

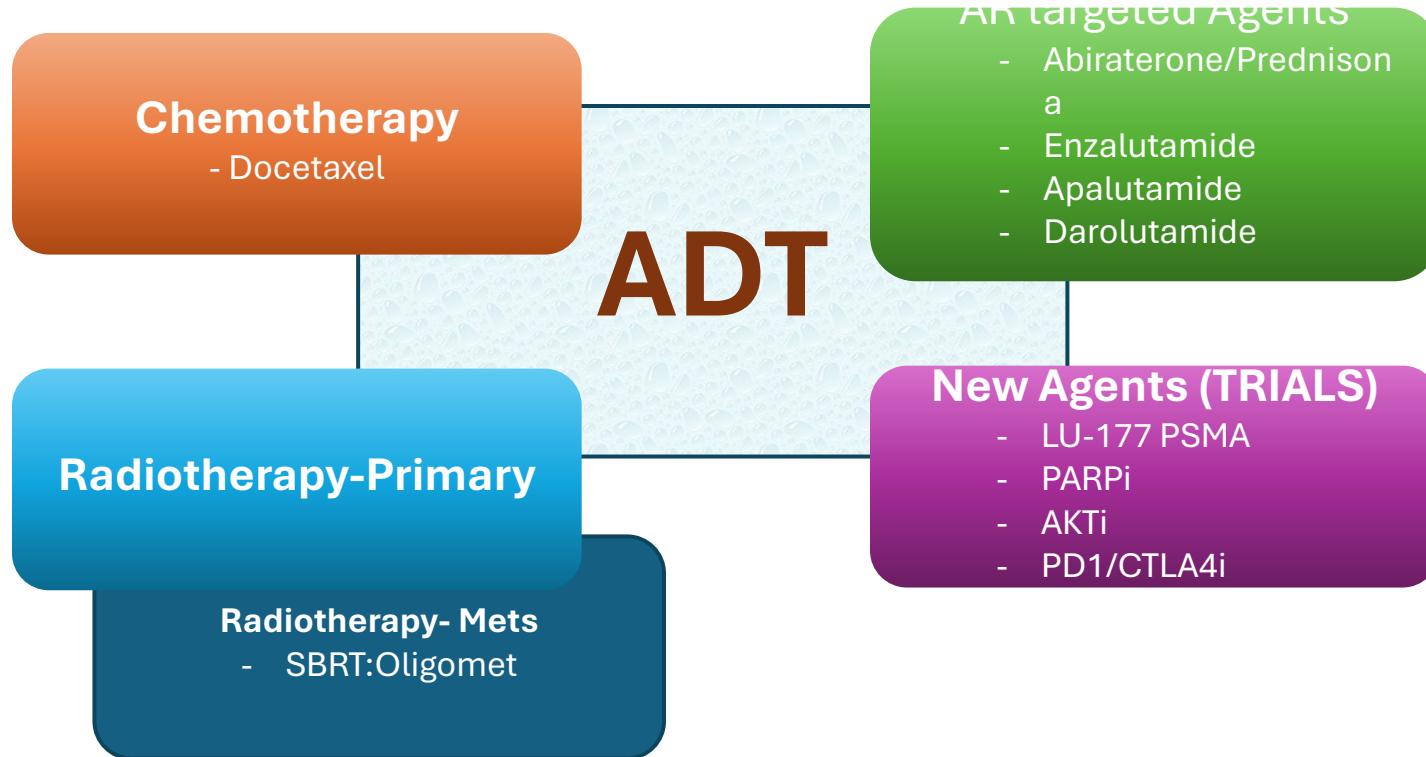
# Systemic therapy for mHSPC: doublet or triplet therapy - who, when and how?

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# Conflicts of interest

- Employment: None
- Consultant or Advisory Role: Astra Zeneca, Sanofi, Janssen, MSD
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- Grant support: None
- Other (Speaking and travel grants): Janssen, Astellas, Pfizer, Ipsen, Bristol, Astra-Zeneca, Roche, MSD

# Treatments available in mCSPC



**Male 71y gBRCA2mut.  
cT2N1M1b High Volume  
PSA >1000 ng/ml**



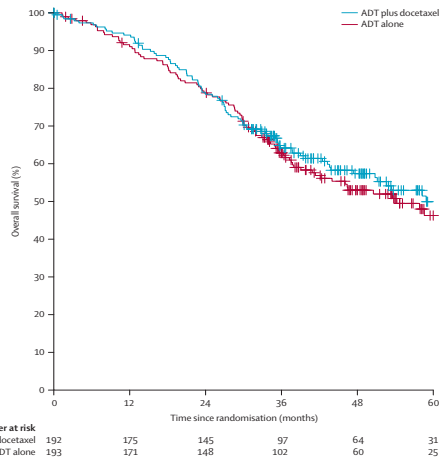
**Male 55 y. Prostate  
Cancer cT4N0M1b**  
Adenocarcinoma Gleason 8, PSA 84 ng/mL



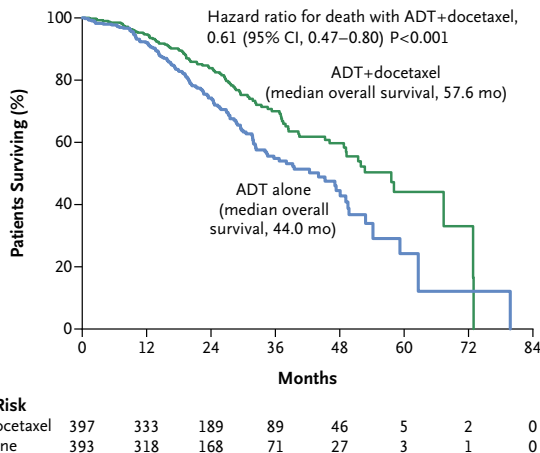


# Randomized trials using ADT +/- Docetaxel

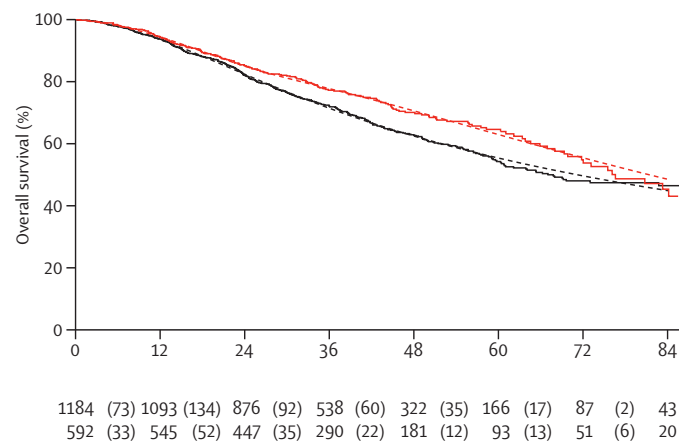
## GETUG-15



## CHAARTED



## STAMPEDE



Study	HR	95% CI
GETUG-15	0,88	0.68-1.14
CHAARTED	0,72	0.59-0.89
STAMPEDE	0,78	0.66-0.92

Gravis G. Lancet Oncol 2013  
 Sweeney C. N Engl J Med 2015  
 Kyriakopoulos. J Clin Oncol 2018  
 James N. N Engl J Med 2016

# STOPCAP M1 Meta-analysis Individual data

- **Individual data from 3 Clinical trials**
- **2261 patients (98% of those randomised)**
- **Median follow-up of 72 months (IQR 55–85)**
- **No strong evidence of differences in effect between trials**

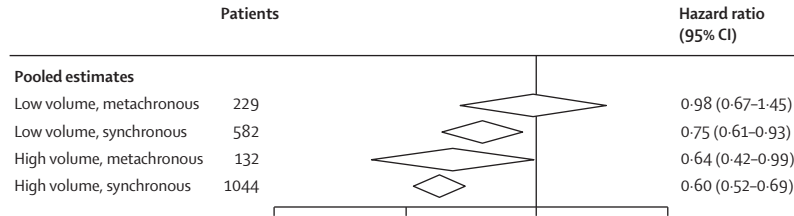
**OS** HR:**0·79** (95%CI 0·70-0·88;  
p<0·0001)  
**PFS** HR **0·70**, (95%CI 0·63 to 0·77;  
p<0·0001)  
**FFS** HR **0·64**, (95%CI 0·58 to 0·71;  
p<0·0001)  
**5-year absolute improvements ~  
9–11%**

	GETUG-AFU15 <sup>5</sup>	CHAARTED <sup>6</sup>	STAMPEDE <sup>7</sup>
Accrual period	October, 2004, to December, 2008	July, 2006, to November, 2012	November, 2005, to March, 2013
Number of patients randomly assigned	385	790	1086
Control group treatment	ADT (LHRH agonist or LHRH agonist plus anti-androgen therapy or surgical castration)	ADT (LHRH agonist or LHRH antagonist or surgical castration); oral calcium carbonate 500 mg daily; oral vitamin D 400 IU daily	ADT (GRH agonists or antagonists or orchiectomy)
Intervention group treatment	ADT (LHRH agonist or LHRH agonist plus antiandrogen therapy or surgical castration) plus docetaxel (75 mg/m <sup>2</sup> intravenously every 3 weeks for a maximum of nine cycles); premedication with an oral corticosteroid (8 mg dexamethasone or equivalent) the evening before, on the day of, and on the day after docetaxel infusion plus subcutaneous injection of G-CSF from day 5 for 5 days	ADT (LHRH agonist or LHRH antagonist or surgical castration) plus docetaxel (75 mg/m <sup>2</sup> intravenously every 3 weeks for six cycles); oral dexamethasone (8 mg approximately 12 h, 3 h, and 1 h before docetaxel); oral diphenhydramine optional; 500 mg oral calcium carbonate once daily; 400 IU oral vitamin D once daily	ADT (GRH agonists or antagonists or orchiectomy) plus docetaxel (75 mg/m <sup>2</sup> intravenously every 3 weeks for six cycles) plus oral prednisolone (10 mg once daily)
Median follow-up for all participants (IQR),	84 (79–89)	54 (42–67)	78 (63–96)

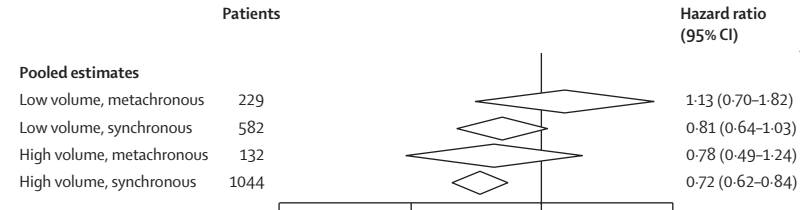
# Docetaxel benefits all patients except Low volumen and Metachronous or low clinical T $\leq 3$

## Timing of Mets

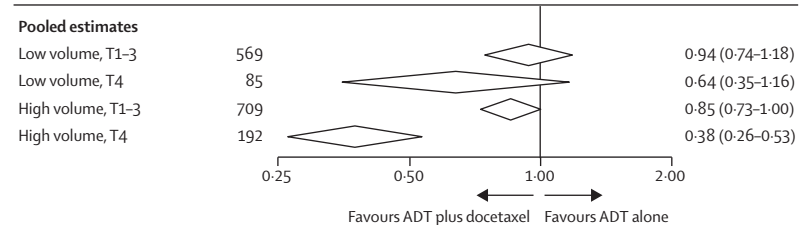
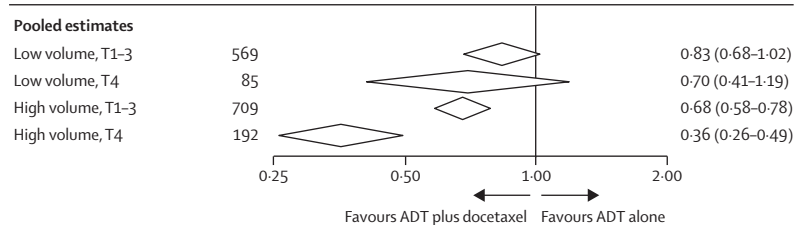
### Progression-Free Survival



