Genitourinary Masterclass

The value of molecular imaging and its impact on treatment choices

Professor Bertrand Tombal
Professor Fabio Calabrò

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Xtandi™ enzalutamide

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XTANDI™ (enzalutamide) indications

XTANDI is indicated, as per the EMA SmPC:

- As monotherapy or in combination with ADT for the treatment of adult men with high-risk biochemical recurrent non-metastatic HSPC who are unsuitable for salvage radiotherapy
- In combination with ADT for the treatment of adult men with mHSPC
- For the treatment of adult men with high-risk non-metastatic CRPC
- For the treatment of adult men with mCRPC who are asymptomatic or mildly symptomatic after failure of ADT and in whom chemotherapy is not yet clinically indicated
- For the treatment of adult men with mCRPC whose disease has progressed on or after docetaxel therapy

XTANDI is subject to medicinal prescription.
Astellas Pharma B.V., Sylviusweg 62, 2333 BE Leiden, The Netherlands.
ADT, androgen deprivation therapy; EMA, European Medicines Agency; CRPC, castration-resistant prostate cancer; HSPC, hormone-sensitive prostate cancer; mCRPC, metastatic castration-resistant prostate cancer; mHSPC, nmetastatic hormone-sensitive prostate cancer; SmPC, Summary of Product Characteristics.
XTANDI (enzalutamide). Summary of Product Characteristics.
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Genitourinary Masterclass

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Next-generation imaging: How does it impact the evidence seen in trials?

A tale of diagnostic accuracy and clinical utility

Professor Bertrand Tombal
Université Catholique de Louvain and Cliniques Universitaires Saint-Luc,
Brussels, Belgium

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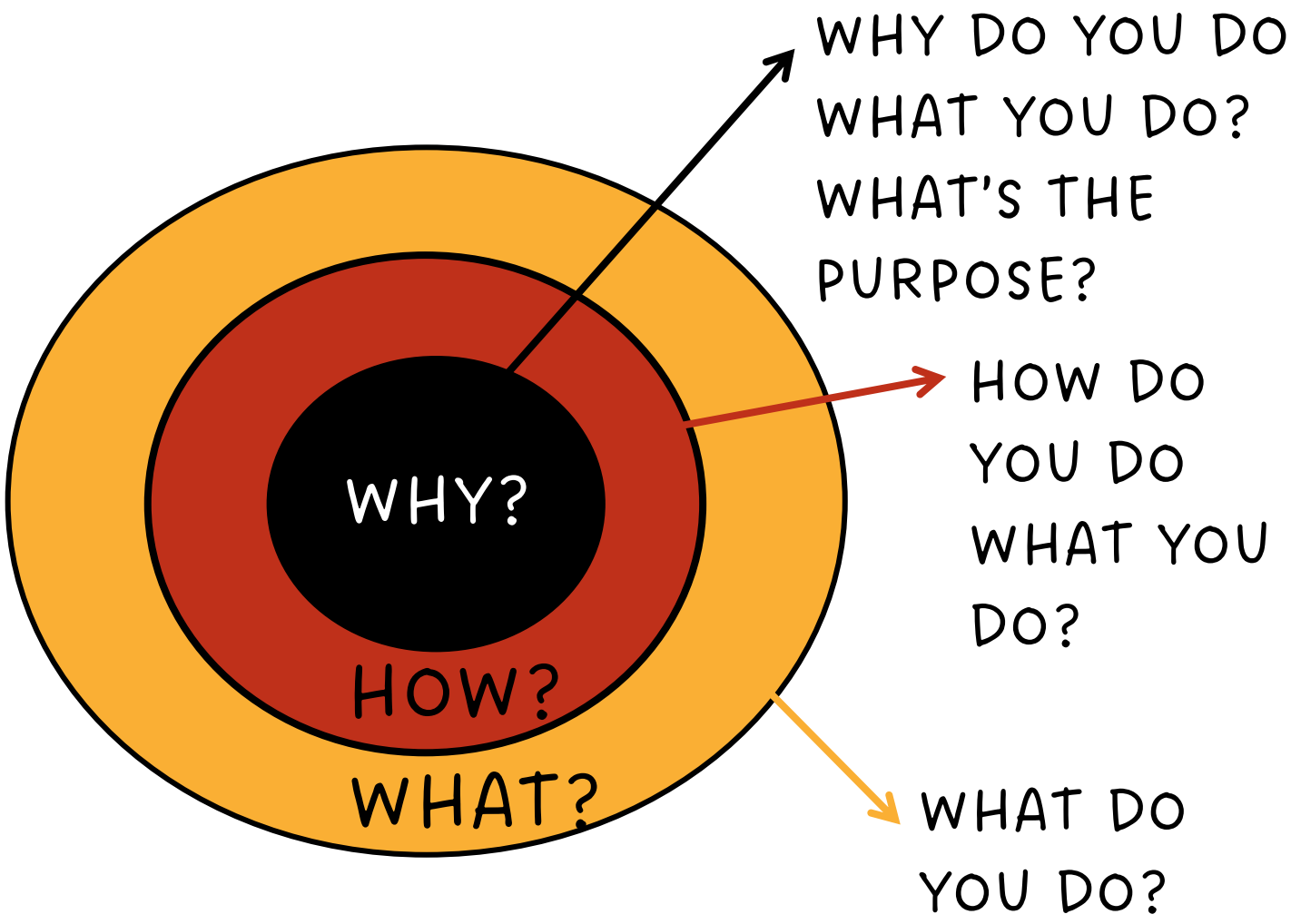
Disclosures

