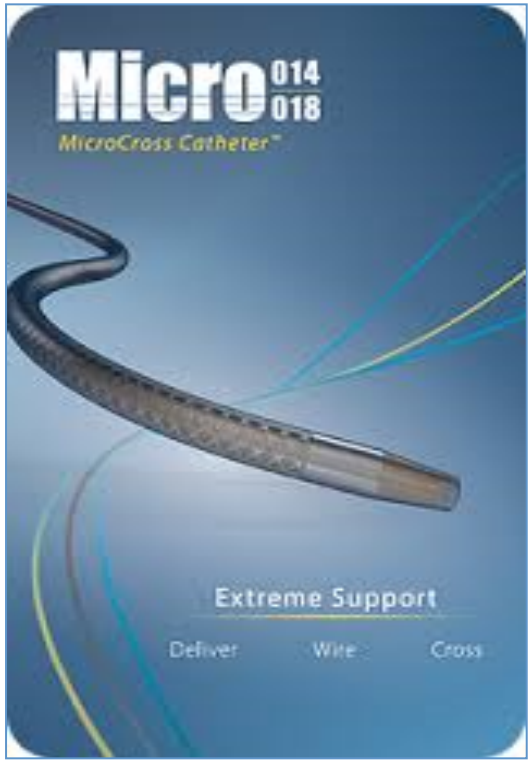
BIOSENSORS INTERNATIONAL

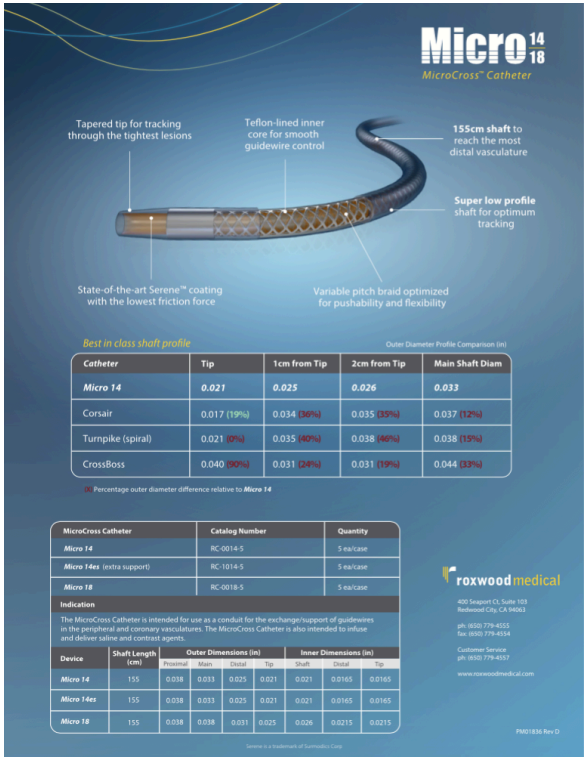
Design du microcathéter Caravel™



Références	Diamètre externe			Diamètre interne			Longueur	Longueur du revêtement hydrophile
	Tip	Distal	Proximal	Tip	Distal	Proximal		
ASAHI™Caravel™ 135cm	0.48 mm (1.4Fr)	0.62 mm (1.9 Fr)	0.85 mm (2.6 Fr)	0.40 mm (0.016inch)	0.43 mm (0.017inch)	0.55 mm (0.022inch)	135cm	70cm
ASAHI™Caravel™ 150cm	0.48 mm (1.4 Fr)	0.62 mm (1.9 Fr)	0.85 mm (2.6 Fr)	0.40 mm (0.016inch)	0.43 mm (0.017inch)	0.55 mm (0.022inch)	150cm	85cm

Caravel™ est un microcathéter. Il est destiné à faciliter la mise en place des fils guides dans les vaisseaux coronaires et périphériques, et peut être utilisé pour remplacer un fil guide par un autre. Caravel est un dispositif médical de Classe III, fabriqué par ASAHI INTECC CO., LTD., et dont l'évaluation de la conformité a été réalisée par DEKRA Certification B.V 0344. Veuillez consulter la fiche technique pour ce qui concerne les caractéristiques et performances. Avant toute utilisation, veuillez vous référer à la notice d'utilisation, qui décrit les informations de bon usage, les instructions d'utilisation, les avertissements et complications potentielles associées à l'utilisation de ce dispositif. Caravel n'est pas pris en charge par les organismes d'assurance maladie. Mai 2016.