### Overall Survival



## cT Stage



- 
- **Docetaxel compared with ADT monotherapy does not Benefit low volumen and metachronous or  $cT \leq 3$**
- 

# Phase 3 Clinical Trials including new antiandrogens in mHSPC

	Inclusion Criteria	Control	Active Arm	N	Primary Endpoint
<b>LATITUDE</b>	Naïve <u>High Risk</u>	<b>ADT</b>	ADT + Abiraterone	1209	OS & rPFS
<b>STAMPEDE</b>	Naïve	<b>ADT</b> ADT + Docetaxel	ADT + Abiraterone	1917 566	OS
<b>ARCHES</b>	Naïve or ADT + Doc x6 <2 m	<b>ADT/</b> ADT +/- Doc	Ctrl + Enzalutamide	1150	rPFS
<b>ENZAMET</b>	Naïve	<b>ADT /</b> ADT + Doc	ADT ± Doc + Enzalutamide	1125	OS
<b>TITAN</b>	Naïve* or ADT + Doc x 6 <2 m	<b>ADT</b>	ADT + Apalutamide	1052	OS & rPFS
<b>PEACE-1</b>	Naïve  *Excludes Visceral or LN only metastasis.	<b>ADT + Doc</b>	ADT + Doc + Abi ADT + Doc + RT ADT + Doc + Abi + RT	1168	OS & rPFS
<b>SWOG 1216</b>	Naïve	<b>ADT + bicalutamide</b>	ADT + TAK-700	1313	OS
<b>ARASENS</b>	Naïve	<b>ADT + Doc</b>	ADT + Doc + ODM-201	1303	OS
<b>ARANOTE</b>	Naïve	<b>ADT</b>	<b>ADT + darolutamide</b>	669 (2:1)	rPFS

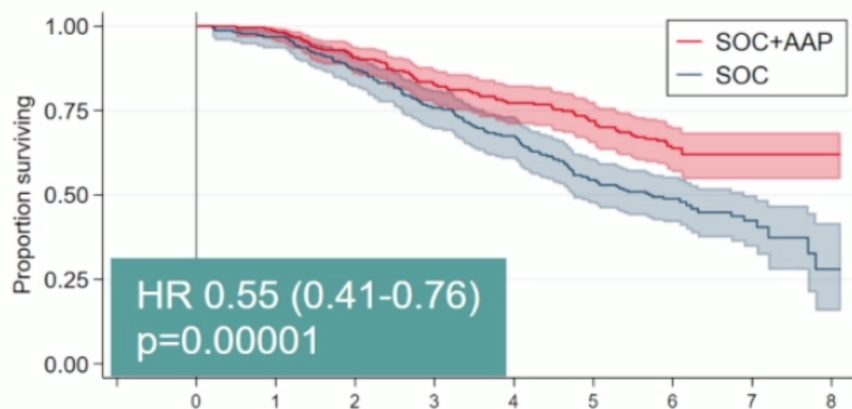
# New Hormonal Agents Benefit All patients HR OS

M1 HSPC ARTA	Characteristics	ALL-M1	High-Volume	Low Volume	Metachronous M1
LATITUDE Abi/P	de novo High-Risk N=1199	0.66 (0.58-0.78)	0.62 (0.52-0.74)	-	NA
STAMPEDE Abi/P	>90% de novo N=999	0.60 (0.49-0.71)	0.54( 0.43-0.69)	0.55 (0.41-0.76)	NA
ENZAMET Enzalutamide	45% Doce concurrent	0.67 (0.52-0.86)	0.53 (0.42-1.09)	0.39 (0.21-0.71)	0.56 (0.29-1.06)
ARCHES Enzalutamide	18% Doce previously	0.66 (0.53-0.81)	0.66 (0.52-0.88)	0.66 (0.43-1.03)	NA
TITAN Apalutamide	19% Doce previously	0.65 (0.53-0.79)	0.70 (0.56-0.88)	0.52 (0.35-0.79)	0.39 (0.22-0.69)

Fizazi et al. ASCO 2019; Hoyle et al EU 2019; James ESMO 2020; Davis et al NEJM 2019; Chi et al NEJM 2019; Chi GU ASCO 2021

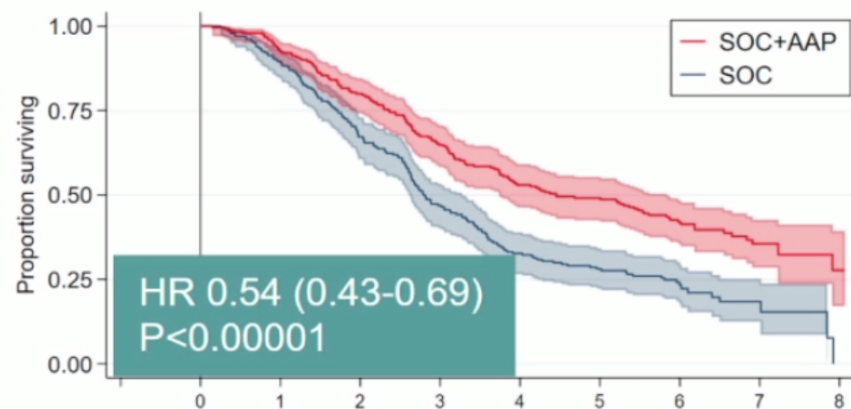
# STAMPEDE: OS by risk group (LATITUDE)

## Low risk



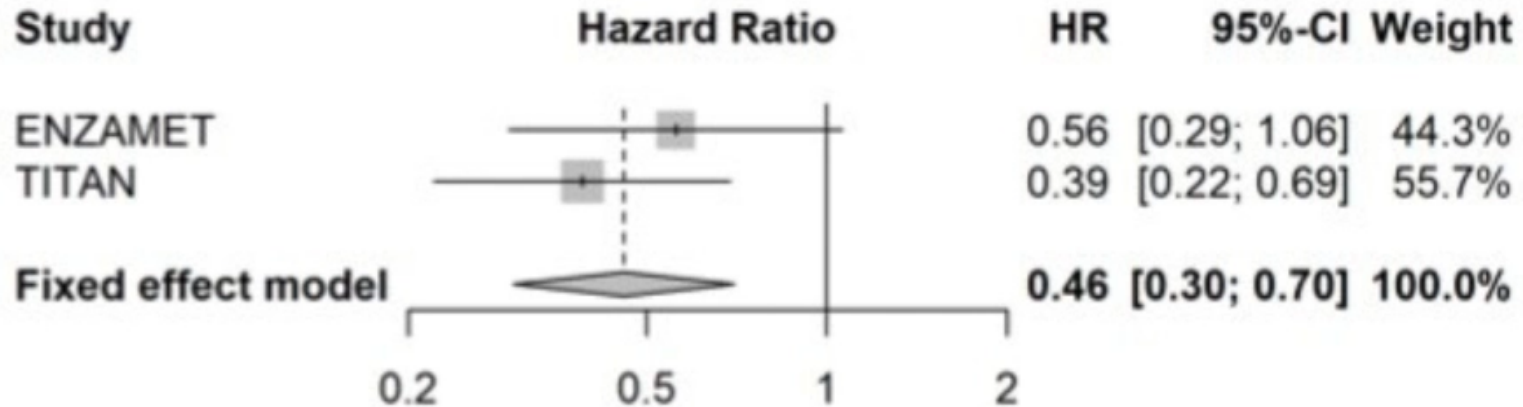
<b>SOC</b>									
At-risk	222	213	191	165	146	109	62	29	1
Censored	0	2	3	4	5	14	50	77	101
Died	0	7	28	53	71	99	110	116	120
<b>SOC+AAP</b>									
At-risk	214	211	192	172	161	149	95	31	5
Censored	0	0	2	5	5	6	44	106	132
Died	0	3	20	37	48	59	75	77	77

## High risk



<b>SOC</b>									
At-risk	232	206	152	106	73	56	28	6	0
Censored	0	2	5	5	6	13	33	51	54
Died	0	24	75	121	153	163	171	175	178
<b>SOC+AAP</b>									
At-risk	241	221	191	154	124	111	66	19	1
Censored	0	2	2	3	5	9	39	79	95
Died	0	18	48	84	112	121	136	143	145

# Metachronic M1 benefit from adding NHA



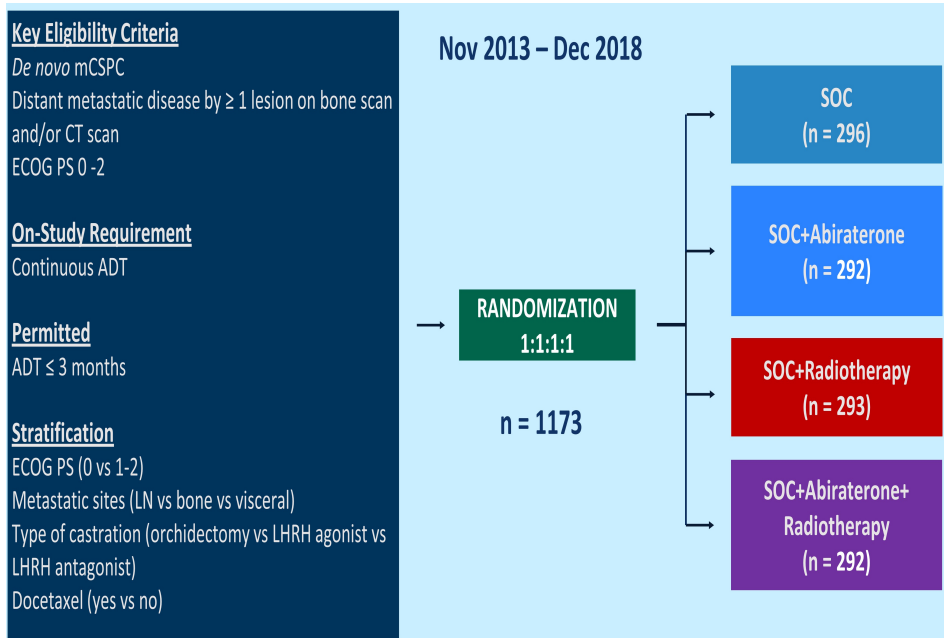


- 
- **NHAs benefit all subgroups independent of the volumen of disease and timing**
    - Age might be important for patient selection

# Abiraterone plus prednisone added to androgen deprivation therapy and docetaxel in de novo metastatic castration-sensitive prostate cancer (PEACE-1): a multicentre, open-label, randomised, phase 3 study with a 2 × 2 factorial design

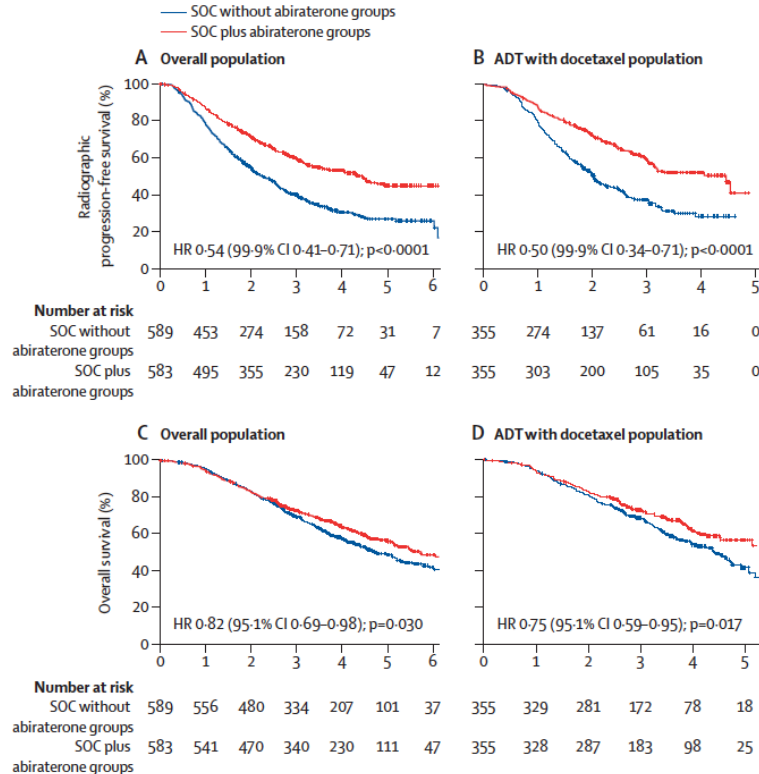


Karim Fizazi, Stéphanie Foulon, Joan Carles, Guilhem Roubaud, Ray McDermott, Aude Fléchon, Bertrand Tombal, Stéphane Supiot,

