Which Patients with Stable CAD Benefit from PCI in the Post-ISCHEMIA Era?

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PCI relieves symptoms and improves quality of life, but does PCI prevent death or MI?

PCI (BMS) in Stable CAD: COURAGE (n=2,287)



Boden WE et al. NEJM 2007;356:1503-16

FAME 2: 5-year Results

888 pts with stable CAD and 1V, 2V or 3VD w/FFR ≤0.80 randomized to DES vs. MT



Xaplanteris P et al. NEJM 2018;379:250-9. van Nunen LX et al Lancet. 2015;386:1853-60

ISCHEMIA Trial: Patient Flow (n=5179 randomized)



Primary outcome: CV death, MI, hospitalization for resuscitated cardiac arrest, HF or UA



Maron DJ et al. N Engl J Med. 2020;382:1395-1407



Maron DJ et al. N Engl J Med. 2020;382:1395-1407

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Primary endpoint: Pre-specified Important Subgroups

	INV 15.2% 13.1% 11.4% 16.0% 12.7% 15.0% 13.2%	CON 16.3% 15.4% 14.0% 17.6% 16.2% 13.9%	1.08 (0.72, 1.64) 0.91 (0.77, 1.07) 0.93 (0.75, 1.16) 0.92 (0.74, 1.15) 0.86 (0.72, 1.03) 1.11 (0.83, 1.48)	0.44 0.93 0.15 0.54
	15.2% 13.1% 11.4% 16.0% 12.7% 15.0% 13.2%	16.3% 15.4% 14.0% 17.6% 16.2% 13.9%	1.08 (0.72, 1.64) 0.91 (0.77, 1.07) 0.93 (0.75, 1.16) 0.92 (0.74, 1.15) 0.86 (0.72, 1.03) 1.11 (0.83, 1.48)	0.44 0.93 0.15 0.54
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	13.1% 11.4% 16.0% 12.7% 15.0% 13.2%	15.4% 14.0% 17.6% 16.2% 13.9%	0.91 (0.77, 1.07) 0.93 (0.75, 1.16) 0.92 (0.74, 1.15) 0.86 (0.72, 1.03) 1.11 (0.83, 1.48)	0.93 0.15 0.54
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	12.7% 15.0% 13.2%	16.2% 13.9%	0.86 (0.72, 1.03) 1.11 (0.83, 1.48)	0.54
	15.0% 13.2%	13.9%	1.11 (0.83, 1.48)	0.54
	13.2%	15 0%		0.54
	13.2%	15 9%		
		13.570	0.90 (0.76, 1.07)	
	12.7%	12.8%	1.02 (0.70, 1.49)	
				0.99
	7.3%	8.2%	0.94 (0.53, 1.65)	
	8.7%	11.9%	0.97 (0.63, 1.49)	
	17.4%	18.2%	0.95 (0.73, 1.24)	
				0.72
	10.8%	12.2%	0.98 (0.74, 1.28)	
	12.8%	14.0%	0.91 (0.70, 1.19)	
				0.80
	15.6%	16.9%	1.05 (0.68, 1.64)	
	13.8%	16.5%	0.94 (0.74, 1.21)	
	12.7%	14.7%	0.90 (0.72, 1.11)	
	0.75 1 1.5	10.8% 12.8% 15.6% 13.8% 12.7% 0.75 1 1.5 2	10.8% 12.2% 12.8% 14.0% 15.6% 16.9% 13.8% 16.5% 12.7% 14.7% 0.75 1 1.5 2	10.8% 12.2% 0.98 (0.74, 1.28) 12.8% 14.0% 0.91 (0.70, 1.19) 15.6% 16.9% 1.05 (0.68, 1.64) 13.8% 16.5% 0.94 (0.74, 1.21) 12.7% 14.7% 0.90 (0.72, 1.11) 0.75 1 1.5 2