- Professor and Chairman, Division of Urology, Cliniques universitaires Saint Luc, Brussels, Belgium
- Past President, European Organization Of Research and Treatment of Cancer (EORTC)
- Investigator and paid advisor for Amgen, Astellas, Bayer, Janssen, Ferring, Pfizer, Sanofi, Myovant
- The speaker has received an honorarium from Astellas for this presentation
- **This presentation reflects the personal view of Bertrand Tombal**



START WITH WHY

SIMON SINEK

Simon Sinek. Start With Why. 2009.
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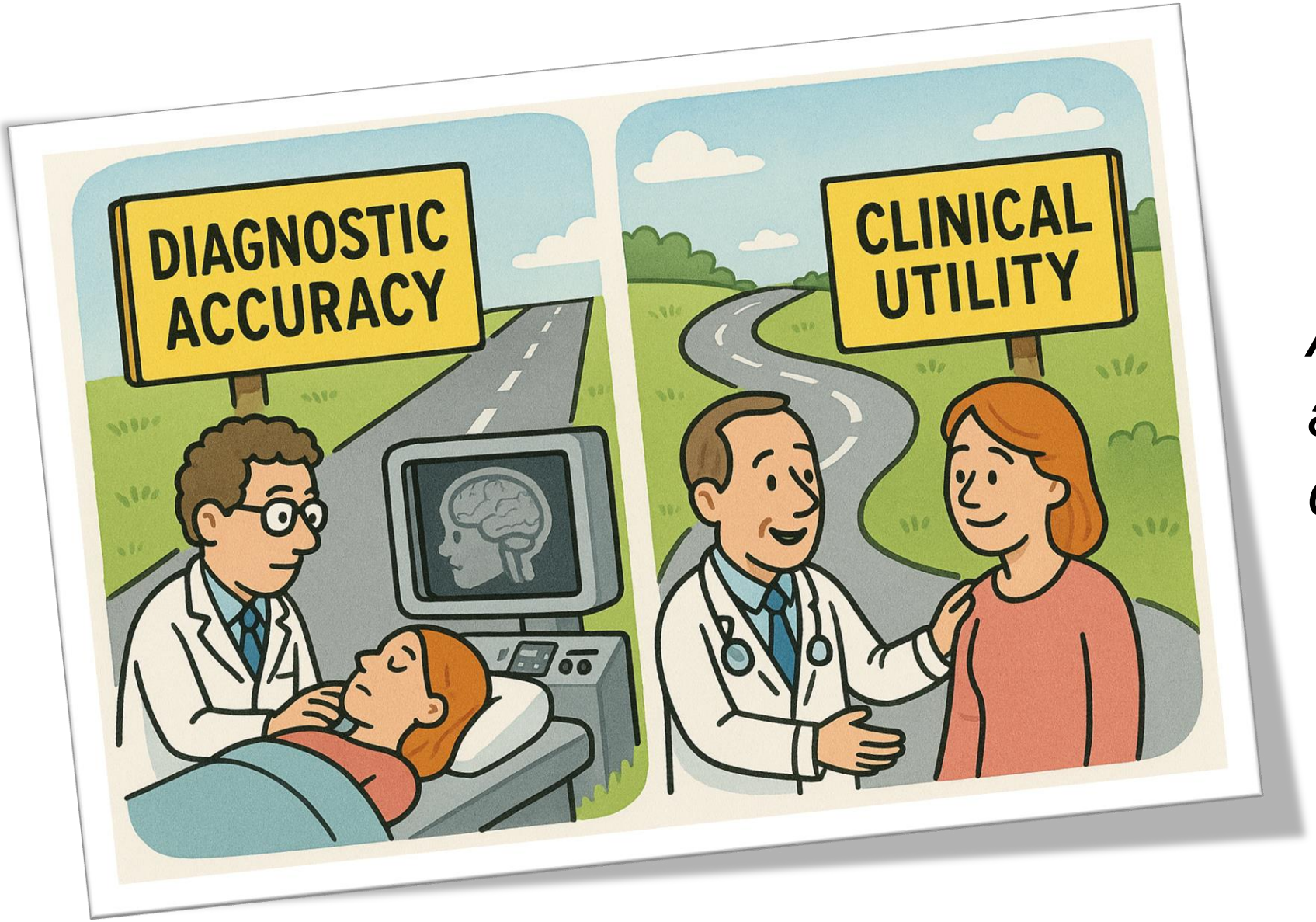
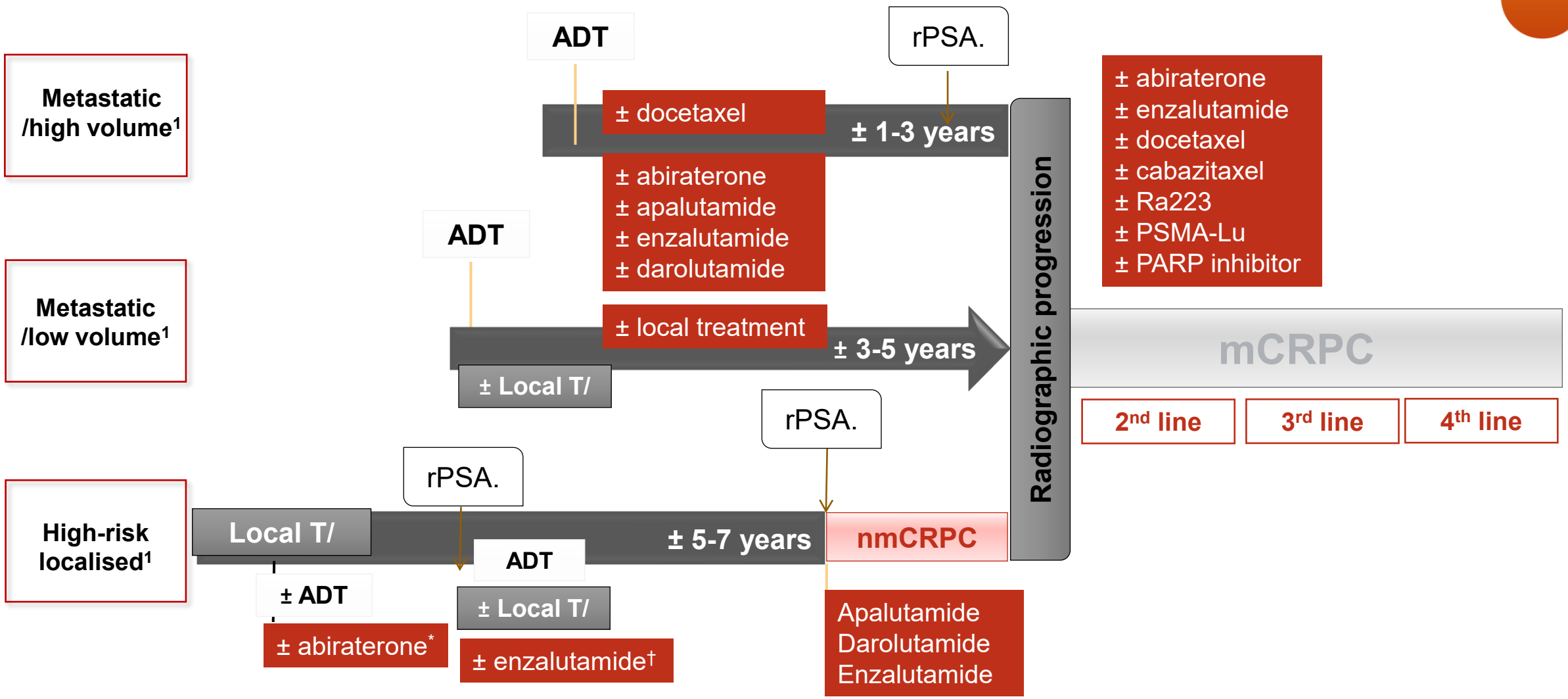