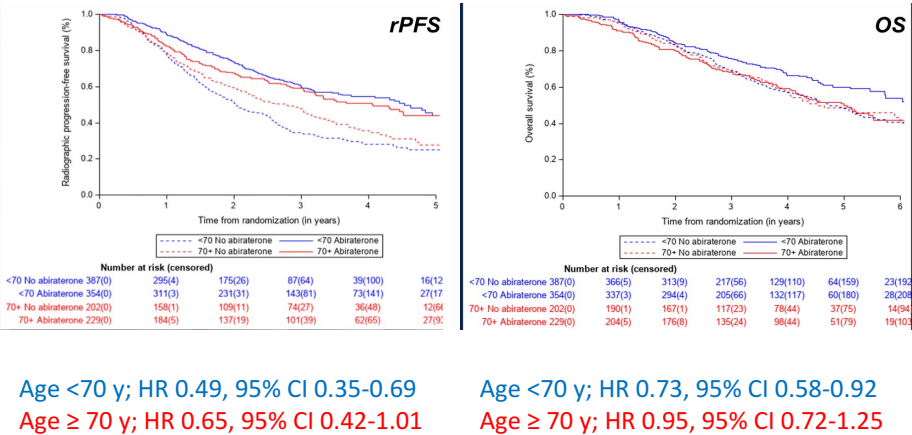
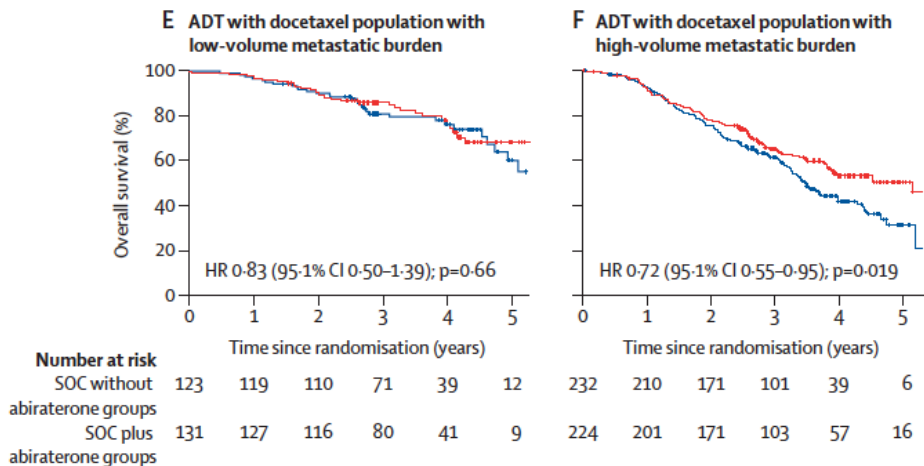


# AAP benefits patients treated with Docetaxel plus ADT

	Overall population (n=1172)		ADT with docetaxel population (n=710)*	
	SOC plus abiraterone groups (with or without radiotherapy; n=583)	SOC without abiraterone groups (with or without radiotherapy; n=589)	SOC plus abiraterone groups (with or without radiotherapy; n=355)	SOC without abiraterone groups (with or without radiotherapy; n=355)
Assigned to receive radiotherapy	291 (50%)	293 (50%)	178 (50%)	177 (50%)
Country				
Belgium	29 (5%)	25 (4%)	16 (5%)	16 (5%)
France	458 (79%)	462 (78%)	278 (78%)	280 (79%)
Ireland	30 (5%)	30 (5%)	17 (5%)	13 (4%)
Italy	1 (<1%)	3 (1%)	0	0
Romania	4 (1%)	5 (1%)	0	0
Spain	55 (9%)	56 (10%)	38 (11%)	39 (11%)
Switzerland	6 (1%)	8 (1%)	6 (2%)	7 (2%)
Age, years				
Median	67 (61-72)	66 (59-72)	66 (60-70)	66 (59-70)
Range	37-94	43-87	37-85	44-84
ECOG performance status				
0	412 (71%)	412 (70%)	250 (70%)	246 (69%)
1-2	171 (29%)	177 (30%)	105 (30%)	109 (31%)
T stage				
T1	23 (4%)	23 (4%)	10 (3%)	13 (4%)
T2	109 (19%)	94 (16%)	64 (19%)	45 (13%)
T3	287 (51%)	310 (53%)	167 (49%)	189 (55%)
T4	98 (17%)	99 (17%)	68 (20%)	65 (19%)
Tx	45 (8%)	54 (9%)	32 (9%)	35 (10%)
Missing data	21 (4%)	9 (2%)	14 (4%)	8 (2%)
N stage				
N1	307 (55%)	325 (57%)	198 (58%)	207 (60%)
N0	186 (33%)	174 (30%)	99 (29%)	97 (28%)
NX	69 (12%)	76 (13%)	43 (13%)	39 (11%)
Missing data	21 (4%)	14 (2%)	15 (4%)	12 (3%)
Time from diagnosis, months				
Median	2.3 (1.6-3.2)	2.3 (1.4-3.1)	2.2 (1.6-3.0)	2.2 (1.4-2.9)
Missing data	10 (2%)	10 (2%)	6 (2%)	7 (2%)
Metastatic localisation				
Bone†	472 (81%)	475 (81%)	287 (81%)	279 (79%)
Lymph node only	47 (8%)	52 (9%)	27 (8%)	29 (8%)
Visceral‡	64 (11%)	62 (11%)	41 (12%)	47 (13%)
Metastatic burden§				
High burden	331 (57%)	336 (57%)	224 (63%)	232 (65%)
Low burden	252 (43%)	253 (43%)	131 (37%)	123 (35%)



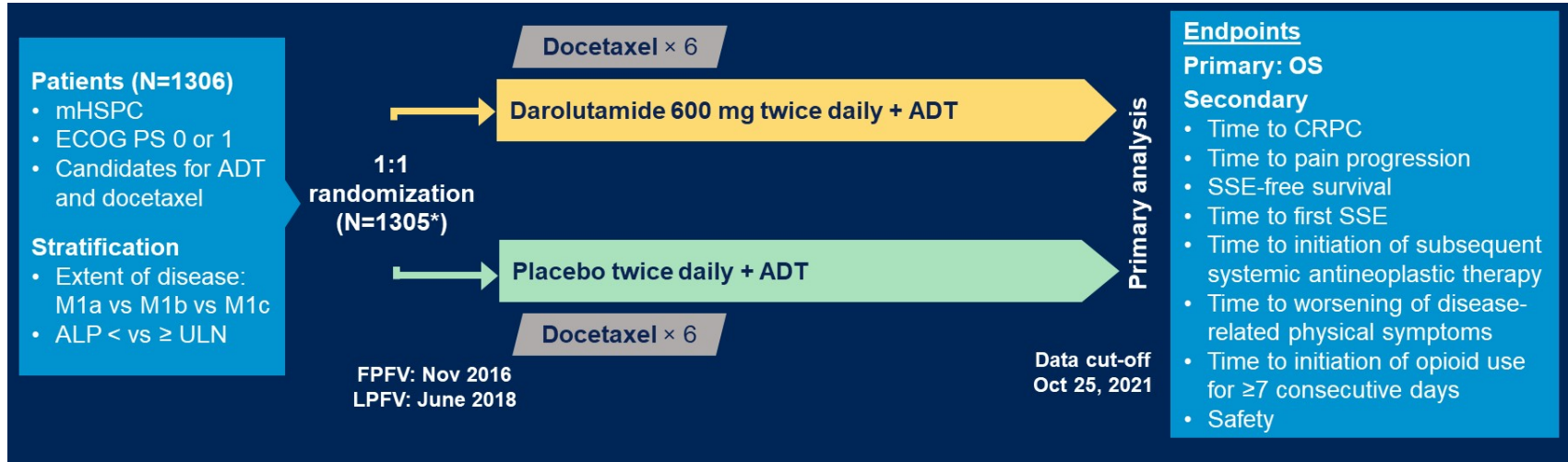
# Subgroup exploratory analysis shows greater benefit for High volumen and younger patients volumen



ORIGINAL ARTICLE

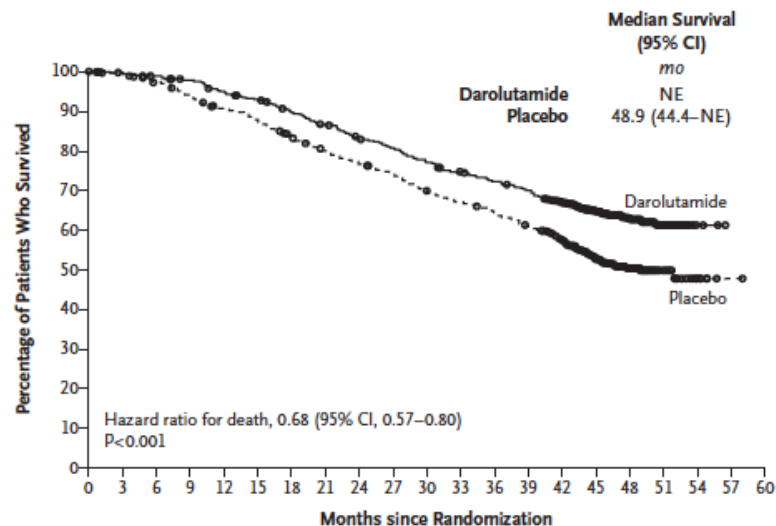
# Darolutamide and Survival in Metastatic, Hormone-Sensitive Prostate Cancer

Matthew R. Smith, M.D., Ph.D., Maha Hussain, M.D., Fred Saad, M.D.,



# Darolutamide improves OS when added to ADT and Docetaxel

Characteristic	Darolutamide-ADT- Docetaxel (N=651) <sup>†</sup>	Placebo-ADT- Docetaxel (N=654) <sup>†</sup>
Median age (range) — yr	67 (41–89)	67 (42–86)
Age group — no. (%)		
<65 yr	243 (37.3)	234 (35.8)
65–74 yr	303 (46.5)	306 (46.8)
75–84 yr	102 (15.7)	110 (16.8)
≥85 yr	3 (0.5)	4 (0.6)
ECOG performance-status score — no. (%) <sup>‡</sup>		
0	466 (71.6)	462 (70.6)
1	185 (28.4)	190 (29.1)
Race — no. (%) <sup>§</sup>		
White	345 (53.0)	333 (50.9)
Asian	230 (35.3)	245 (37.5)
Black	26 (4.0)	28 (4.3)
Other	7 (1.1)	2 (0.3)
Not reported	43 (6.6)	46 (7.0)
Region — no. (%)		
North America	125 (19.2)	119 (18.2)
Asia-Pacific	229 (35.2)	244 (37.3)
Rest of the world <sup>¶</sup>	297 (45.6)	291 (44.5)
Gleason score at initial diagnosis — no. (%) <sup>  </sup>		
<8	122 (18.7)	118 (18.0)
≥8	505 (77.6)	516 (78.9)
Data missing	24 (3.7)	20 (3.1)
Metastasis stage at initial diagnosis — no. (%)		
M1, distant metastasis	558 (85.7)	566 (86.5)
M0, no distant metastasis	86 (13.2)	82 (12.5)
MX, distant metastasis not assessed	7 (1.1)	6 (0.9)
Metastasis stage at screening — no. (%)		
M1a, nonregional lymph-node metastases only	23 (3.5)	16 (2.4)
M1b, bone metastases with or without lymph-node metastases	517 (79.4)	520 (79.5)
M1c, visceral metastases with or without lymph-node or bone metastases	111 (17.1)	118 (18.0)
Median serum PSA level (range) — ng/ml <sup>**</sup>	30.3 (0.0–9219.0)	24.2 (0.0–11,947.0)
Median serum ALP level (range) — U/liter <sup>**</sup>	148 (40–4885)	140 (36–7680)
ALP category — no. (%) <sup>**</sup>		
<ULN	290 (44.5)	291 (44.5)
≥ULN	361 (55.5)	363 (55.5)