<< Favors INV Favors CON>>



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<< Favors INV Favors CON>>



Outcomes According to the Extent of CAD on CTA

	Events, n		4-y event rate, %			
	Invasive strategy	Conservative strategy	Invasive strategy	Conservative strategy	Difference (95% Cl), %	Interaction <i>P</i> value
Cardiovascular death or myocardial infarction						0.33
1-Vessel CAD ≥50% (N=179)	3	4	3.3 (0.9 to 8.6)	8.7 (2.5 to 19.9)	-5.4 (-14.9 to 4.2)	
1-Vessel CAD ≥70% or 2-vessel ≥50% (N=743)	26	25	8.8 (5.7 to 12.8)	8.7 (5.6 to 12.5)	0.2 (-4.7 to 5.1)	•
2-Vessel CAD ≥70% or 3-vessel ≥50% or 70% proximal LAD (N=894)	38	48	10.2 (7.2 to 13.9)	12.8 (9.5 to 16.7)	-2.6 (-7.5 to 2.3)	•
3-Vessel CAD ≥70% or 2-vessel ≥70% in- cluding proximal LAD (N=659)	34	50	11.6 (8.1 to 15.7)	17.9 (13.4 to 22.8)	-6.3 (-12.4 to -0.2)	
		c	ON INV	·		
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	Duke 1≥70% N=	Score 4 or 2V ≥50% =743	8 - 6 - Duke	Score 5	¹⁸ - ¹⁶ - ¹⁴ - N=659	
-01 -010				2V ≥70% or 3V ≥50% or 70% prox LAD	12 10 8 6 4 2 2 3V ≥70% c	or 2V ≥70% w/prox LAD
	1 2	2 3 4	0 - 5 0 1	2 3 4 5		3 4 !
Follow-up time (years from randomization)	Follow-up time (years from randomiza	tion) Follow-up tin	ne (years from randomization)	Follow-up time (years fr	om randomization)
Subjects at risk Subj CON 88 88 74 47 26 14 382 INV 91 90 74 49 24 9 361	ects at Risk 368 29 336 28	01 207 131 30 202 113	Subjects at risk 70 455 436 52 439 406	345 238 130 56 330 212 125 52	Subjects at risk 316 284 222 343 313 252	151 98 3 188 120 5

Reynolds HR et al. Circulation. 2021;144:1024-38

398 Patients (7.7%) had LVEF 35% - <45% or Prior HF



Lopes RD et al. Circulation. 2020;142:1725–35

ISCHEMIA: Myocardial Infarction



Maron DJ et al. N Engl J Med. 2020;382:1395-1407

ISCHEMIA: Myocardial Infarction

Procedural MI Types 4a or 5 MI

Non-procedural MI Types 1, 2, 4b, or 4c MI





ISCHEMIA: Spontaneous Type 1 MI by Strategy



Spontaneous type 1 MI were significantly reduced with the invasive strategy
 Effect was present after PCI and CABG (and medical Rx)