A tale of diagnostic accuracy and clinical utility

Image provided by the speaker.

Advanced PCa landscape in 2025



Adapted from Gillessen et al., 2025.

*Abiraterone is neither approved nor reimbursed in this high-risk localised setting;[2] †Indicated for patients with nmHSPC with high-risk biochemical recurrence, defined as PSA-DT of ≤9 months and a PSA level of ≥2 ng/ml above nadir after RT or ≥1 ng/ml after RP with or without postoperative RT.[3]

ADT, androgen deprivation therapy; (n)mCRPC, (non) metastatic castration resistant prostate cancer; PCa, prostate cancer; PSA, prostate-specific antigen; rPSA, PSA recurrence; RT, radiotherapy; SRE, skeletal-related event; SRE and deterioration of health related-quality of life; T/, treatment.

1. Gillessen S et al. *Eur Urol* 2025;87(2):157-216; 2. ZYTIGA (abiraterone acetate) Summary of Product Characteristics; 3. Freedland SJ, et al. *N Engl J Med* 2023;389:1453–1465.

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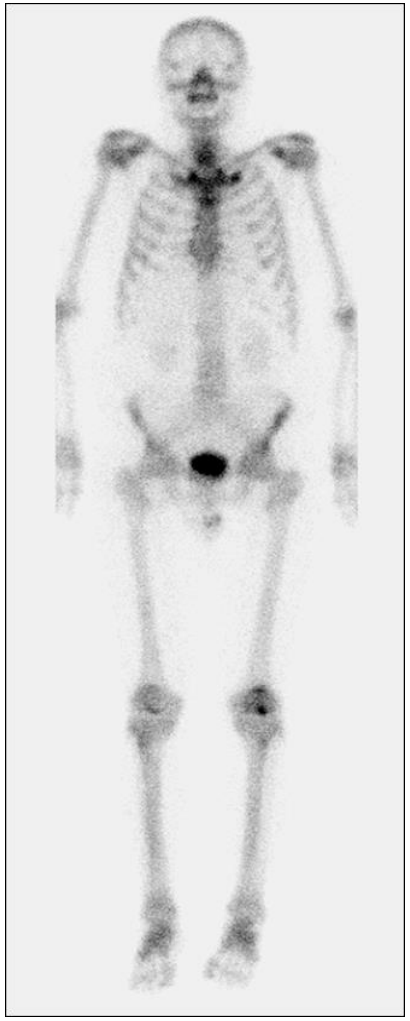
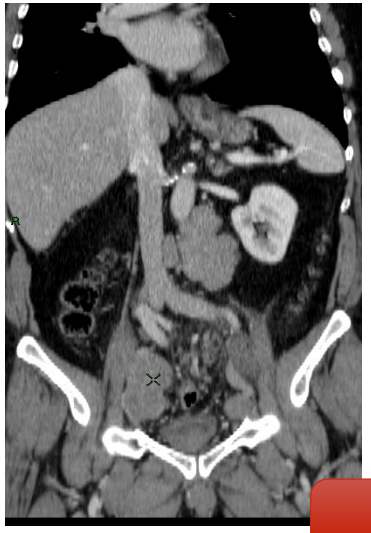
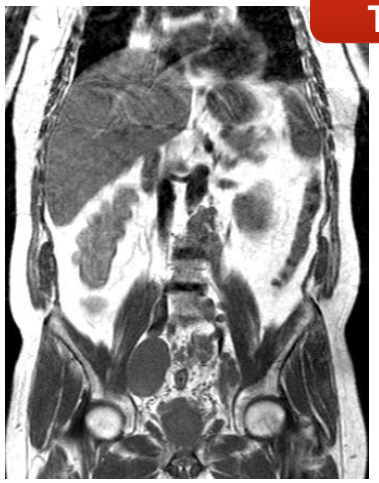
From conventional to next-generation imaging…