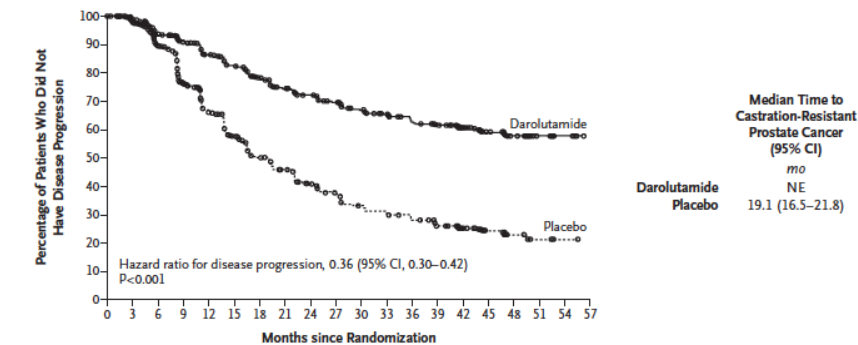


## No. at Risk

Darolutamide	651	645	637	627	608	593	570	548	525	509	486	468	452	436	402	267	139	56	9	0	0
Placebo	654	646	630	607	580	565	535	510	488	470	441	424	402	383	340	218	107	37	6	1	0

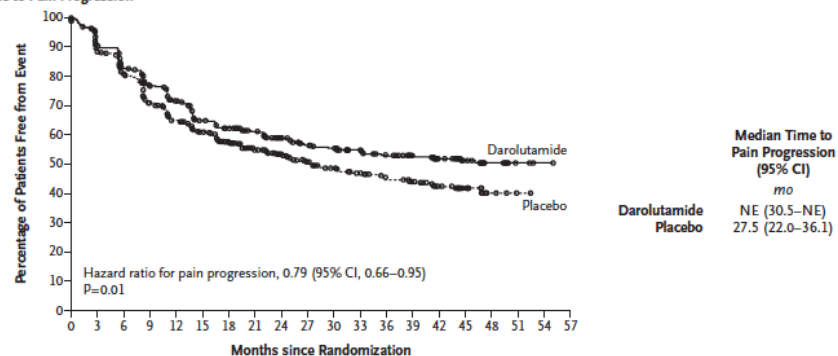
# Key Secondary endpoints

**A Time to Castration-Resistant Prostate Cancer**



No. at Risk	651	616	567	537	496	465	433	401	380	358	340	325	308	292	211	132	54	18	5	0
Darolutamide	651	616	567	537	496	465	433	401	380	358	340	325	308	292	211	132	54	18	5	0
Placebo	654	613	533	425	348	289	242	215	185	165	143	134	120	105	79	38	14	4	1	0

**B Time to Pain Progression**



No. at Risk	651	447	401	363	327	284	265	249	228	211	202	189	175	159	106	67	31	6	1	0
Darolutamide	651	447	401	363	327	284	265	249	228	211	202	189	175	159	106	67	31	6	1	0
Placebo	654	442	395	332	288	255	221	188	160	134	119	107	93	86	62	35	8	1	0	0

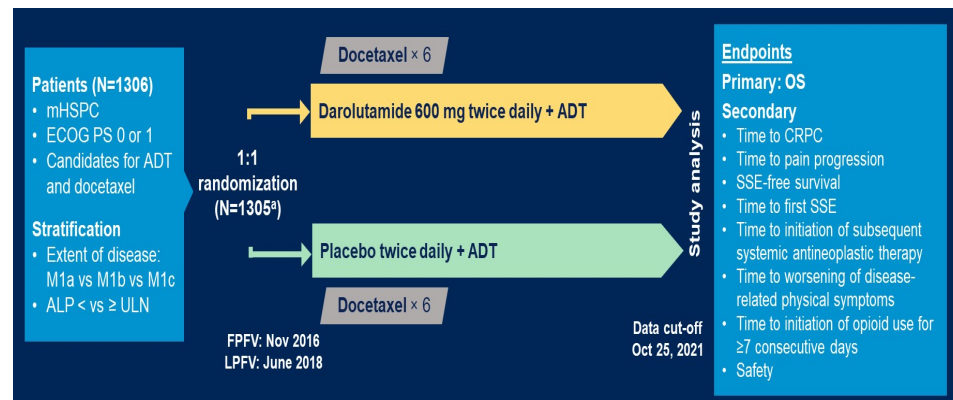
**Table 2. Secondary Efficacy End Points (Full Analysis Set).<sup>a</sup>**

End Point	Darolutamide-ADT-Docetaxel (N=651) <sup>†</sup>		Placebo-ADT-Docetaxel (N=654) <sup>†</sup>		Hazard Ratio (95% CI)	P Value
	Median	Patients with Event	Median	Patients with Event		
	mo	no. (%)	mo	no. (%)		
Time to castration-resistant prostate cancer	NR	225 (35)	19.1	391 (60)	0.36 (0.30–0.42)	<0.001
Time to pain progression	NR	222 (34)	27.5	248 (38)	0.79 (0.66–0.95)	0.01
Symptomatic skeletal event-free survival	51.2	257 (40)	39.7	329 (50)	0.61 (0.52–0.72)	<0.001
Time to first symptomatic skeletal event	NR	95 (15)	NR	108 (17)	0.71 (0.54–0.94)	0.02
Time to initiation of subsequent systemic antineoplastic therapy	NR	219 (34)	25.3	395 (60)	0.39 (0.33–0.46)	<0.001
Time to worsening of disease-related physical symptoms	19.3	351 (54)	19.4	308 (47)	1.04 (0.89–1.22)	0.59
Time to initiation of opioid use for ≥7 consecutive days	NR	92 (14)	NR	117 (18)	0.69 (0.52–0.91)	NA

original reports

# Darolutamide Plus Androgen-Deprivation Therapy and Docetaxel in Metastatic Hormone-Sensitive Prostate Cancer by Disease Volume and Risk Subgroups in the Phase III ARASENS Trial

Maha Hussain, MD<sup>1</sup>; Bertrand Tombal, MD, PhD<sup>2</sup>; Fred Saad, MD<sup>3</sup>; Karim Fizazi, MD, PhD<sup>4</sup>; Cora N. Sternberg, MD<sup>5</sup>; E. David Crawford, MD<sup>6</sup>; Neal Shore, MD<sup>7</sup>; Evgeny Kopytsov, MD<sup>8</sup>; Arash Rezazadeh Kalebasty, MD<sup>9</sup>; Martin Bögemann, MD<sup>10</sup>; Dingwei Ye, MD<sup>11</sup>; Felipe Cruz, MD, PhD<sup>12</sup>; Hiroyoshi Suzuki, MD, PhD<sup>13</sup>; Shivani Kapur, MD<sup>14</sup>; Shankar Srinivasan, PhD<sup>15</sup>; Frank Verhulst, MD<sup>16</sup>; Iris Kuss, MD<sup>17</sup>; Heikki Joensuu, MD<sup>18</sup>; and Matthew R. Smith, MD, PhD<sup>19</sup>



Characteristic at Baseline	High Volume		Low Volume	
	Darolutamide (n=497)	Placebo (n=508)	Darolutamide (n=154)	Placebo (n=146)
Age, median (range), y	67.0 (41–89)	67.0 (44–86)	67.0 (41–84)	67.5 (42–81)
Gleason score at initial diagnosis $\geq 8$ , n (%)	381 (76.7)	403 (79.3)	124 (80.5)	113 (77.4)
Metastasis stage at initial diagnosis, n (%) <sup>a</sup>				
De novo	432 (86.9)	445 (87.6)	126 (81.8)	121 (82.9)
Recurrent	58 (11.7)	59 (11.6)	28 (18.2)	23 (15.8)
Metastasis stage at screening, n (%)				
M1a (nonregional LN only)	0	0	23 (14.9)	15 (10.3)
M1b (bone $\pm$ LN)	386 (77.7)	390 (76.8) <sup>b</sup>	131 (85.1)	131 (89.7)
M1c (visceral $\pm$ LN or bone)	111 (22.3)	118 (23.2)	0	0
Serum PSA, median (range), ng/mL <sup>c</sup>	38.7 (0–9219.0)	27.9 (0–11,947.0)	11.7 (0–3771.0)	14.5 (0–3372.9)

Characteristic at Baseline	High Risk		Low Risk	
	Darolutamide (n=452)	Placebo (n=460)	Darolutamide (n=199)	Placebo (n=194)
Age, median (range), y	67.0 (41–86)	67.0 (44–86)	67.0 (41–89)	67.0 (42–85)
Gleason score at initial diagnosis $\geq 8$ , n (%)	428 (94.7)	440 (95.7)	77 (38.7)	76 (39.2)
Metastasis stage at initial diagnosis, n (%) <sup>a</sup>				
De novo	416 (92.0)	419 (91.1)	142 (71.4)	147 (75.8)
Recurrent	33 (7.3)	39 (8.5)	53 (26.6)	43 (22.2)
Metastasis stage at screening, n (%)				
M1a (nonregional LN only)	0	0	23 (11.6)	15 (7.7)
M1b (bone $\pm$ LN)	345 (76.3)	354 (77.0) <sup>b</sup>	172 (86.4)	167 (86.1)
M1c (visceral $\pm$ LN or bone)	107 (23.7)	106 (23.0)	4 (2.0)	12 (6.2)
Serum PSA, median (range), ng/mL <sup>c</sup>	34.0 (0–9219.0)	30.0 (0–11,947.0)	19.2 (0–4173.0)	12.4 (0–3372.9)



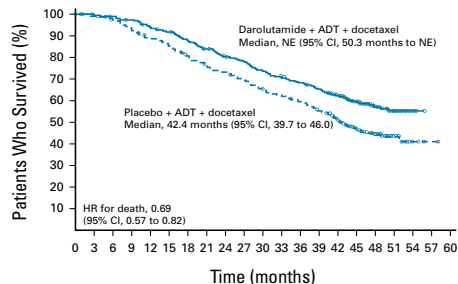
# ADT + Doce + ARTAs consistently improves OS compared with ADT + Docetaxel

Trial	ARTA	N	Doce (%)	Timing	rPFS HR (95%CI)	OS HR (95% CI)	Ref
PEACE-1	Abi/P	1172	710 (60%)	Conc.	0.50 (0.40-0.62)	0.75 (0.59-0.95)	Fizazi. ESMO 2021
ARASENS	Daro	1300	1300 (100%)	Conc.	NA	0.68 (0.57-0.80)	Smith MR. NEJM 2022
ENZAMET	Enza	1125	503 (45%)	Conc.	0.48 (0.37-0.62)	0.73 (0.55-0.99)	Davis I. NEJM 2019 Proc ASCO 2022
ARCHES	Enza	1150	205 (17%)	Sec.	NA	0.74 (0.59-2.12)	Chi K. JCO 2021
TITAN	Apa	1052	113 (10%)	Sec.	0.47 (0.22-1.01)	1.12 (0.59-2.12)	Chi K. JCO 2021