Chaitman BR et al. Circulation 2021;143:790-804

ISCHEMIA: Cardiovascular Death





Maron DJ et al. N Engl J Med. 2020;382:1395-1407

Largest Meta-analysis of Elective Revasc in Stable CAD

25 trials, 19,806 pts rand to PCI/CABG vs MT, mean 5.7-year FU

	Revascularis	ation+MT		MT alone		Cardiac	mortality				
ypr	Events	P-Y	Events	P-Y				RR	95%-CI	Weight	
Mathur (1979)	8	308.00	12	330.00				0.71	[0.29; 1.75]	3.0%	
ECSS (1988)	46	4728.00	76	4476.00		-,		0.57	[0.40; 0.83]	11.7%	
AVERT (1999)	1	265.50	1	246.00	<	•		→ 0.93	[0.06; 14.81]	0.3%	
MASS-1 (1999)	6	710.00	2	360.00	2			— 1.52	[0.31; 7.54]	1.0%	
RITA-2 (2003)	13	3528.00	22	3598.00		- E	-	0.60	[0.30; 1.20]	4.8%	
TIME (2004)	32	612.00	34	592.00				0.91	[0.56; 1.48]	8.2%	
INSPIRE (2006)	1	104.00	2	101.00	<	• +		0.49	[0.04; 5.36]	0.5%	
COURAGE (2007)	23	5285.40	25	5234.80				0.91	[0.52; 1.61]	6.5%	
SWISSI-2 (2007)	3	979.20	22	1071.00	~ =	- 1		0.15	[0.04; 0.50]	1.7%	
JSAP (2008)	2	633.60	3	633.60		•		0.67	[0.11; 3.99]	0.8%	
BARI 2D (2009)	72	5880.00	64	5960.00		- H	+	1.14	[0.81; 1.60]	12.9%	
MASS-2 (2010)	51	4080.00	42	2030.00		-		0.60	[0.40; 0.91]	10.2%	
DEFER (2015)	4	1350.00	5	1365.00	_			0.81	[0.22; 3.01]	1.5%	
ORBITA (2018)	0	11.55	0	10.45	<u> </u>	•		→ 0.90	[0.02; 45.60]	0.2%	
REVASC (2018)	0	101.00	2	104.00	~ +			0.21	[0.01; 4.29]	0.3%	
FAME-2 (2018)	11	2252.88	7	2222.64			*	1.55	[0.60; 4.00]	2.7%	
EURO-CTO (2019)	7	777.00	2	411.00				— 1.85	[0.38; 8.91]	1.1%	
DECISION-CTO (2	019) 8	1668.00	14	1592.00				0.55	[0.23; 1.30]	3.2%	
ISCHEMIA (2020)	92	8281.60	111	8291.20			•	0.83	[0.63; 1.09]	15.6%	
ISCHEMIA-CKD (2	.020) 76	853.60	82	855.80			-	0.93	[0.68; 1.27]	13.9%	
Random-effects m	odel 456	42409.33	528	39484.49		•		0.79	[0.67; 0.93]	100.0%	
Heterogeneity: $I^2 = 2$	$1\%, \tau^2 = 0.0251$, <i>p</i> = 0.19			1 1	1 1	1 1	1			
Test for overall effect:	z = -2.76 (p <	0.01)		0	.1 0.2	0.5 1	2 5	10			
			Favo	urs Revaso	cularisati	on+MT	Favours M	T alone			

Cardiac death reduced 21% (95% CI 7% - 33%) |²=21%

Navarese E et al. EHJ 2021;42:4638-51

Largest Meta-analysis of Elective Revasc in Stable CAD 25 trials, 19,806 pts rand to PCI/CABG vs MT, mean 5.7-year FU



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Largest Meta-analysis of Elective Revasc in Stable CAD