Bone





Soft Tissues

Guideline approved !!
(Very) poor diagnostic performance

- All the trials included the patients based on conventional imaging
- Patients with mHSPC have been further stratified based on the timing and extent of disease from conventional imaging and used that information when implementing the results of the trials

mHSPC, metastatic hormone sensitive prostate cancer.
EAU. EAU–EANM–ESTRO–ESUR–ISUP–SIOG guidelines on prostate cancer. Available at: https://uroweb.org/guidelines/prostate-cancer (Last accessed: June 2025).
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mHSPC segmentation

Synchronous (de novo)

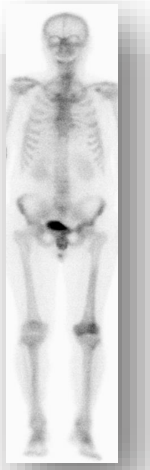
Low volume

High volume

Metachronous (metastases post diagnosis)

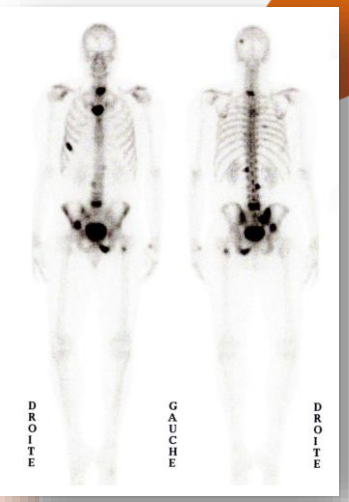
A.L. 63 year old (low-volume mHSCP)

Characteristics	
Notes:	Mild urinary symptoms (IPSS 15) No co-morbidities DRE T3a
Gleason:	5/12 + target Gleason Grade ISUP 5
PSA:	14.6 ng/ml
Metastases:	1 large 20 mm PI-RADS 5 lesion and 1 pelvic bone metastases
Bone scan:	1 hot spot left pubic-bone



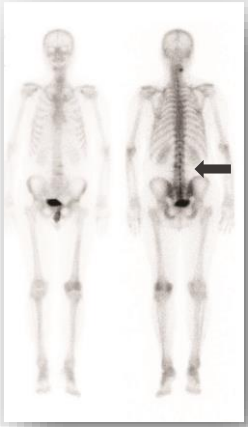
DP. A. 71 years old (high-volume mHSPC)

Characteristics	
Notes:	Acromio-clavicular pain No comorbidities
Gleason:	7
PSA:	>2500 ng/ml
ALP:	450 UI/L
Metastases:	Multiple bone metastases, including peripheral negative CT



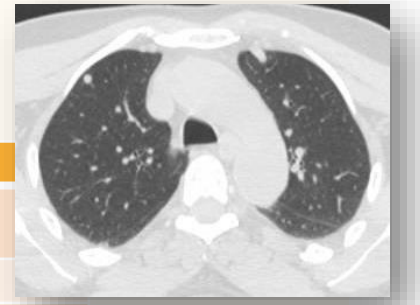
D.J 69 yo. (asynchronous low-volume mHNCP-oligo recurrent)

Characteristics	
Notes:	2012: brachytherapy for intermediate risk-localised PCa T1c
Gleason:	2012: Gleason 7 (3+4)
PSA:	2012: 7.2 ng/ml PSA nadir: 1.2 ng/ml 2018: 2.1 ng/ml 2019: 19.4 ng/ml
Metastases:	1 bone metastases
CT scan:	No lymph nodes, 1 bone metastases



D.J 71 yo. (asynchronous high-volume mHSPC)

Characteristics	
Notes:	2017: RRP for high-risk localised PCa (pT3a R0 N0)
Gleason:	9 (5+4)
PSA:	2017: 17.2 ng/ml PSA nadir: 0.01 ng/ml 2018: 4.4 ng/ml
Metastases:	multiples lung metastases confirmed by EBUS
Bone scan:	Negative



Fictional clinical case studies created for illustrative purposes; Images copyrighted to Cliniques universitaires Saint Luc, Brussels.

ALP, alkaline phosphatase; CT, computed tomography; DRE, digital rectal examination; EBUS, endobronchic ultrasound; IPSS, international prostate symptom score; ISUP, International Society of Urological Pathology; mHSPC, metastatic hormone-sensitive prostate cancer; PCa, prostate cancer; PI-RADS, Prostate Imaging Reporting and Data System; PSA, prostate-specific antigen.