# OS subanalysis by volumen or risk

VOLUME

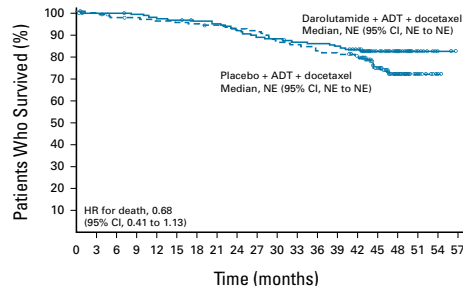
HIGH



No. of high-volume patients at risk:

Darolutamide	497	484	486	479	462	449	429	408	389	378	356	341	326	312	285	193	103	43	6	0	0
Placebo	508	502	491	469	444	430	401	378	358	341	319	304	286	269	233	153	72	23	4	1	0

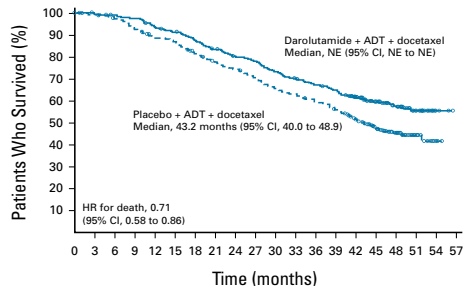
LOW



No. of low-volume patients at risk:

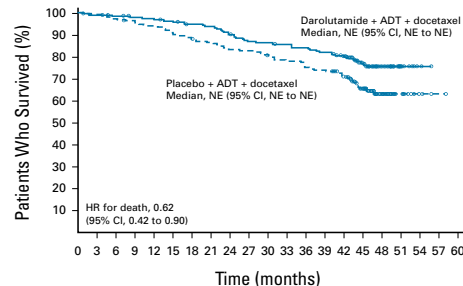
Darolutamide	154	151	151	148	146	144	141	140	136	131	130	127	126	124	117	74	36	13	3	0
Placebo	146	144	139	138	136	135	134	132	130	129	122	120	116	114	107	65	35	14	2	0

RISK



No. of high-risk patients at risk:

Darolutamide	452	450	443	437	419	407	389	369	352	344	322	308	294	282	257	177	99	42	6	0
Placebo	460	453	443	423	400	392	367	346	330	313	290	277	261	245	215	148	72	24	3	0



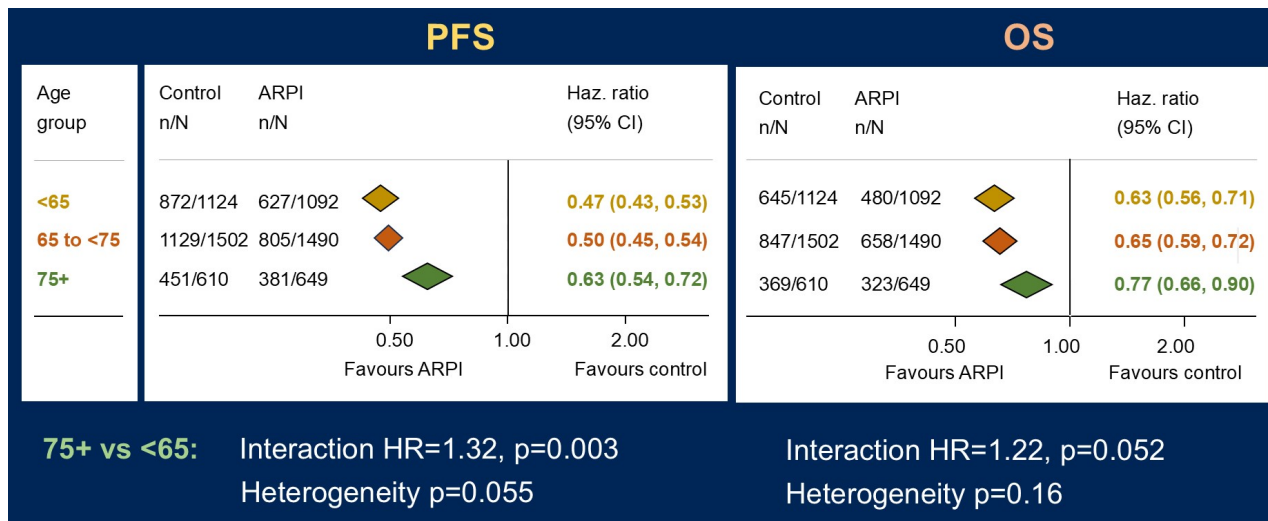
No. of low-risk patients at risk:

Darolutamide	199	195	194	190	189	186	181	179	173	165	164	160	158	154	145	90	40	14	3	0	0
Placebo	194	193	187	184	180	173	168	164	158	157	151	147	141	138	125	70	35	13	3	1	0

# Which patients with metastatic hormone-sensitive prostate cancer (mHSPC) benefit more from androgen receptor pathway inhibitors (ARPIs)?

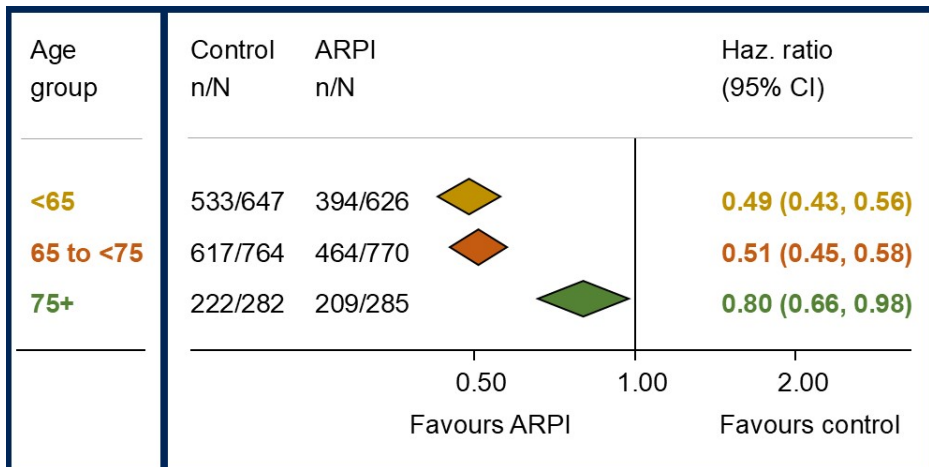
## STOPCAP meta-analysis of individual participant data

David Fisher, C Vale, L Rydzewska, P Godolphin, N Agarwal, G Attard, K Chi, N Clarke, I Davis, K Fizazi, S Gillissen, G Gravis, N James, D Matheson, R Oldroyd, M Parmar, C Sweeney, B Tombal, I White, J Tierney



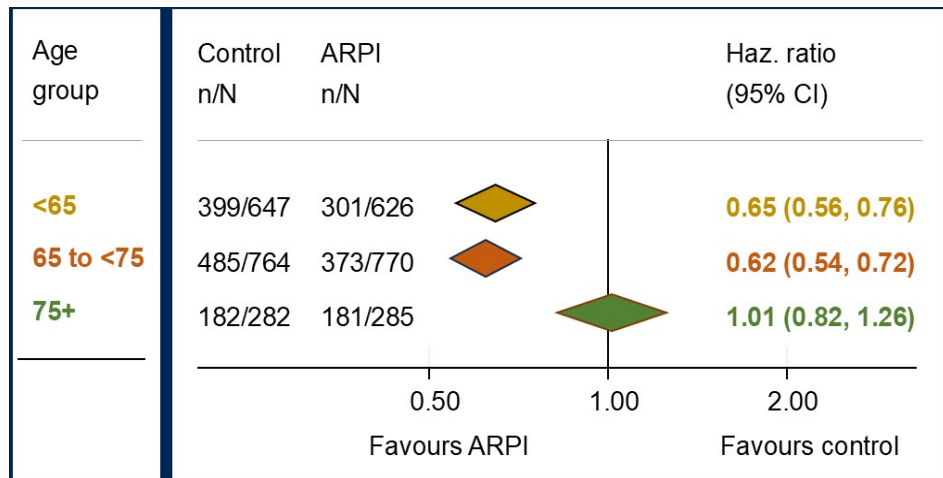
# Effects of ARPI by age group: abiraterone trials

## PFS



**75+ vs <65:** Interaction HR=1.64,  $p < 0.001$

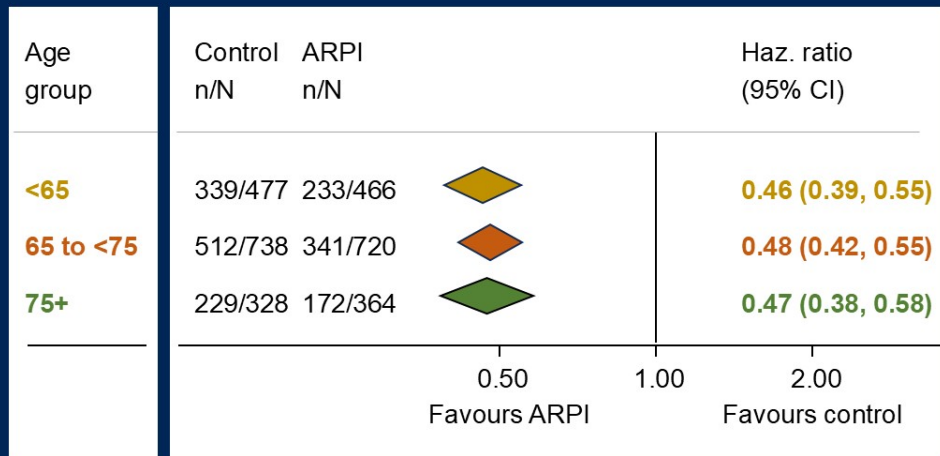
## OS



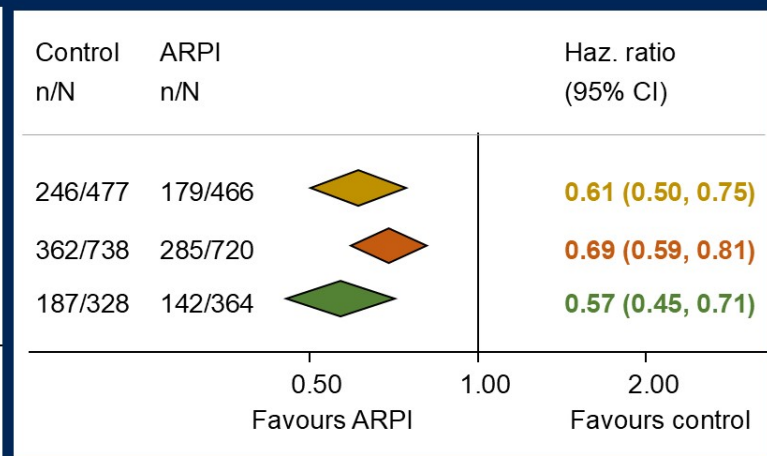
**75+ vs <65:** Interaction HR=1.56,  $p = 0.001$