Micro 014 018
MicroCross Catheter™
Extreme Support
Deliver
Wire
Cross


Micro 14 18
MicroCross™ Catheter
Tapered tip for tracking through the tightest lesions
Teflon-lined inner core for smooth guidewire control
155cm shaft to reach the most distal vasculature
Super low profile shaft for optimum tracking
State-of-the-art Serene™ coating with the lowest friction force
Variable pitch braid optimized for pushability and flexibility
Best in class shaft profile
Outer Diameter Profile Comparison (in)
Catheter | Tip | 1cm from Tip | 2cm from Tip | Main Shaft Diam
Micro 14 | 0.021 | 0.025 | 0.026 | 0.033
Corsair | 0.017 (19%) | 0.034 (36%) | 0.035 (35%) | 0.037 (12%)
Turnpike (spiral) | 0.021 (0%) | 0.035 (40%) | 0.038 (46%) | 0.038 (15%)
CrossBoss | 0.040 (90%) | 0.031 (24%) | 0.031 (19%) | 0.044 (33%)
(%) Percentage outer diameter difference relative to Micro 14
MicroCross Catheter | Catalog Number | Quantity
Micro 14 | RC-0014-S | 5 ea/case
Micro 14ex (extra support) | RC-1014-S | 5 ea/case
Micro 18 | RC-0018-S | 5 ea/case
Indication
The MicroCross Catheter is intended for use as a conduit for the exchange/support of guidewires in the peripheral and coronary vasculatures. The MicroCross Catheter is also intended to infuse and deliver saline and contrast agents.
Device | Shaft Length (cm) | Outer Dimensions (in) Proximal | Main | Distal | Tip | Inner Dimensions (in) Shaft | Distal | Tip
Micro 14 | 155 | 0.038 | 0.033 | 0.025 | 0.021 | 0.021 | 0.0165 | 0.0165
Micro 14ex | 155 | 0.038 | 0.033 | 0.025 | 0.021 | 0.021 | 0.0165 | 0.0165
Micro 18 | 155 | 0.038 | 0.038 | 0.031 | 0.025 | 0.026 | 0.0215 | 0.0215
Serene is a trademark of Surmodics Corp
roxwoodmedical
400 Seaport Ct, Suite 103
Redwood City, CA 94063
ph: (650) 779-4555
fax: (650) 779-4554
Customer Service
ph: (650) 779-4557
www.roxwoodmedical.com
PM01836 Rev D

Micro Catheter	Outer Diameter			Length(cm)
	Entry	Distal shaft	Proximal shaft	
Caravel™	0.48mm (1.4Fr)	0.62mm (1.9Fr)	0.85mm (2.6Fr)	135/150
Turnpike™ LP	0.53mm (1.6Fr)	0.74mm (2.2Fr)	0.97mm (2.9Fr)	135/150
FINECROSS™ MG	0.60mm (1.8Fr)	0.60mm (1.8Fr)	0.87mm (2.6Fr)	135/150
Micro™14	0.53mm (1.6Fr)	0.64mm (1.9Fr)	0.83mm (2.5Fr)	155
Corsair™	0.42mm (1.3Fr)	0.87mm (2.6Fr)	0.93mm (2.8Fr)	135/150
Turnpike™	0.53mm (1.6Fr)	0.86mm (2.6Fr)	1.02mm (3.1Fr)	135/150