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Early intensification strategy with ARPI in mHSPC

Agent	Study	n	PFS		mFU	OS	
			HR (95% CI)	p	m	HR (95% CI)	p
Abiraterone + prednisone	LATITUDE[1,2]	1199	0.47 (0.39-0.55)	<0.001	30.4	0.62 (0.51−0.76)	<0.001
	STAMPEDE M1[3]	1002	0.31 (0.26–0.37)	<0.001	40.0	0.61.(0.49–0.75)	<0.001
	PEACE 1 ITT[4]	1172	0.54 (0.41–0.71)	<0.0001	52.8	0.82 (0.69–0.98)	0.030
	PEACE 1 Docetaxel[4*]	710	0.50 (0.34–0.71)	<0.0001	45.6	0.75 (0.59–0.95)	0.017
Apalutamide	TITAN[5]	1052	0.48 (0.39-0.60)	<0.001	44.0	0.65 (0.53–0.79)	<0.0001
Enzalutamide	ENZAMET[6,7†]	1125	0.40 (0.33–0.49)	<0.001	58.0	0.70 (0.58–0.84)	<0.0001
	ARCHES[8,9]	1150	0.39 (0.30-0.50)	<0.001	44.6	0.66 (0.53–0.81)	<0.001
Darolutamide	ARASENS Docetaxel[10]	1306	N.R.		43.7	0.68 (0.57–0.80)	<0.001
	ARANOTE[11,12]	669	0.54 (0.41–0.71)	<0.0001	25.3	0.78 (0.58–1.05)	NS

Interpret with caution; table is for illustrative purposes only. Studies should not be compared.

***Abiraterone + ADT + docetaxel triplet is not approved in the EU for mHSPC.†ENZAMET was not powered to analyse the results of OS in individual subgroups. Therefore, an improvement in OS cannot be demonstrated formally in any subgroup, including mHSPC patients taking XTANDI + LHRH therapy with or without concomitant docetaxel.**

ARPI, androgen receptor pathway inhibitor; CI, confidence interval; ITT, intent to treat; HR, hazard ration; m, month; mFU, median follow-up; mHSPC, metastatic hormone sensitive prostate cancer; NR, not reached; NS, not significant; OS, overall survival; PFS, progression-free survival.

1. Fizazi, K. et al. *N Engl J Med* 2017 27;377:352-360; 2, Fizazi K, et al. *Lancet Oncol* 2019;20:686–700; 3. James, N. D,. et al.. *N Engl J Med* 2017 27;377:338–351; 4. Fizazi K, et al. *Lancet* 2022;10336:1695–1707; 5. Chi K,.N, et al. *J Clin Oncol* 2021;39:2294–2303; 6. Davis ID. Et al. *New Engl J Med* 2019 381:121-131; 7. Sweeney C. et al. *Lancet Oncol.* 2023;2:323-334; 8. Amstrong A. et al *J Clin Oncol* 2019 37:2974–2986; 9. Armstrong AJ, et al. *J Clin Oncol* 2022:40:1616–1622; 10. Smith et al. *N Engl J Med* 2022;386:1132–1142; 11. Saad et al *J Clin Oncol* 2024;42:4271–4281; 12. FDA approves darolutamide for metastatic castration-sensitive prostate cancer. Available at: FDA approves darolutamide for metastatic castration-sensitive prostate cancer | FDA. Last accessed: June 2025.

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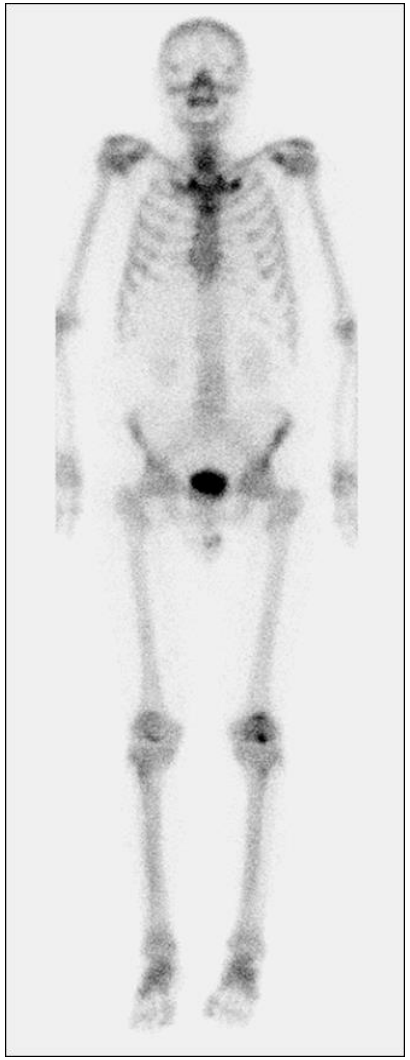
From conventional to next-generation imaging…



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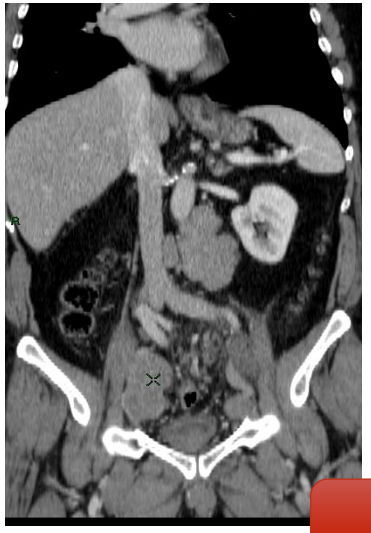