# Effects of ARPIs by age subgroup: “amide” trials

## PFS



## OS

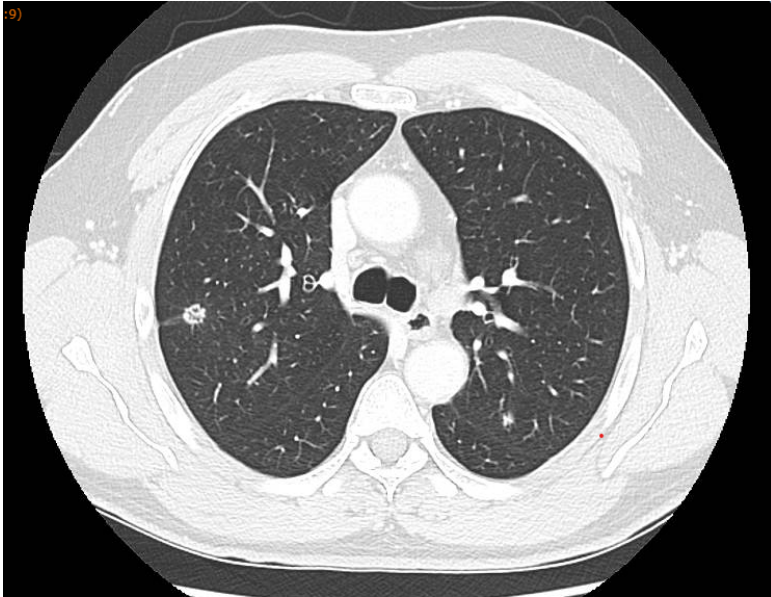


75+ vs <65: Interaction HR=1.02, p=0.88

Interaction HR=0.93, p=0.61

Note: 48% available data at present

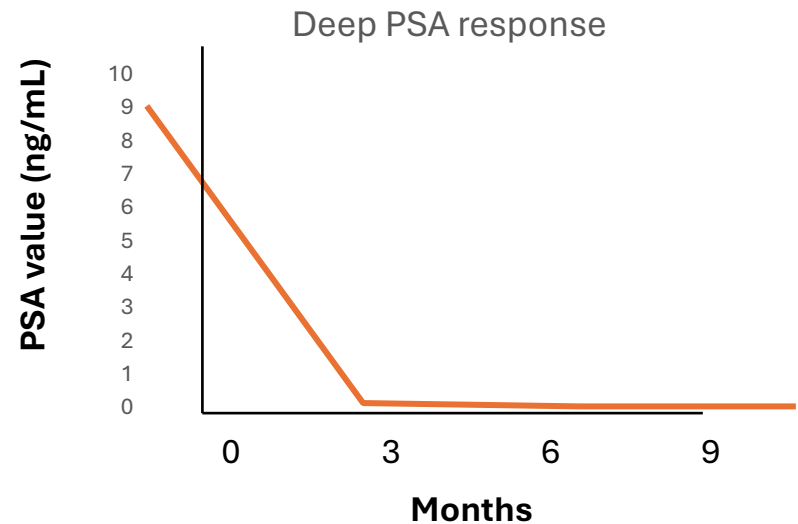
## Male 67y TxN1M1c (Lung metastases; 2 nodules and lymph nodes)



**What is your preferred option?:**

- A) ADT + SBRT
- B) ADT + docetaxel
- C) ADT + ARPI + docetaxel
- D) Clinical trial

# Clinical trial (ARPI + PARPi) for nonHRR mut



PSA response

<0.006 ng/ml		29/08/2025
<0.006 ng/ml		01/08/2025
<0.006 ng/ml		04/07/2025
<0.006 ng/ml		06/06/2025
0.01 ng/ml		09/05/2025
0.04 ng/ml		11/04/2025
0.15 ng/ml		14/03/2025
0.64 ng/ml		07/02/2025
9.00 ng/ml		01/01/2025

Are new  
strategies  
possible?

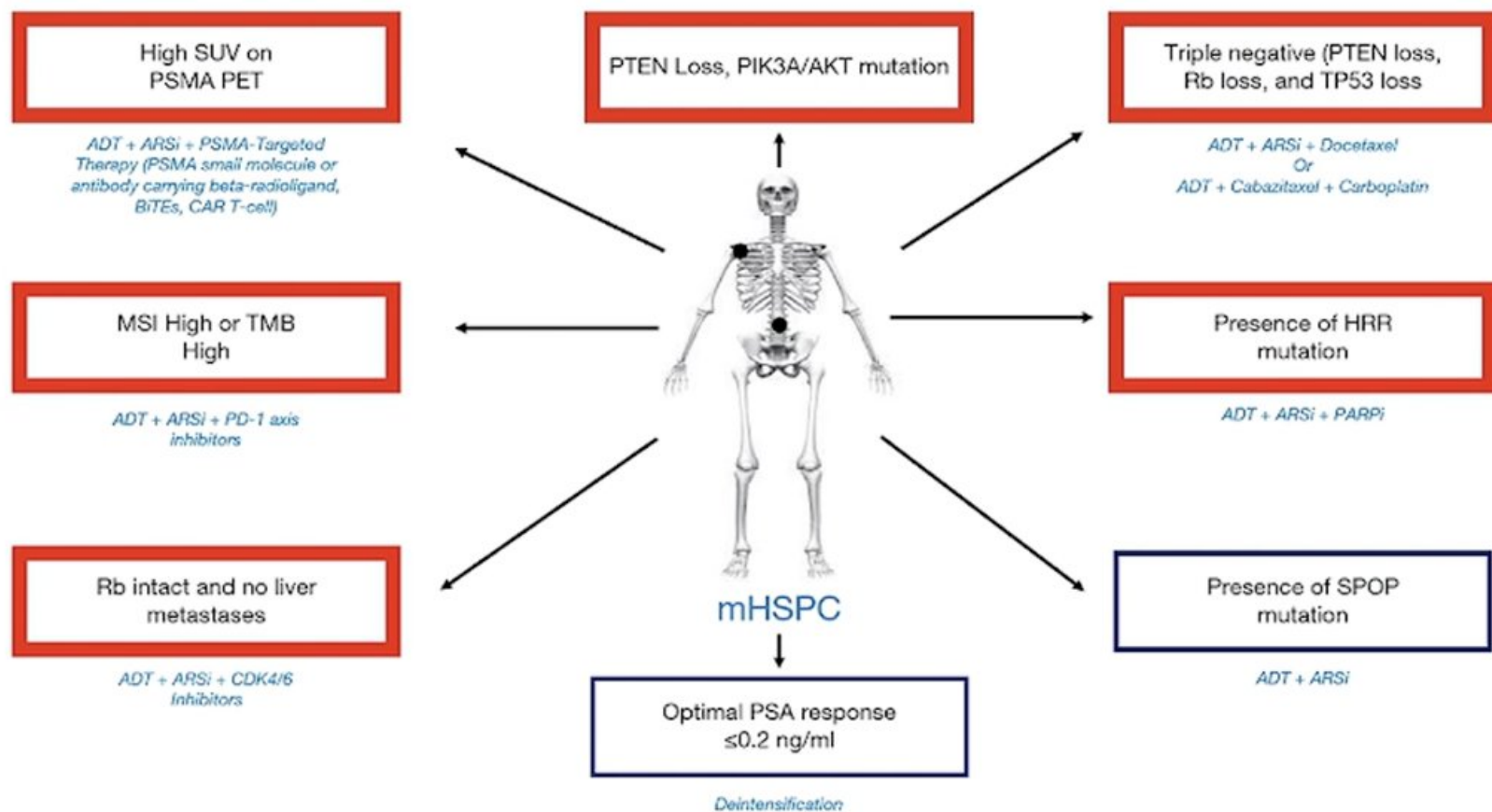
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¿How could we improve outcomes?

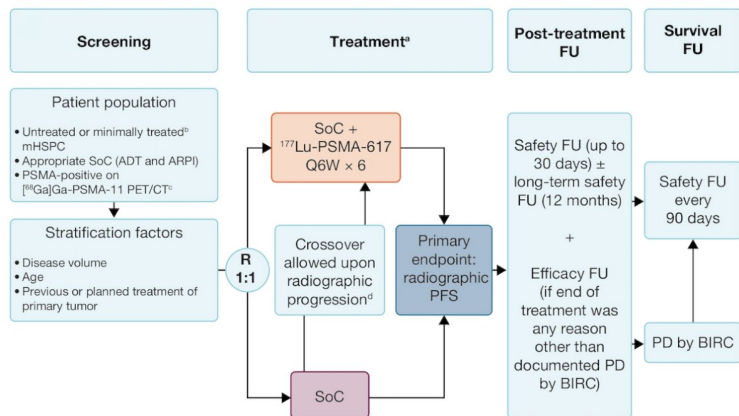
- Better Patient Selection
- Better Treatments

# The Future of the Treatment of mHSPC



ADT: androgen deprivation therapy, ARSi: androgen receptor signaling inhibitor, IMB: tumor mutational burden, BiTEs: bispecific T cell engager, CAR T cell: chimeric antigen receptor T cell, CDK4/6: Cyclin D Kinase 4/6, HRR: homologous recombination repair, mHSPC: metastatic hormone sensitive prostate cancer, MSI: microsatellite instability, PARPi: poly adenosine diphosphate ribose polymerase inhibitor, PSMA: prostate specific membrane antigen, PD-1: programmed cell death protein 1

# PSMA Addition



**Novartis Pluvicto™ demonstrates statistically significant and clinically meaningful rPFS benefit in patients with PSMA-positive metastatic hormone-sensitive prostate cancer**

Jun 02, 2025

Ad hoc announcement pursuant to Art. 53 LR

<sup>a</sup> At interim analysis, PSMAAddition trial met its primary endpoint showing statistically significant and clinically meaningful benefit for Pluvicto™ plus hormone therapy versus hormone therapy alone, with positive trend in overall survival (OS)<sup>2</sup>

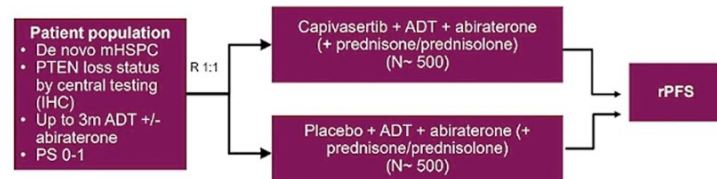
# CAPITELLO

## Biomarker selection: PTEN-loss CAPItello-281 Clinical Study Design

Estimations:

~5500 first screening part for biomarker status.

~1000 men expected to have PTEN deficiency



NCT044493

*TRUQAP® (capivasertib) combination in PTEN-deficient metastatic hormone-sensitive prostate cancer demonstrated statistically significant and clinically meaningful improvement in radiographic progression-free survival in CAPItello-281 Phase III trial*

PUBLISHED  
25 November 2024

# Genomics

**BRCA2/1 and  
other HRR genes**

**Genomic profiles**

- PAM50
- Decypher

**PTEN Loss**

# PARP inhibitors in mHSPC

## HRRm and not mutated

### AMPLITUDE: Randomized, Double-Blind, Placebo-Controlled Trial in HRRm mCSPC

First and final rPFS analysis and first interim analysis of time to symptomatic progression and overall survival. Median follow-up: 30.8 months

#### Key inclusion criteria:

- mCSPC<sup>a</sup>
- Alteration in ≥1 HRR eligible gene: *BRCA1, BRCA2, BRIP1, CDK12, CHEK2, FANCA, PALB2, RAD51B, RAD54L*<sup>b</sup>
- ECOG PS 0-2

#### Key exclusion criteria:

- Any prior
- PARPi
- ARPI other than AAP

#### Prior allowed treatments in mCSPC:

- ADT ≤6 months
- Docetaxel ≤6 cycles<sup>c</sup>
- AAP ≤45 days
- Palliative RT

Randomized  
1:1  
(N=696)

**Nira** (200 mg QD)  
+  
**AAP** (1000 mg QD + 5 mg QD)  
+  
**ADT**  
(n=348)

**PBO**  
+  
**AAP** (1000 mg QD + 5 mg QD)  
+  
**ADT**  
(n=348)

#### Primary end point

- rPFS by investigator review

#### Key secondary end points

- Time to symptomatic progression
- OS
- Safety

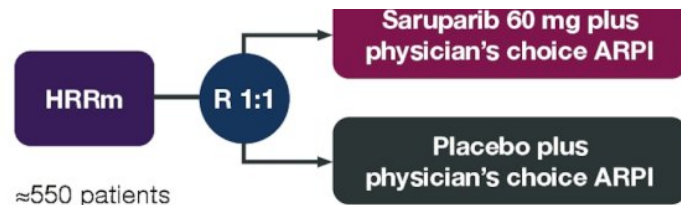
#### Stratification factors:

- *BRCA2* vs *CDK12* vs all other alterations
- Prior docetaxel (yes vs no)
- Disease volume (high vs low)

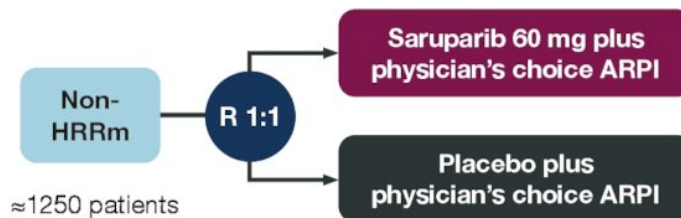
Clinical data cutoff: January 7, 2025

<sup>a</sup>Patients with lymph node-only disease are not eligible. <sup>b</sup>HRR gene panel was fixed prior to trial initiation based on MAGNITUDE trial and external data from the published literature. <sup>c</sup>Last dose ≤3 months prior to randomization. ECOG PS, Eastern Cooperative Oncology Group performance status; Nira, niraparib; OS, overall survival; PBO, placebo; RT, radiotherapy; QD, once daily.