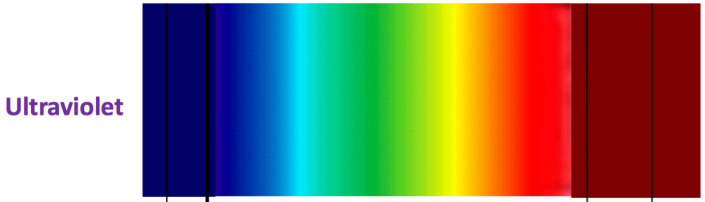
LASER

Laser de Contact et Pulsatil

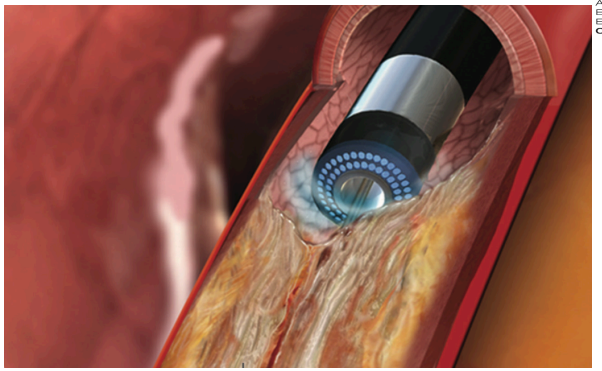
Unidirectionnel

Intensité élevée 308 nm

Monochromatique bleu (ultraviolet)= laser froid



Spectranetics
Always Reaching Farther



LE GENERATEUR CVX300

Spectranetics
Always Reaching Farther

ELCA™ CORONARY LASER ATHERECTOMY CATHETER

Treatment Versatility for Coronary Interventions

Méchanisme d'action

RUPTURE DES LIAISONS DE COVALENCE

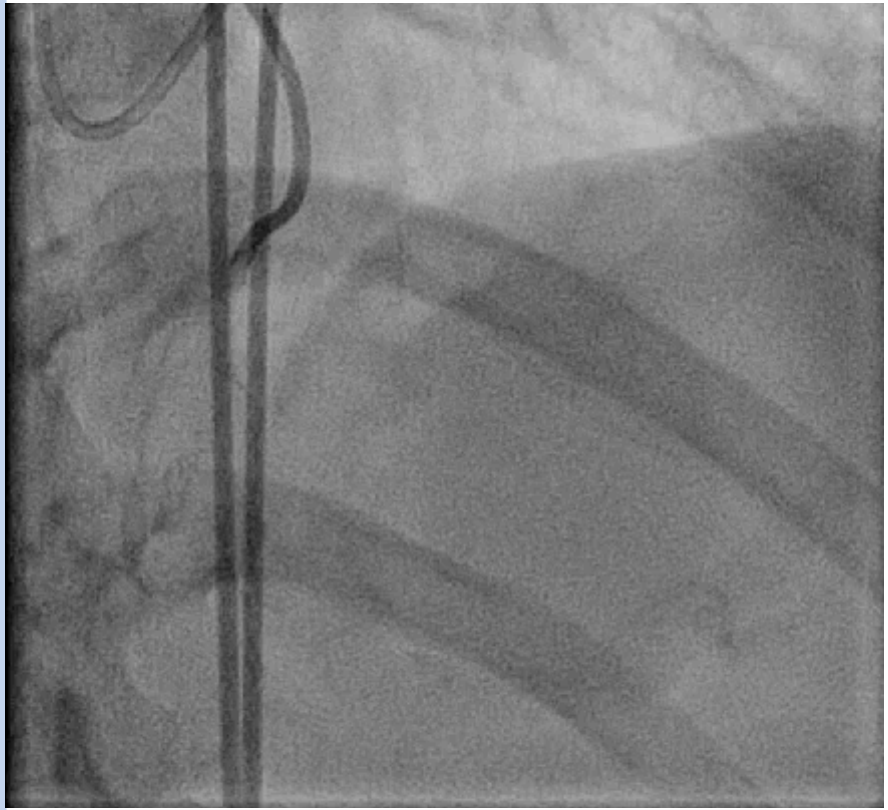
A 308 nm l'intensité lumineuse est + puissante que les liaisons intracellulaires. Ce qui entraine la séparation des ponts de covalence. En se séparant ils produisent des microparticules de – de 5microns qui en mouvement créés de l'énergie.