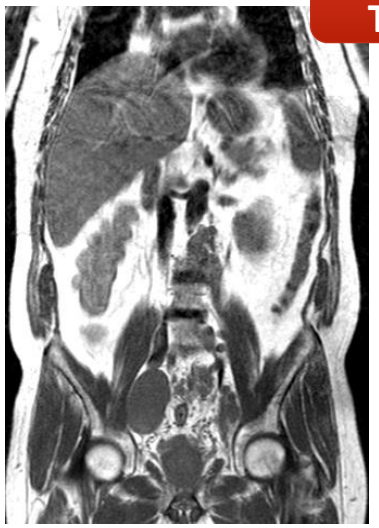

Soft Tissues

Guideline approved !!
(Very) poor diagnostic performance

- All the trials included the patients based on conventional imaging
- Patients with mHSPC have been further stratified based on the timing and extent of disease from conventional imaging and used that information when implementing the results of the trials
- Patients with nmHSPC (BCR) have been further stratified based on PSA kinetic, Gleason score, and time to recurrence

EAU. EAU–EANM–ESTRO–ESUR–ISUP–SIOG guidelines on prostate cancer. Available at: https://uroweb.org/guidelines/prostate-cancer (Last accessed: June 2025).
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Not all BCR are the same !!!

EAU high risk

After RP
PSA-DT ≤ 1 yr **OR** pathological ISUP grade group 4–5
After RT
Interval to biochemical failure ≤18 months **OR** biopsy ISUP grade group ≥4

EAU low risk

After RP
PSA-DT >1 yr **AND** pathological ISUP <4
After RT
Interval to biochemical failure >18 months **AND** biopsy ISUP grade group <4

Adapted from EAU Guidelines on Prostate Cancer.
BCR, biochemical recurrence; EAU, European Association of Urology; ISUP, International Society of Urological Pathology; PSADT, prostate-specific antigen doubling time; RP, radical prostatectomy; RT, radiotherapy.
EAU. EAU–EANM–ESTRO–ESUR–ISUP–SIOG guidelines on prostate cancer. Available at: uroweb.org/guideline/prostate-cancer/. Last accessed: June 2025
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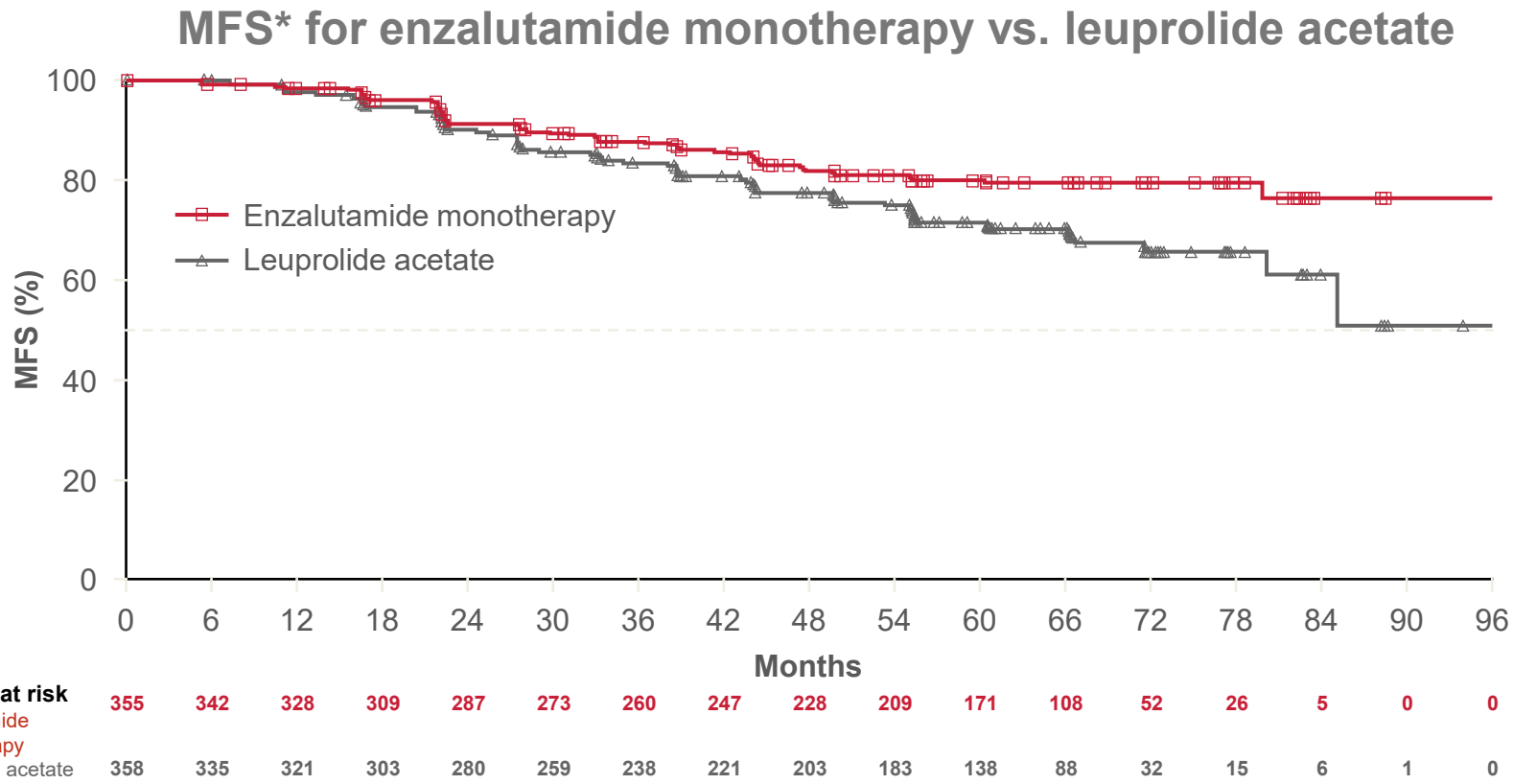
EMBARK: A Phase 3 RCT study of ENZ or PBO + leuprolide acetate and ENZ monotherapy in high-risk BCR prostate cancer