25 trials, 19,806 pts rand to PCI/CABG vs MT, mean 5.7-year FU

	Revascularis	ation+MT		MT alone	Spontan	neous MI				
dy	Events	P-Y	Events	P-Y			RR	95%-0	I Weight	
Mathur (1979)	9	308.00	13	330.00		_	0.74	[0.32; 1.74] 2.6%	
ACIP (1997)	7	384.00	18	732.00			0.74	[0.31; 1.77] 2.5%	
ACME-1 (1997)	10	575.00	8	560.00		*	1.22	[0.48; 3.08] 2.2%	
ACME-2 (1997)	5	255.00	5	250.00			0.98	[0.28; 3.39] 1.3%	
AVERT (1999)	5	265.50	4	246.00		+	1.16	[0.31; 4.31] 1.2%	
MASS-1 (1999)	7	710.00	3	360.00		•	1.18	[0.31; 4.58] 1.1%	Spontaneous M
RITA-2 (2003)	25	3528.00	23	3598.00			1.11	[0.63; 1.95] 5.3%	opontanoodo m
TIME (2004)	20	612.00	21	592.00			0.92	[0.50; 1.70] 4.6%	raduard 260/
COURAGE (2007)	108	5285.40	119	5234.80		-	0.90	[0.69; 1.17] 14.7%	reaucea 20%
SWISSI-2 (2007)	11	979.20	40	1071.00			0.30	[0.15; 0.59] 4.0%	
JSAP (2008)	3	633.60	7	633.60			0.43	[0.11; 1.66] 1.1%	(95% CI 14% - 36%)
BARI 2D (2009)	96	5880.00	138	5960.00			0.71	[0.54; 0.91] 14.7%	l ² =21%
MASS-2 (2010)	48	4080.00	42	2030.00			0.57	[0.38; 0.86] 8.5%	,.
DEFER (2015)	9	1350.00	2	1365.00			→ 4.55	[0.98; 21.06] 0.9%	
REVASC (2018)	0	101.00	1	104.00	· · · · · · · · · · · · · · · · · · ·		- 0.34	[0.01; 8.43] 0.2%	
FAME-2 (2018)	29	2235.00	45	2205.00	- 10		0.64	[0.40; 1.01] 7.2%	
EURO-CTO (2019)	6	777.00	2	411.00		•	— 1.59	[0.32; 7.86] 0.8%	
DECISION-CTO (2	019) 7	1668.00	7	1592.00			0.95	[0.33; 2.72] 1.8%	
ISCHEMIA (2020)	130	8281.60	196	8291.20			0.66	[0.53; 0.83] 17.0%	
ISCHEMIA-CKD (2	020) 37	853.60	52	855.80			0.71	[0.47; 1.09] 8.3%	
Random-effects m Heterogeneity: $I^2 = 2^{2}$	odel 572 1%, τ ² = 0.0192	38761.90 2, p = 0.19	746	36421.40			0.74	[0.64; 0.86] 100.0%	
Test for overall effect:	z = -4.00 (p <	0.01)		0.	1 0.2 0.5 1	2 5	10			
			Favor	urs Revasc	ularisation+MT	Favours M	T alone			

Navarese E et al. *EHJ* 2021;42:4638–51

Largest Meta-analysis of Elective Revasc in Stable CAD 25 trials, 19,806 pts rand to PCI/CABG vs MT, mean 5.7-year FU



Navarese E et al. EHJ 2021;42:4638-51

Largest Meta-analysis of Elective Revasc in Stable CAD 25 trials, 19,806 pts rand to PCI/CABG vs MT, mean 5.7-year FU Results consistent with PCI vs CABG, and with vs without ACS and CTO

F	Revascı + Me	ularizati ed Rx	on Me a	ed Rx Ione				
Cardiac death	Event	s P-Y	Events	B P-Y	ï	RR [95% CI]	P-value	
All	456	42406.3	528	39487.49		0.79 [0.67;0.93]	< 0.01	21% ↓
Without post-ACS	452	41326.1	504	38312.49		0.82 [0.73;0.94]	< 0.01	18% ↓
Without CTO	441	39860 3	510	37380 49	⊢ ⊢	0 80 [0 67:0 95]	< 0.01	20%
Without CABG	273	26700.3	332	26331.49	↓ ●	0.83 [0.71;0.98]	0.03	17%↓
Spontaneous M	I .							
All	572	38610.7	746	36259.4		0.74 [0.64;0.86]	< 0.01	26% ↓
Without post-ACS	565	37782.7	708	35350.4		0.75 [0.67;0.84]	< 0.01	25% ↓
Without CTO	563	36215.9	738	34314.4	⊢ 	0.74 [0.63:0.86]	< 0.01	26%
Without CABG	412	27783.9	550	27741.4	·•	0.78 [0.64;0.94]	0.01	22% ↓
					· · · · · ·	-		
					0.5 0.7 0.9 1.0	1.1		
				Favors	$R_{OVASC} + M_{Od} R_{V} -$	Favors Mod Rx a	alono	