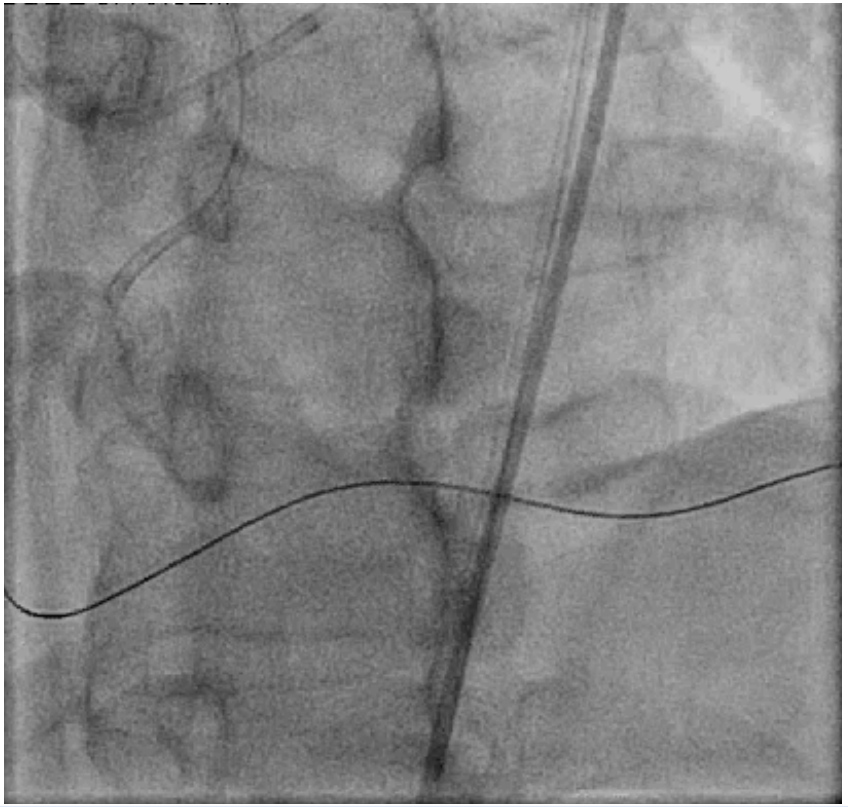
VAPORISATION CELLULAIRE

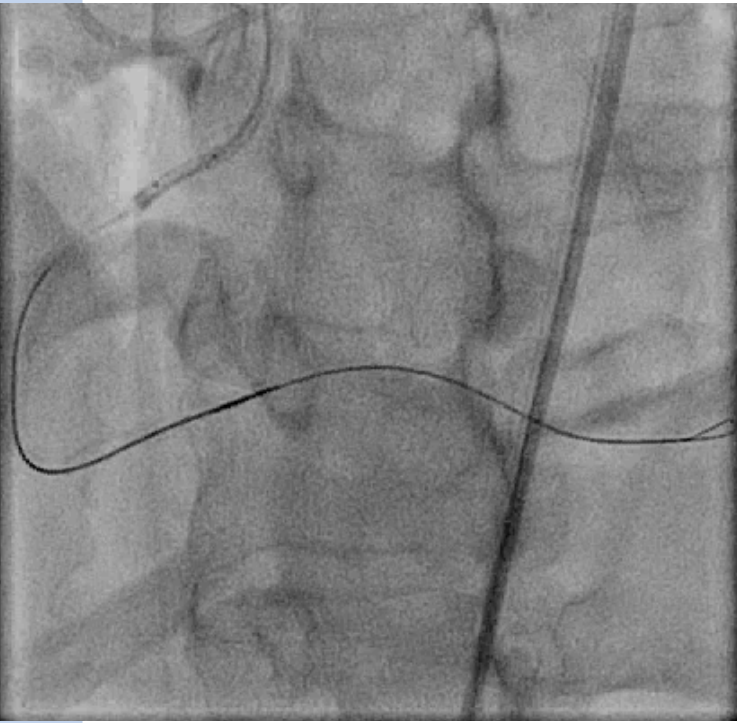
L'énergie et les mouvements produits à l'intérieur de la cellule entrainent la vaporisation du liquide intracellulaire.