	Enzalutamide monotherapy (n=355)	Leuprolide acetate (n=358)
Median follow-up, mo	60.7	60.6
Events, n (%)	63 (17.7)	92 (25.7)
Per BICR, median MFS (95% CI), mo	NR (NR)	NR (85.1–NR)

HR for metastasis or death (95% CI): 0.63 (0.46–0.87); *P*=0.005†

Adapted from Freedland SJ, et al. *N Engl J Med* 2023.
Data cutoff: January 31, 2023. Symbols indicate censored data.
*MFS defined as the time from randomisation to the date of earliest objective evidence of imaging-based progression by central imaging or death due to any cause. †The HR was based on a Cox regression model with treatment as the only covariate stratified by screening PSA, PSADT, and prior hormonal therapy as reported in the IWRS; relative to leuprolide acetate <1 favoring enzalutamide monotherapy; the two-sided P-value was based on a stratified log-rank test.
ADT, androgen deprivation therapy; BCR, biochemically recurrent; BICR, blinded independent central review; CI, confidence interval; ENZ, enzalutamide; HR, hazard ratio; ITT, intention-to-treat; MFS, metastasis-free survival; mo, months; NR, not reached; PBO, placebo.
Freedland SJ, et al. *N Engl J Med* 2023;389:1453–1465.
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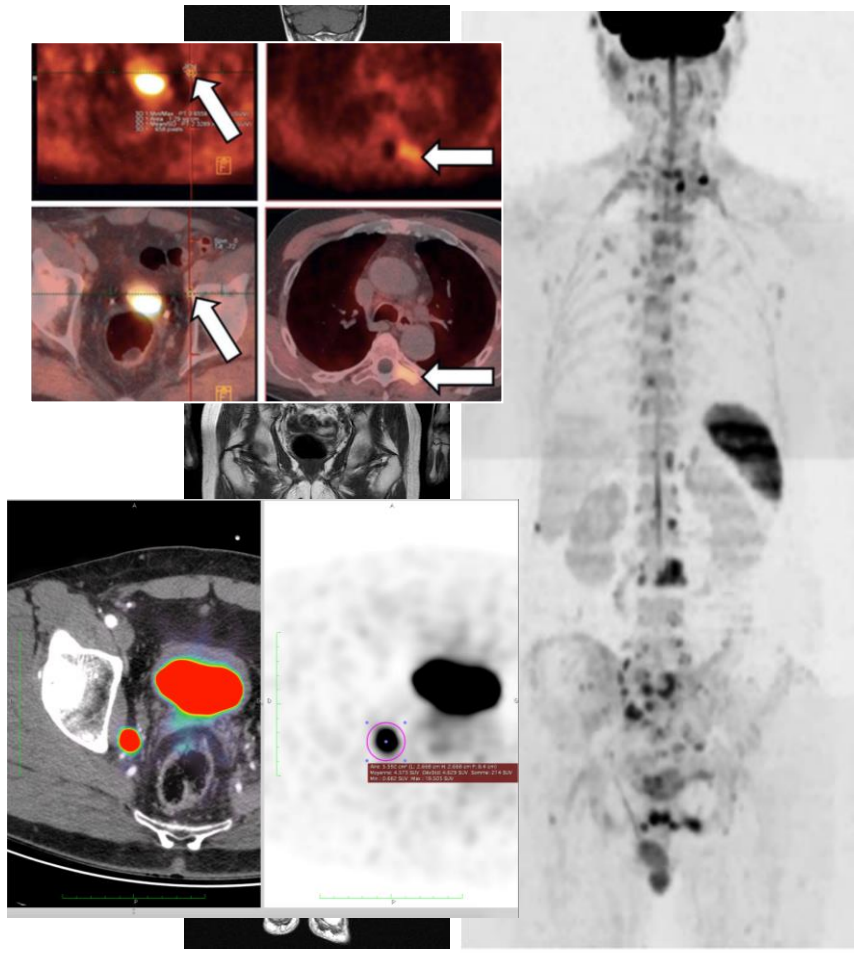
From conventional to next-generation imaging…



Diagnostic accuracy[1]

- Whole-body MRI and various PETs have been tested
- They significantly improve diagnostic accuracy
- If you use them in newly diagnosed high-risk PCa on SIM, you will end-up with “a lot” of oligometastatic patients…

Review

Consensus on molecular imaging and theranostics in prostate cancer [2]

Stefano Fanti, Silvia Minozzi, Gerald Antoch, Ian Banks, Alberto Briganti, Ignasi Carrio, Arturo Chiti, Noel Clarke, Matthias Eiber, Johann De Bono, Karim Fizazi, Silke Gillessen, Sam Gledhill, Uwe Haberkorn, Ken Herrmann, Rodney J Hicks, Frederic Lecouvet, Rodolfo Montironi, Piet Ost, Joe M O'Sullivan, Anwar R Padhani, Jack A Schalken, Howard I Scher, Bertrand Tombal, R Jeroen A van Moorselaar, Heindrik Van Poppel, Hebert Alberto Vargas, Jochen Walz, Wolfgang A Weber, Hans-Jürgen Wester, Wim J G Oyen