Navarese E et al. EHJ 2021;42:4638-51

4 Randomized Trials of Left Main PCI with DES vs. CABG (n=4,394) **Primary Endpoint: All-cause Mortality**



Sabatine MS et al. Lancet 2021;398:2247-57

4 Randomized Trials of Left Main PCI with DES vs. CABG (n=4,394) Two Trials with 10-Year Mortality Data



Sabatine MS et al. Lancet 2021;398:2247-57

4 Randomized Trials of Left Main PCI with DES vs. CABG (n=4,394) CV Mortality and SYNTAX Score: Spline analysis



Sabatine MS et al. Lancet 2021;398:2247-57

4 Randomized Trials of Left Main PCI with DES vs. CABG (n=4,394) **Stroke**



Sabatine MS et al. Lancet 2021;398:2247-57

PCI vs CABG in Multivessel Disease

Individual-patient-data pooled-analysis, 8 RCTs, 7,040 pts



Head SJ et al. Lancet 2018;391:939-48

PCI vs CABG in Multivessel Disease

Individual-patient-data pooled-analysis, 8 RCTs, 7,040 pts



Head SJ et al. Lancet 2018;391:939-48; Head SJ et al. J Am Coll Cardiol 2018;72:386–98

QOL Primary Outcome: Benefit of Invasive Rx on SAQ Summary Score

Typical Patient in ISCHEMIA



*95% Highest Posterior Density Interval



Spertus JA et al. N Engl J Med. 2020;382:1408-1419

Mean SAQ Summary Benefit by Baseline Angina Frequency



Baseline SAQ-7 Angina Frequency Score

Spertus JA et al. N Engl J Med. 2020;382:1408-1419



Probability of No Angina by Baseline Angina Frequency



Baseline SAQ-7 Angina Frequency Score

Spertus JA et al. N Engl J Med. 2020;382:1408-1419



Updated Meta-analysis of Revascularization vs. MT in SIHD 14 RCTs, 14,877 pts, mean weighted 4.5-year FU

Most trials enrolled pts with preserved LVEF, low symptom burden and excluded LM ds. Revasc arm: Revasc 87.5% (PCI 71.3%, CABG 16.2%). Med arm: Revasc 31.9% during FU.

Freedom from Angina

	Revascul	arization	Medical	Therapy				
Trial	Event	Ν	Event	Ν	RR (95% CI)	RR (95% CI)	% Weight	
Stents <50%								_
ACME-1	53	115	42	112		1.23 (0.82, 1.84)	3.14	
ACME-2	27	51	18	50		1.47 (0.81, 2.67)	1.57	
AVERT	95	177	67	164		1.31 (0.96, 1.80)	4.80	
DEFER	51	90	61	91	— ——	0.85 (0.58, 1.23)	3.63	
MASS-1	92	142	17	72	_	2.74 (1.64, 4.60)	2.04	
RITA-2	252	504	231	514		1.11 (0.93, 1.33)	10.09	Freedom from angina
D+L Subtotal (I	-squared = 6	6.0%, p = 0).012)		\diamond	1.29 (1.00, 1.66)	25.28	i i ccuoin nom angina
I-V Subtotal					\diamond	1.20 (1.05, 1.36)		RR (95% CI) =
Stents ≥50%								
BARI 2D	800	1176	715	1192		1.13 (1.03, 1.25)	15.85	1.12 (1.04, 1.21)
COURAGE	316	1149	296	1138	÷	1.06 (0.90, 1.24)	11.38	
X- FAME-2	326	447	308	441	÷	1.04 (0.89, 1.22)	11.57	Favors revasc
DFS * ISCHEMIA	1707	2588	1588	2591	—	1.08 (1.01, 1.15)	18.53	
* ISCHEMIA-CK	D 249	388	254	389		0.98 (0.83, 1.17)	10.32	
MASS-2	245	408	92	203		1.32 (1.04, 1.68)	7.07	
D+L Subtotal (I	-squared = 0	.6%, p = 0.4	412)		Q	1.09 (1.03, 1.14)	74.72	
I-V Subtotal	-		-		0	1.09 (1.04, 1.14)		
D+L Overall (I-s	quared = 49.	3%, p = 0.0	027)		•	1.12 (1.04, 1.21)	100.00	
I-V Overall			,		Ý.	1.10 (1.05, 1.15)		
Test for Interacti	on P = 0.20							
					.1 1	10		
				Reva	cularization worse Medical thera	ny worse		