### EVO-PARP



Treatment will continue until disease progression  
r between cohorts

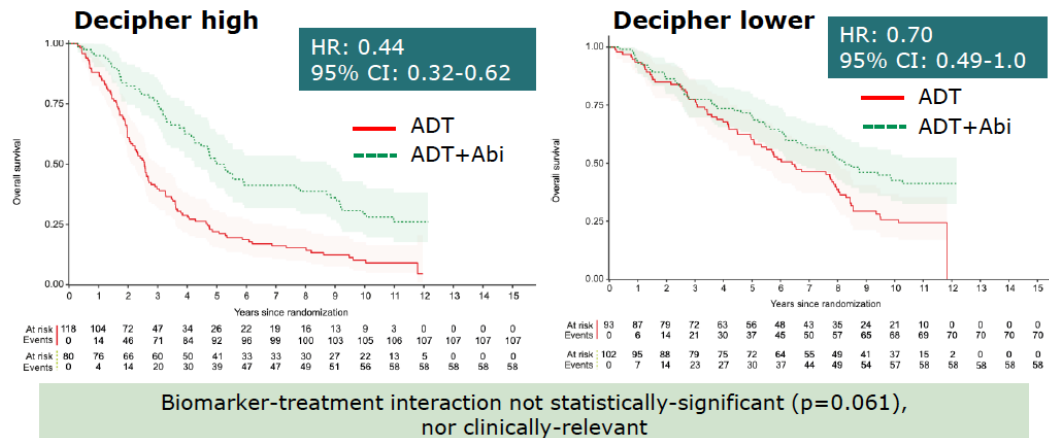


unacceptable toxicity, or participant-initiated withdrawal

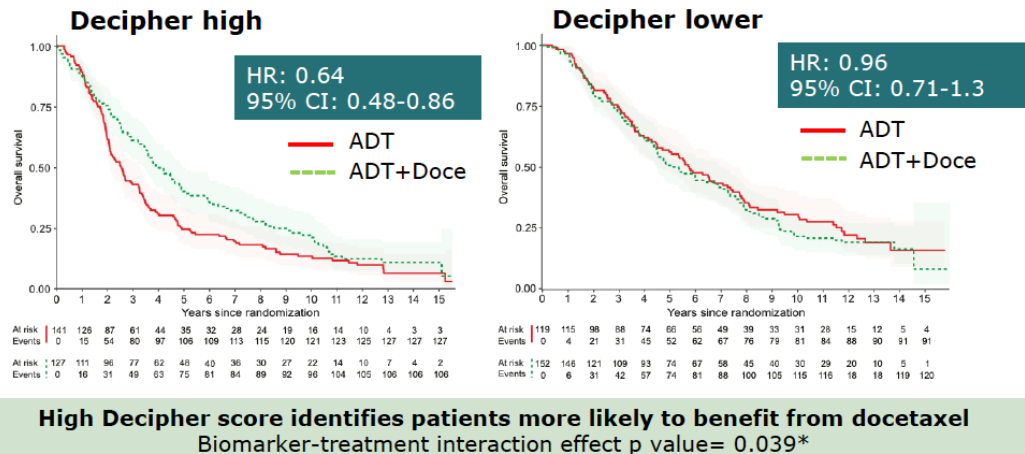
Decypher might  
be predictive for  
docetaxel

Grist E. ESMO 2024

## Abiraterone

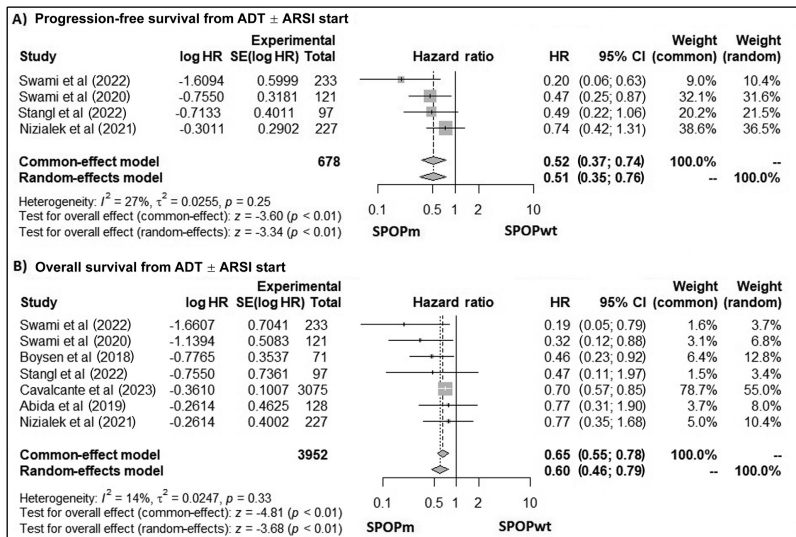


## Docetaxel

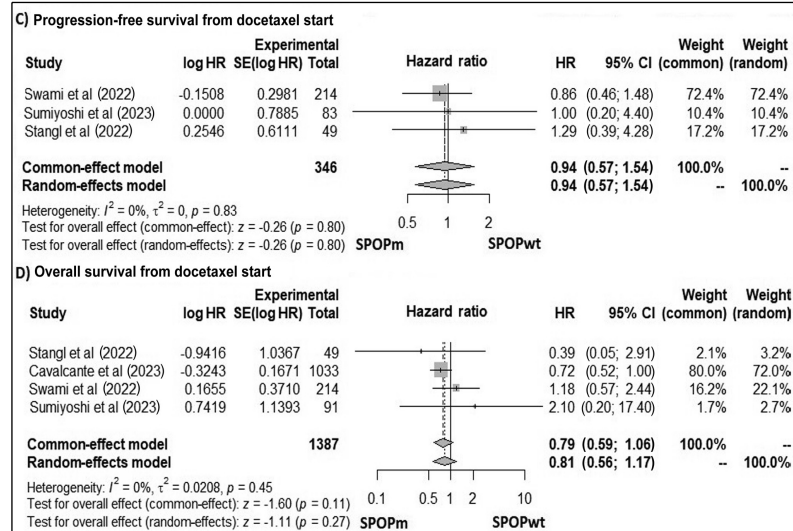


# SPOP mutants are associated with improved prognosis and increased sensitivity to AR targeted agents, but not to docetaxel

## ADT +/- ARSI



## ADT + docetaxel



# Male 57y T2N1M1b High Volume PSA 1430 ng/mL and



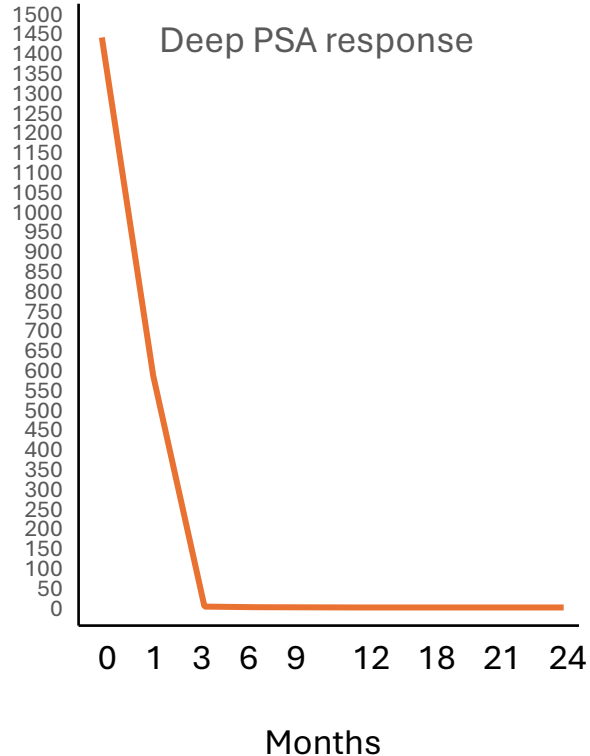
ADT and 2 weeks later comes to the hospital due to a Disseminated intravascular coagulation (DIC) .

What is your preferred option:

- A) Continue ADT alone**
- B) ADT + docetaxel**
- C) ADT + ARPI**
- D) ADT + ARPI + docetaxel**



# ADT + ARPI induced a deep PSA response

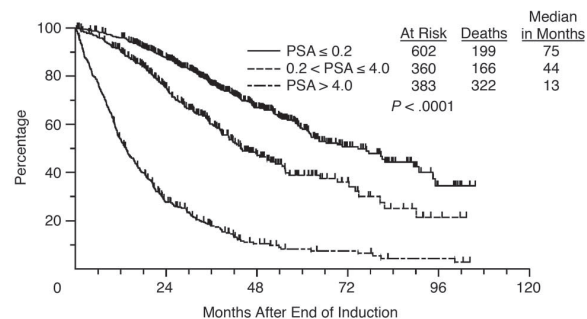


PSA	0.13 ng/ml	07/05/2025
PSA	0.11 ng/ml	27/01/2025
PSA	0.10 ng/ml	28/10/2024
PSA	0.16 ng/ml	15/07/2024
PSA	0.18 ng/ml	05/04/2024
PSA	0.50 ng/ml	29/12/2023
PSA	0.86 ng/ml	26/09/2023
PSA	2.28 ng/ml	04/08/2023
PSA	585.40 ng/ml	31/05/2023
PSA	1438.00 ng/ml	24/04/2023

# Absolute Prostate-Specific Antigen Value After Androgen Deprivation Is a Strong Independent Predictor of Survival in New Metastatic Prostate Cancer: Data From Southwest Oncology Group Trial 9346 (INT-0162)

From the University of Michigan, Ann Arbor, MI; Southwest Oncology Group Radiation Therapy Group, Seattle, WA.