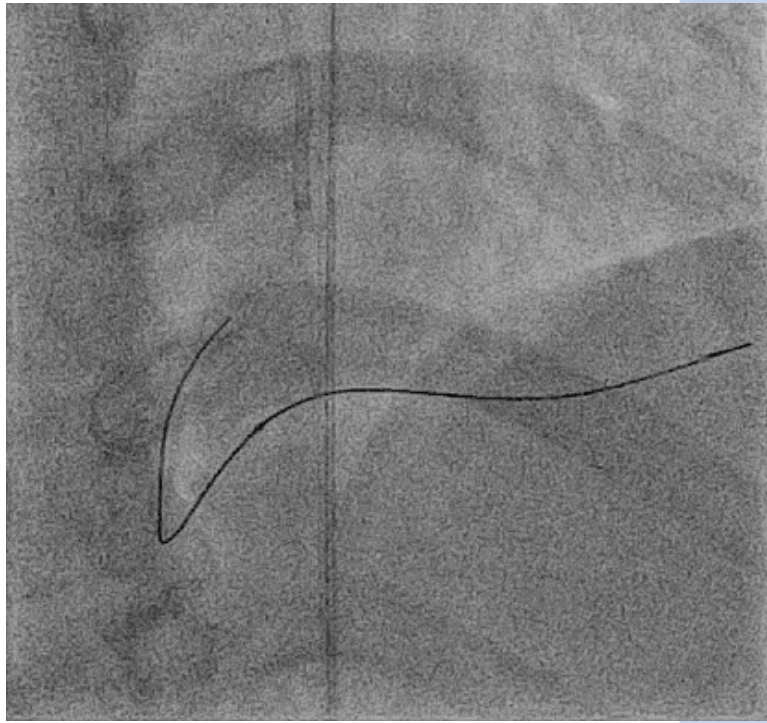
EFFET PHOTOKINETIQUE

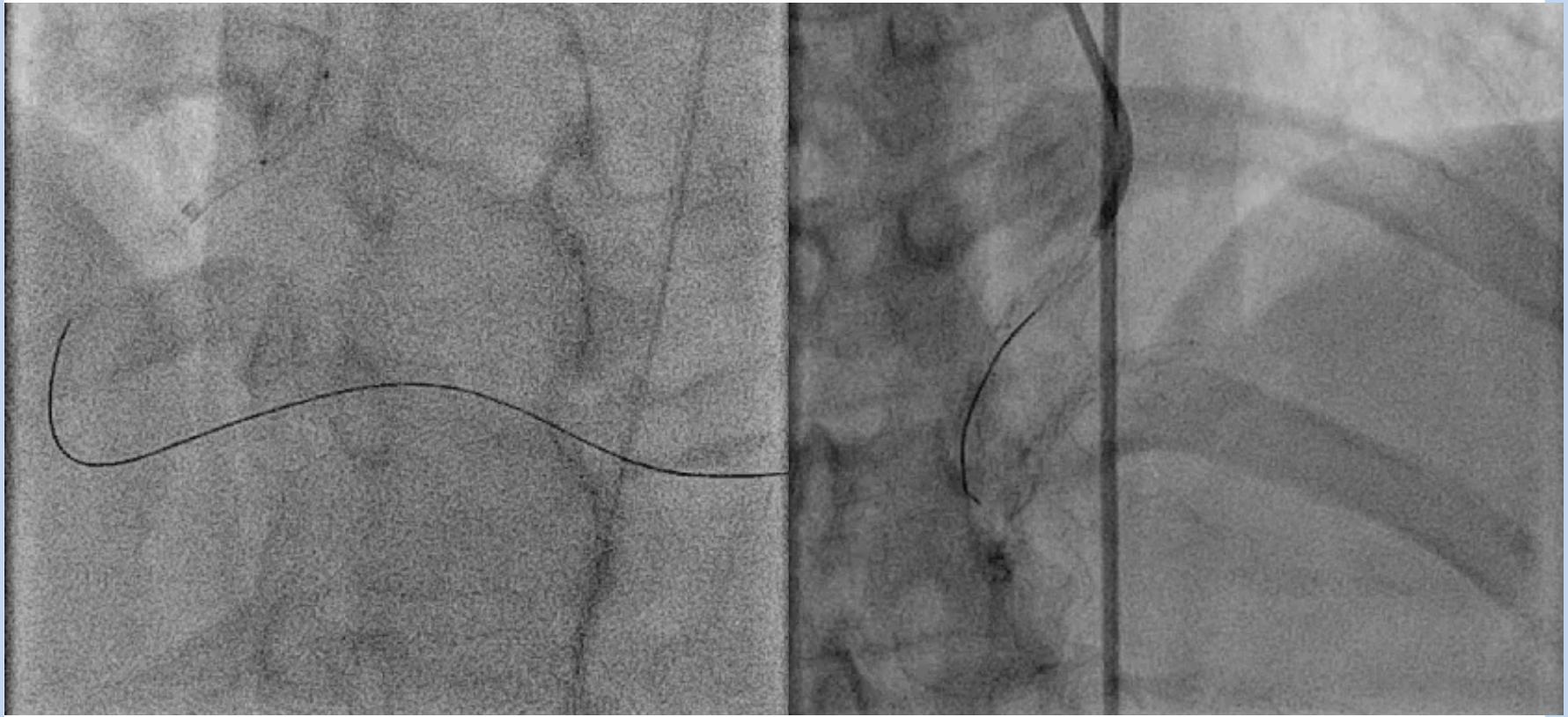
L'expansion des bulles et de la vapeur générée à l'extrémité de la fibre optique permettent sa progression à travers la lumière de l'artère.