Updated Meta-analysis of Revascularization vs. MT in SIHD 14 RCTs, 14,877 pts, mean weighted 4.5-year FU

Most trials enrolled pts with preserved LVEF, low symptom burden and excluded LM ds. Revasc arm: Revasc 87.5% (PCI 71.3%, CABG 16.2%). Med arm: Revasc 31.9% during FU.

Unstable Angina

Trial Event N Event N RR (95% Cl) RR (95% Cl) % Weight Stents <50% ACME-1 21 115 34 112 0.60 (0.35, 1.04) 8.05 ACME-2 18 51 20 60 0.40 (0.7, 1.67) 7.54 ACME-2 18 51 20 60 0.41 (1.04, 4.28) 7.14 MASS-1 35 142 12 72 1.14 (1.04, 7.2.65) 7.43 RTA-2 50 504 47 514 0.50 (0.32, 1.04) 9.85 D+L Subtotal (I-squared = 56.0%, p = 0.059) 1.05 (0.82, 1.35) 1.09 (0.74, 1.60) 38.95 I-V Subtotal Stents ≥50% 0.38 (0.29, 0.49) 9.38 0.064 (0.45, 0.52) COURAGE 135 1149 125 1138 0.50 (0.27, 0.91) 7.74 *FAME-2 28 447 93 441 0.30 (0.19, 0.45) 8.68 OLF COURAGE 1388 6 389 0.17 (0.02, 1.39) 2.24		Revascu	arization	Medical	Therapy				
Stents <50%	Trial	Event	Ν	Event	Ν	RR (95% CI)	RR (95% CI)	% Weight	_
ACME-1 21 115 34 112 0.60 0.35, 1.04 8.05 ACME-2 18 51 20 50 0.88 0.47, 1.67 7.54 AVERT 25 177 11 164 1.04 2.11 1.04, 2.28 7.14 MASS-1 35 142 12 72 1.48 0.77, 2.85 7.43 RITA-2 50 50.4 47 514 1.08 0.73, 1.62 8.80 DE4. Subtotal (I-squared = 56.0%, p = 0.059) 1.05 0.74, 1.60 38.95 0.64 (0.44, 1.36) 9.43 LV Subtotal 79 1176 212 1192 0.38 0.29, 0.49) 9.38 0.64 (0.45, 0.52) COURAGE 135 1149 125 1138 0.30 0.19, 0.44 8.68 0.50 0.27, 0.91) 7.74 Favors revas Stents ≥50% 54 1.07 0.48 8.68 0.50 0.51 0.64 (0.45, 0.52) DES *16CHEMIA - CKD 1 388 6 389 0.38	Stents <50%					: 1			_
MASS-1 35 142 12 72 RITA-2 50 504 47 514 D+L Subtotal (L-squared = 56.0%, p = 0.059) 7.43 Stents ≥50% 1.09 (0.74, 1.60) 38.95 Constant Constant RR (95% Cl) BARI 2D 79 1176 212 1138 0.38 (0.29, 0.49) 9.38 Constant RR (95% Cl) 0.64 (0.45, 0.59) DES *FAME-2 28 447 93 441 0.38 (0.29, 0.49) 9.38 0.64 (0.45, 0.59) 0.64 (0.45, 0.59) DES *FAME-2 28 447 93 441 0.38 (0.19, 0.45) 8.68 0.50 (0.27, 0.91) 7.74 Favors revas JSAP 6 192 16 192 0.38 (0.15, 0.96) 5.91 JSAP 6 192 106 148 0.26 (0.17, 0.39) 8.71 D+L Subtotal 108 49 203 0.26 (0.27, 0.91) 7.74 Favors revas MASS-2 73 408 49 203 <td>ACME-1 ACME-2 AVERT</td> <td>21 18 25</td> <td>115 51 177</td> <td>34 20 11</td> <td>112 50 164</td> <td></td> <td>0.60 (0.35, 1.04) 0.88 (0.47, 1.67) 2.11 (1.04, 4.28)</td> <td>8.05 7.54 7.14</td> <td></td>	ACME-1 ACME-2 AVERT	21 18 25	115 51 177	34 20 11	112 50 164		0.60 (0.35, 1.04) 0.88 (0.47, 1.67) 2.11 (1.04, 4.28)	8.05 7.54 7.14	