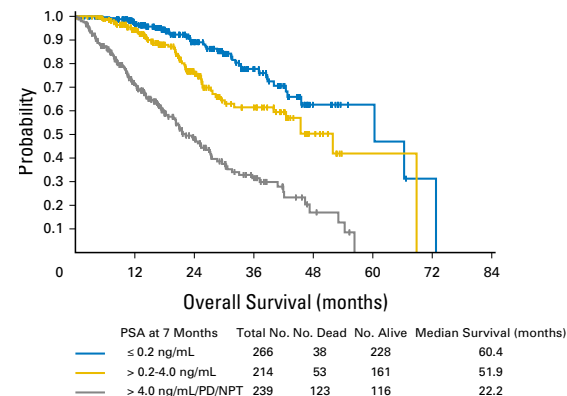
Maha Hussain, Catherine M. Tangen, Celestia Higano, Paul F. Schelhammer, James Faulkner, E. David Crawford, George Wilding, Atif Akdas, Eric J. Small, Bryan Donnelly, Gary MacVicar, and Derek Raghavan



At risk:			
PSA ≤ 0.2 ng/mL	453	210	63
0.2 < PSA ≤ 4.0	219	77	20
PSA > 4.0	92	17	7

# Seven-Month Prostate-Specific Antigen Is Prognostic in Metastatic Hormone-Sensitive Prostate Cancer Treated With Androgen Deprivation With or Without Docetaxel

Lauren C. Harshman, Yu-Hui Chen, Glenn Liu, Michael A. Carducci, David Iannard, Robert Dreicer, Noah Hahn, Jorge A. Garcia, Maha Hussain, Daniel Shevlin, Maria Eisenberger, Manish Kohli, Elizabeth R. Plimack, Matthew Cooney, Nicholas J. Vogelzang, Joel Picus, Robert D'Amico, and Christopher J. Sweeney on behalf of the ECOG-ACRIN 3805 Investigators

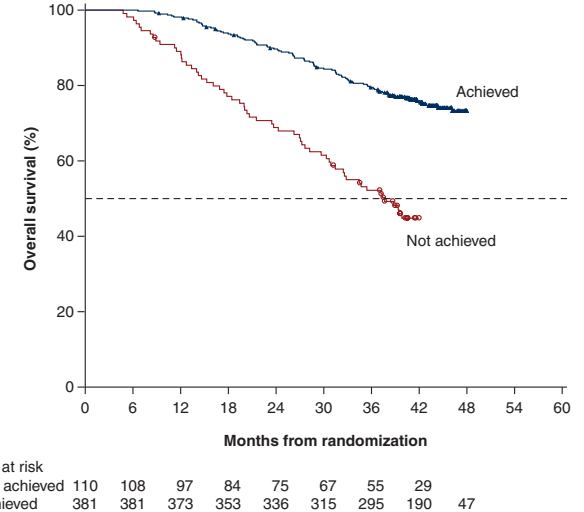
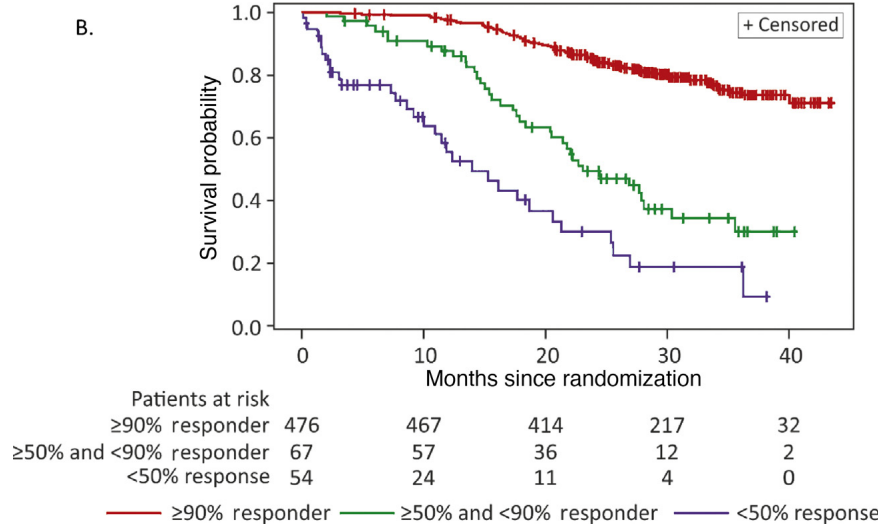


# Correlation of Prostate-specific Antigen Kinetics with Overall Survival and Radiological Progression-free Survival in Metastatic Castration-sensitive Prostate Cancer Treated with Abiraterone Acetate plus Prednisone or Placebos Added to Androgen Deprivation Therapy: Post Hoc Analysis of Phase 3 LATITUDE Study

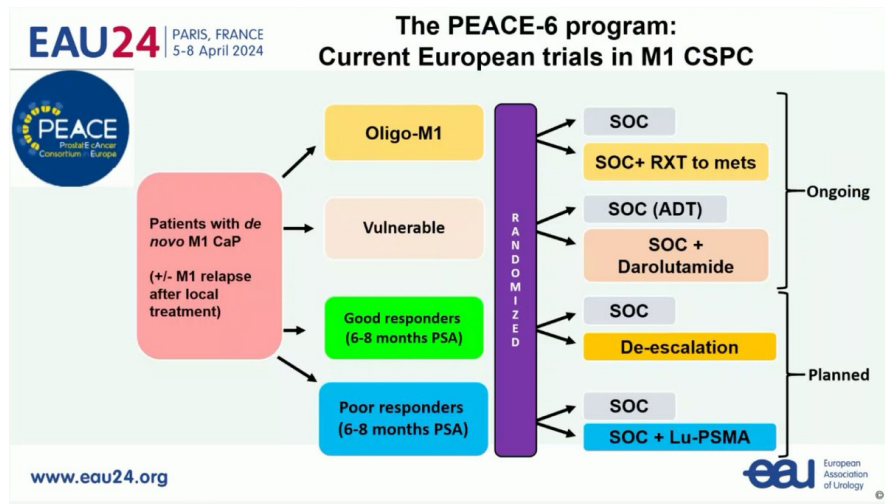
Nobuaki Matsubara<sup>a,\*</sup>, Kim N. Chi<sup>b</sup>, Mustafa Özgüroğlu<sup>c</sup>, Alfredo Rodriguez-Antolin<sup>d</sup>, Susan Feyerabend<sup>e</sup>, Luis Fein<sup>f</sup>, Boris Y. Alekseev<sup>g</sup>, Giri Sulur<sup>h</sup>, Andrew Protheroe<sup>i</sup>, Susan Li<sup>j</sup>, Suneel Mundle<sup>k</sup>, Peter De Porre<sup>l</sup>, Namphuon Tran<sup>h</sup>, Karim Fizazi<sup>m</sup>

Deep, rapid, and durable prostate-specific antigen decline with apalutamide plus androgen deprivation therapy is associated with longer survival and improved clinical outcomes in TITAN patients with metastatic castration-sensitive prostate cancer<sup>☆</sup>

S. Chowdhury<sup>1,2\*</sup>, A. Bjartell<sup>3</sup>, N. Agarwal<sup>4</sup>, B. H. Chung<sup>5</sup>, R. W. Gliven<sup>6</sup>, A. J. Pereira de Santana Gomes<sup>7</sup>, A. S. Merseburger<sup>8</sup>, M. Özgüroğlu<sup>9</sup>, Á. Juárez Soto<sup>10</sup>, H. Uemura<sup>11</sup>, D. Ye<sup>12</sup>, S. D. Brookman-May<sup>13,14</sup>, A. Londhe<sup>15</sup>, A. Bhaumik<sup>16</sup>, S. D. Mundle<sup>16</sup>, J. S. Larsen<sup>17</sup>, S. A. McCarthy<sup>18</sup> & K. N. Chi<sup>18</sup>



# TRIALS WITH A NEW DESIGN: IS APPROPRIATE TO INTENSIFY ONLY THOSE PATIENTS WITHOUT A GOOD PSA RESPONSE?



## CCTG-PR26: Phase 3 TRIPLE-SWITCH

### KEY ELIGIBILITY

- mCSPC (any volume/risk)
- Androgen Deprivation 6-12 months
- AR Pathway Inhibitor\*  $\geq$  4 months  
(any of Abiraterone acetate, Enzalutamide, Apalutamide, or Darolutamide)
- PSA  $\geq$  0.2 at enrolment
- Docetaxel naïve / eligible
- No evidence of progression by PSA, radiographic, or clinical since ADT

### PRIMARY ENDPOINT:

- Overall Survival

### SECONDARY ENDPOINTS:

- Time to CRPC, PSA 50/90/ $<0.2$ / $<0.02$
- ctDNA

### mCSPC ADT 6-12 mo

ARPI\*  $\geq$  4 mo

PSA  $\geq$  0.2

ctDNA  
at registration

RANDOMIZE

1:1

**Arm A:** Docetaxel  
75mg/m<sup>2</sup> IV q3wk x6  
+ ADT + ARPI

ctDNA C2, post C6, PD

**Arm B:** Standard  
ADT + ARPI

### STRATIFICATION:

- PSA 0.2-4 vs  $>4$
- ARPI class
- Liver metastases
- De novo vs Recurrent

### SAMPLE SIZE:

- n=830, target HR 0.75

Study Chairs: Michael Ong  
(CCTG) and Alexandra  
Sokolova (SWOG)

CIHR IRSC  
Canadian Institutes of Health Research  
Institut de recherche en santé de Québec

Canadian Cancer  
Trials Group



Groupe canadien  
des essais sur le cancer

SWOG  
CANCER RESEARCH  
NETWORK

# REINFORCE study design

## Randomized Phase 3 trial

### Broad Patient Population

#### Key inclusion criteria

- mCSPC
- ECOG PS 0-1
- Apalutamide as first line mCSPC
- Lack of achievement of Optimal PSA response at 6 months\*

#### Exclusion Criteria

- Tumor progression to first line\*\*
- Prior docetaxel

#### Stratification factors

- Synchronous vs Metachronous
- Visceral mts (yes/no)
- PSA  $\leq 4$  vs  $>4$  ng/ml

1:1

Randomization

N = 320

Apalutamide+ Docetaxel x 6 cycles

N = 160

Apalutamide

N = 160

#### PRIMARY ENDPOINT

- Event-Free Survival †

#### SECONDARY ENDPOINTS

- PSA progression-free survival
- Time to Castration Resistance
- Time to Subsequent treatment
- Overall Survival
- Symptomatic Skeletal event free survival (SSE-FS)
- Time to initiation of opioid use ( $\geq 7$  days)
- Safety and Security

\* **Optimal PSA response** is defined as 6 months PSA  $\leq 0.2$  ng/ml or PSA response  $\geq 90\%$  and PSA  $>4$  ng/ml

\*\* **Tumor progression** defined according to PCWG3 criteria and RECIST 1.1 for measurable disease.

† **Event-Free Survival** is defined as PSA progression or radiological progression of soft-tissue, visceral, or bone lesions according to PCWG3 and RECIST 1.1 for measurable disease or death from any cause.

**Study Design:** Multicenter Ph3 Randomized Study.

**Population:** Spain (GUARD). Collaboration with other country groups preferred (France, ....). Number of Centers N=20.

**Sample size:** 80% power to detect a 35% decrease in the risk of developing an event in the apalutamide plus docetaxel group versus the control group. One-sided alpha level of 0.1 and a 1:1 randomization. Estimated to observe 133 failure-free survival events (56 events in the experimental arm, 77 events in the control arm), allowing for a 7% dropout rate.

**Accrual period:** 24 months; **Treatment Duration:** 24 months

**Total duration:** 48 months

**First Patient In:** April 2026



# TAKE HOME MESSAGES

WHO: ADT and ARPI is the cornerstone treatment

Select based on

-Your plan: Doublet (AAP, Enza, Apa, Daro, ) vs Triplet (Daro or AAP)

-Patients characteristics: Toxicity profile, concomitant drugs and and AGE

When: **Begin with ADT** (LHRH analogs /LHRH antagonists of Surgical Castr.)

When your plan is clear add the appropriate ARPI

For selected patients add Docetaxel when the PS is appropriate

How: Take it easy.....and make decisions with your the multidisciplinary team



# iThank You!

[egbillalabeitia@salud.Madrid.org](mailto:egbillalabeitia@salud.Madrid.org)