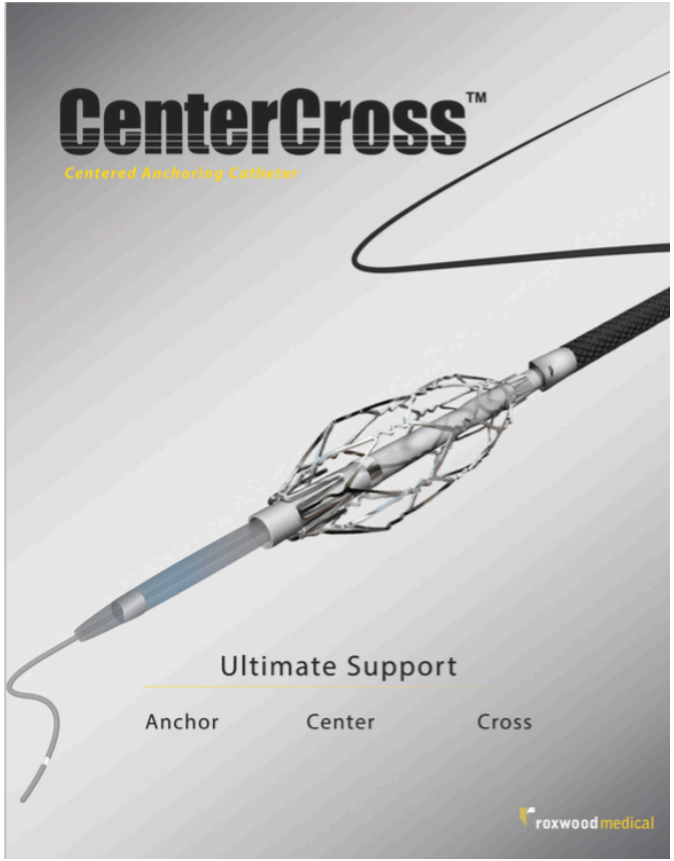


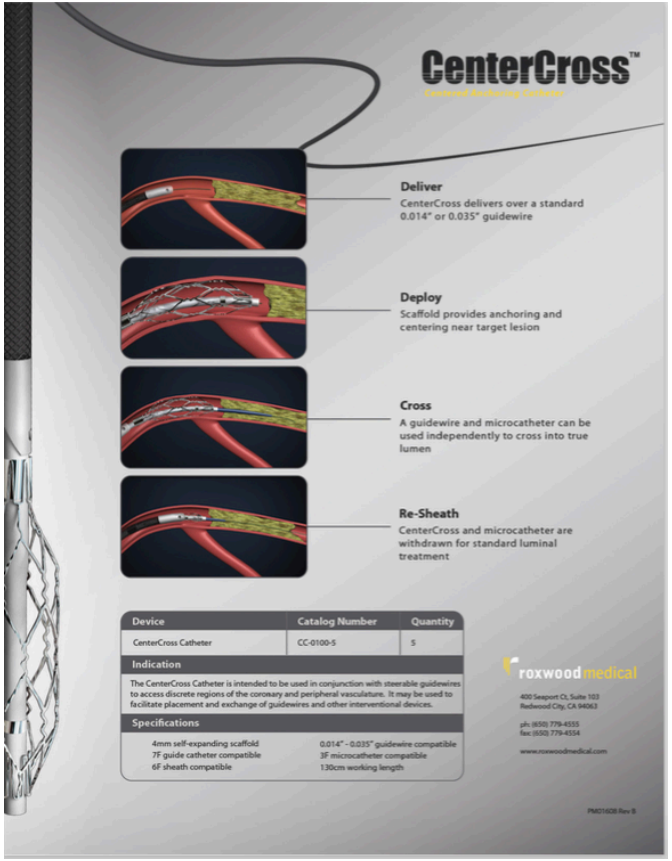


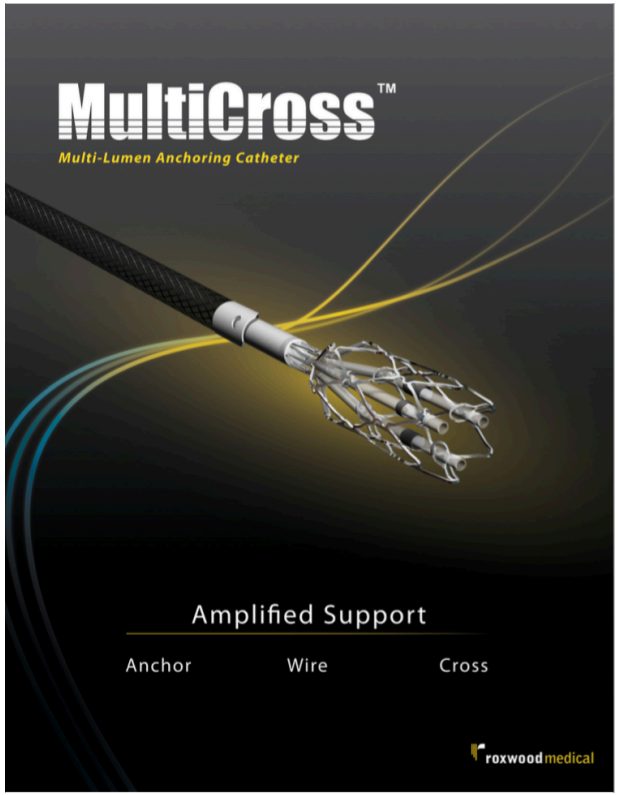