R1A-2 50 504 47 514 1.08 (0.73, 1.62) 8.80 D-L Subtotal 1.09 (0.74, 1.60) 38.95 1.09 (0.74, 1.60) 38.95 RR (95% CI) Stents ≥50% 50.00000000000000000000000000000000000	MASS-1	35	142	12	72		1.48 (0.77, 2.85)	7.43	
Stents ≥50% RR (95% CI) BARI 2D 79 1176 212 1192 - 0.38 (0.29, 0.49) 9.38 0.64 (0.45, 0.5) COURAGE 135 1149 125 1138 - - 0.38 (0.29, 0.49) 9.38 0.604 (0.45, 0.5) Stents ≥50% *FAME-2 28 447 93 441 - - 0.30 (0.19, 0.45) 8.68 0.50 (0.27, 0.91) 7.74 Favors revas *ISCHEMIA 16 2588 32 2591 - - 0.38 (0.19, 0.45) 8.68 0.50 (0.27, 0.91) 7.74 Favors revas JSAP 6 192 16 192 - 0.38 (0.15, 0.96) 5.91 0.38 (0.15, 0.96) 5.91 5.91 MASS-2 73 408 49 203 - - 0.74 (0.52, 1.06) 8.96 0.26 (0.17, 0.39) 8.71 D+L Subtotal (I-squared = 88.8%, p = 0.000) IV - - 0.64 (0.45, 0.92) 100.00 D+L Overall (I-squared = 87.1%, p = 0.000) - - - 0.64 (0.45, 0.92) 100.00 <td>RITA-2 D+L Subtotal (I- I-V Subtotal</td> <td>50 squared = 56.0%</td> <td>504 %, p = 0.059)</td> <td>47</td> <td>514</td> <td></td> <td>1.08 (0.73, 1.62) 1.09 (0.74, 1.60) 1.05 (0.82, 1.35)</td> <td>8.80 38.95</td> <td>Unstable angina</td>	RITA-2 D+L Subtotal (I- I-V Subtotal	50 squared = 56.0%	504 %, p = 0.059)	47	514		1.08 (0.73, 1.62) 1.09 (0.74, 1.60) 1.05 (0.82, 1.35)	8.80 38.95	Unstable angina
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Stents ≥50%								RR (95% CI) =
DES *ISCHEMIA 16 2588 32 2591 0.50 (0.27, 0.91) 7.74 Favors revas *ISCHEMIA-CKD 1 388 6 389 0.17 (0.02, 1.39) 2.24 Favors revas JSAP 6 192 16 192 0.38 (0.15, 0.96) 5.91 MASS-2 73 408 49 203 0.74 (0.52, 1.06) 8.96 TIME 28 153 106 148 0.45 (0.29, 0.71) 61.05 I-V Subtotal I-Subtotal I-squared = 87.1%, p = 0.000) 0.64 (0.45, 0.92) 100.00	BARI 2D COURAGE *FAME-2	79 135 28	1176 1149 447	212 125 93	1192 1138 441	-=-	0.38 (0.29, 0.49) 1.07 (0.84, 1.36) 0.30 (0.19, 0.45)	9.38 9.43 8.68	0.64 (0.45, 0.92)
MASS-2 73 408 49 203 0.74 (0.52, 1.06) 8.96 TIME 28 153 106 148 0.26 (0.17, 0.39) 8.71 D+L Subtotal (I-squared = 88.8%, p = 0.000) 0.45 (0.29, 0.71) 61.05 I-V Subtotal 0.54 (0.47, 0.62) 0.64 (0.45, 0.92) 100.00		16 D 1 6	2588 388 192	32 6 16	2591 389 — 192		0.50 (0.27, 0.91) 0.17 (0.02, 1.39) 0.38 (0.15, 0.96)	7.74 2.24 5.91	Favors revasc
D+L Overall (I-squared = 87.1%, p = 0.000) 0.64 (0.45, 0.92) 100.00	MASS-2 TIME D+L Subtotal (I-	73 28 squared = 88.8%	408 153 6, p = 0.000)	49 106	203 148		0.74 (0.52, 1.06) 0.26 (0.17, 0.39) 0.45 (0.29, 0.71) 0.54 (0.47, 0.62)	8.96 8.71 61.05	
I-V Overall 0.63 (0.56, 0.71)	D+L Overall (I-se	quared = 87.1%	, p = 0.000)			·	0.64 (0.45, 0.92) 0.63 (0.56, 0.71)	100.00	
Iest for interaction P = 0.003 I I .1 1 10	Test for Interaction	P = 0.003				.1 1 10	1		_