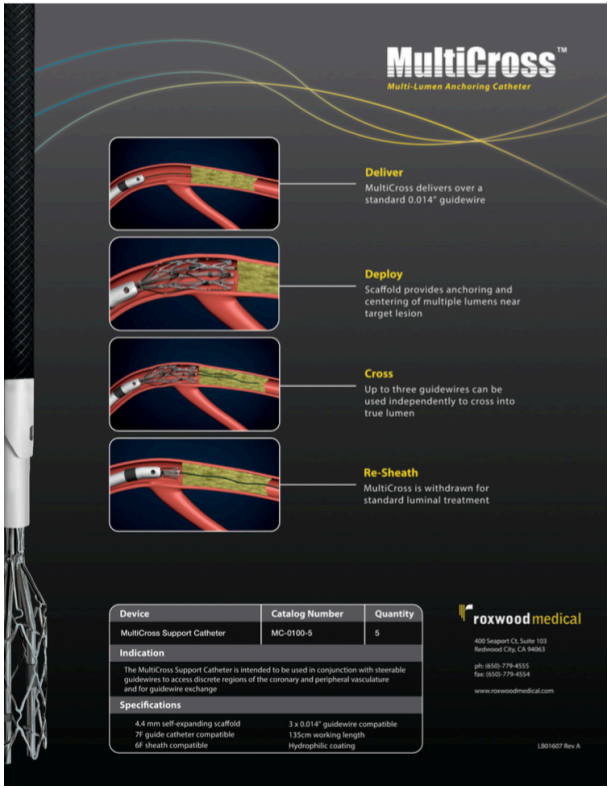


Et bientôt…


CenterCross™
Centered Anchoring Catheter
Ultimate Support
Anchor
Center
Cross
roxwood medical


CenterCross™
Deliver
CenterCross delivers over a standard 0.014" or 0.035" guidewire
Deploy
Scaffold provides anchoring and centering near target lesion
Cross
A guidewire and microcatheter can be used independently to cross into true lumen
Re-Sheath
CenterCross and microcatheter are withdrawn for standard luminal treatment
Device
Catalog Number
Quantity
CenterCross Catheter
CC-0100-5
5
Indication
The CenterCross Catheter is intended to be used in conjunction with steerable guidewires to access discrete regions of the coronary and peripheral vasculature. It may be used to facilitate placement and exchange of guidewires and other interventional devices.
Specifications
4mm self-expanding scaffold
7F guide catheter compatible
6F sheath compatible
0.014" - 0.035" guidewire compatible
3F microcatheter compatible
130cm working length
roxwood medical


MultiCross™
Multi-Lumen Anchoring Catheter
Amplified Support
Anchor
Wire
Cross
roxwood medical


MultiCross™
Multi-Lumen Anchoring Catheter
Deliver
MultiCross delivers over a standard 0.014" guidewire
Deploy
Scaffold provides anchoring and centering of multiple lumens near target lesion
Cross
Up to three guidewires can be used independently to cross into true lumen
Re-Sheath
MultiCross is withdrawn for standard luminal treatment
Device
Catalog Number
Quantity
MultiCross Support Catheter
MC-0100-5
5
Indication
The MultiCross Support Catheter is intended to be used in conjunction with steerable guidewires to access discrete regions of the coronary and peripheral vasculature and for guidewire exchange
Specifications
4.4 mm self-expanding scaffold
7F guide catheter compatible
6F sheath compatible
3 x 0.014" guidewire compatible
135cm working length
Hydrophilic coating
roxwood medical
400 Seaport Ct, Suite 103
Redwood City, CA 94063
ph: (650)-779-4555
fax: (650)-779-4554
www.roxwoodmedical.com
LB01607 Rev A

Actualités en CTO

- Revue de la littérature
- Nouveaux scores
- Nouveaux Devices
- **Futurs congrès**

PALAIS DES CONGRES BIARRITZ 8/9/10 JUIN 2016
www.appac.fr

APPAC ACTUALISATIONS ET PERSPECTIVES EN PATHOLOGIE CARDIOVASCULAIRE

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- Alexandre Avran, MD - Marignane, France
- Nicolas Boudou, MD - Toulouse, France
- Erwan Bressollette, MD - Nantes, France
- Emmanouil Brilakis, MD - Dallas, USA
- Alexander Bufe, MD - Krefeld, Germany
- Christopher Bulier, MD - Toronto, Canada
- Mauro Carlino, MD - Milano, Italy
- Philippe Durand, MD - Paris, France
- Benjamin Faurie, MD - Grenoble, France
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- Thomas Hovasse, MD - Paris, France
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- Artis Kalnins, MD - Riga, Latvia
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- Imre Ungi, MD - Szeged, Hungary
- Daniel Wellenmann, MD - St. Gallen, Switzerland
- Gerald S. Werner, MD - Darmstadt, Germany
- Jaroslaw Wojcik, MD - Lublin, Poland

LEARNING POINTS

This congress, translated in English and French, is divided in 3 modules held over 3 days.

Thursday, June, 30th
Module 1: FIRST STEPS IN CTO PCI
- Starting a CTO program
- Learn & discover CTO tools: microcatheters, guidewires, guiding catheters
- Learn basic CTO techniques: antegrade approach, parallel wire, trapping balloon
- Managing complications of antegrade approach
- Post-procedural management of CTO patients

Friday, July, 1st
Module 2: IMPROVE YOUR SKILLS IN CTO
- Starting a retrograde approach
- Learn about dissection re-entry, snaring technique, externalisation...
- Select approaches according to anatomy and occlusion type
- Learn useful techniques to improve success
- Managing complications of retrograde and dissection re-entry approaches

Saturday, July, 2nd
Module 3: MASTERING CTO
- Management of complex CTO cases: ambiguous cap, uncrossable lesions
- Complementary imaging techniques: IVUS, CT-Scan...
- Use of Laser: complementary recanalization technique
- New techniques and new devices for CTO
- Team-building for CTO
- Complex complications of complex CTOs


SAVE THE DATE
JIF CTO 2016
JOURNÉES INTERACTIVES FRANCOPHONES
JEUDI 1ER
ET VENDREDI 2
DÉCEMBRE 2016
CHU TOULOUSE
Organisation :
Dr Nicolas Boudou