Bangalore S et al. Circulation 2020:on-line

EXCEL

SAQ – Angina Frequency

SAQ – Physical Limitations

Months

 $\Delta = 0.7$

p = 0.55

36

 $\Lambda = -1.9$

p = 0.07

36

90 100 1905 pts with Left 90 80 Main Disease 80 Randomized to 70 70 $\Delta = 1.5$ $\Delta = -0.3$ $\Lambda = -0.8$ $\Delta = 16.1$ $\Delta = 1.3$ p = 0.03 p = 0.63 p < 0.01 p = 0.24p = 0.21PCI with Second 60 60 24 24 0 1 12 36 0 1 12 Months Months **Generation Xience** SAQ - Quality of Life **SAQ - Treatment Satisfaction** DES vs CABG 90 100 80 **Formal** 95 70 90 60 **Quality-of-Life** 50 85 $\Lambda = 1.3$ $\Delta = 1.0$ $\Lambda = 0.3$ $\Lambda = 3.4$ $\Lambda = -2.4$ **Study** 40 . p < 0.01 p = 0.63p = 0.02p = 0.02p = 0.0880 30 0 1 12 24 36 0 1 12 24

Baron SJ et al. JACC 2017;70:3113-22

Months



⁻⁻⁻⁻ PCI

60

60

STEMI: From PAMI to <u>23</u> RCTs of PCI vs. Lysis N = 7,739



Keeley, Grines. Lancet 2003;361:13-20

NSTEACS: Early Invasive vs. Conservative Strategies

8,375 pts randomized in 7 trials, mean 2-year FU

Mortality

Myocardial infarction



Bavry AA et al. JACC 2006;48:1319-25

Who Are Appropriate Patients for PCI in the Post-ISCHEMIA Era?

- Patients with stable CAD (after a heart team discussion for LM/MVD ds.)
 - Left main disease: For improvement in survival
 - Heart failure and reduced LVEF: For improvement in survival
 - Extensive CAD: For improvement in event-free survival
 - Symptomatic patients: For improvement in symptoms and quality-of-life
- Patients with acute coronary syndromes (NSTEMI and STEMI)
 - For improvement in prognosis: Freedom from death and MI