MRI, magnetic resonance imaging; PCa, prostate cancer; PET, positron emission tomography; SIM, systematic imaging modalities.
1. Speaker's clincial experience; 2. Fanti S, et al. *Lancet Oncol* 2018;19:e696–e708.
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WB-MRI assessment of metastatic spread in PCa: Therapeutic perspectives on targeted management of oligometastatic disease

Distribution of metastatic disease according to the target organ (bones, nodes, both) in 96 metastatic PCa patients (46 mHSPC and 50 mCRPC)

Site	All patients		≤3 metastases	
	mHSPC	mCRPC	mHSPC	mCRPC
Lymph nodes only, n (%)	13 (28)	17 (34)	3 (6.5)	11 (22)
Bone only, n (%)	14 (29)	16 (32)	7 (15)	11 (22)
Lymph nodes and bone, n (%)	19 (41)	17 (34)	3 (6.5)	3 (6)
Total	46	50	13	25

13/46 oligometastatic M+ on new imaging modalities

Distribution of abnormal LN within and outside the accepted eLND and RTOG/CTV area, here delineated based on Joniau et al. and Lawton et al.

	mHSPC (n=46)	mCRPC (n=50)
LN distribution regarding eLND area		
No Abnormal lymph nodes detected within the eLND the standard template or bone metastases	14	16
Abnormal lymph nodes within eLND standard template only	7*	10*
Abnormal lymph nodes outside the eLND standard template or bone metastases	25*	24*
LN distribution regarding RTOG/CTV irradiation area		
No abnormal lymph nodes detected within RTOG/CTV standard template	14*	16*
Abnormal lymph nodes detected within RTOG/CTV standard template only	12*	15*
Abnormal lymph nodes outside the RTOG/CTV standard template or bone metastases	20*	19*

Most lymph nodes detected outside standard treatment template

Adapted from Larbi A, et al. *Prostate*. 2016.
*Data are numbers of patients.
CTV, clinical target volume; eLND, elective lymph node dissection; LN, lymph node; M, metastasis; mCRPC, metastatic castration-resistant prostate cancer; mHSPC, metastatic hormone-naïve prostate cancer; MRI, magnetic resonance imaging; PCa, prostate cancer; RTOG, radiation therapy oncology group; WB, whole body;
Larbi A, et al. *Prostate*. 2016;76:1024–1033.
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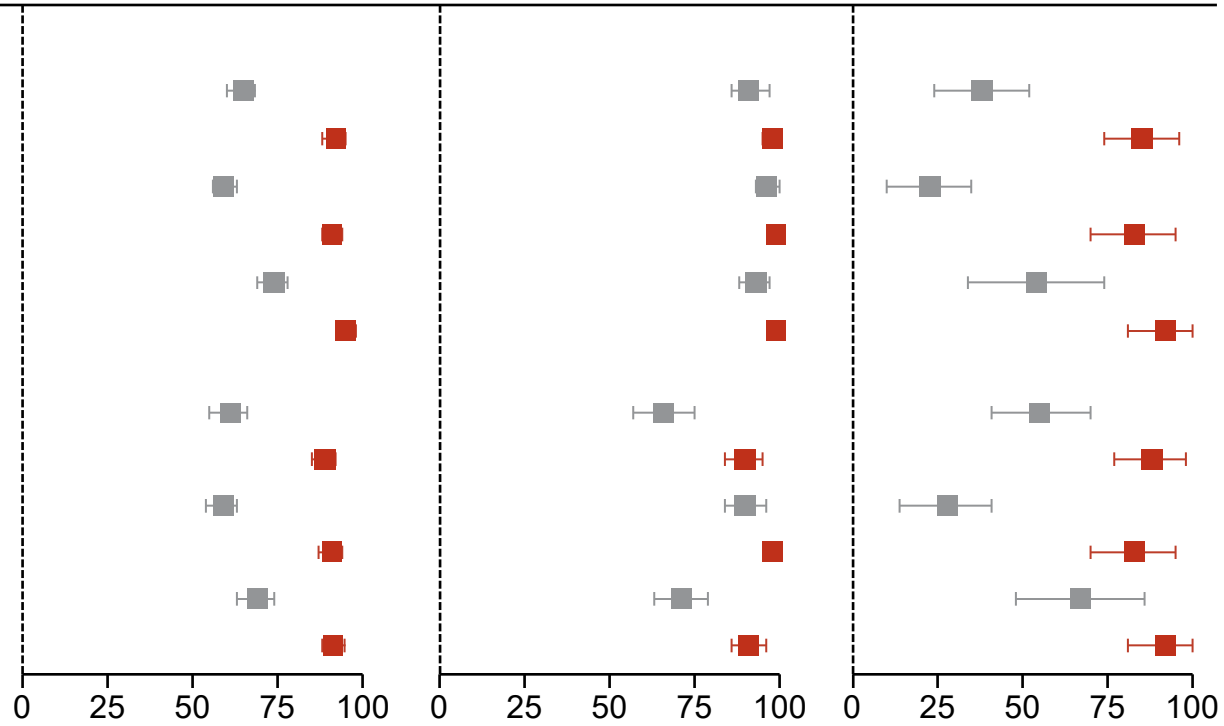
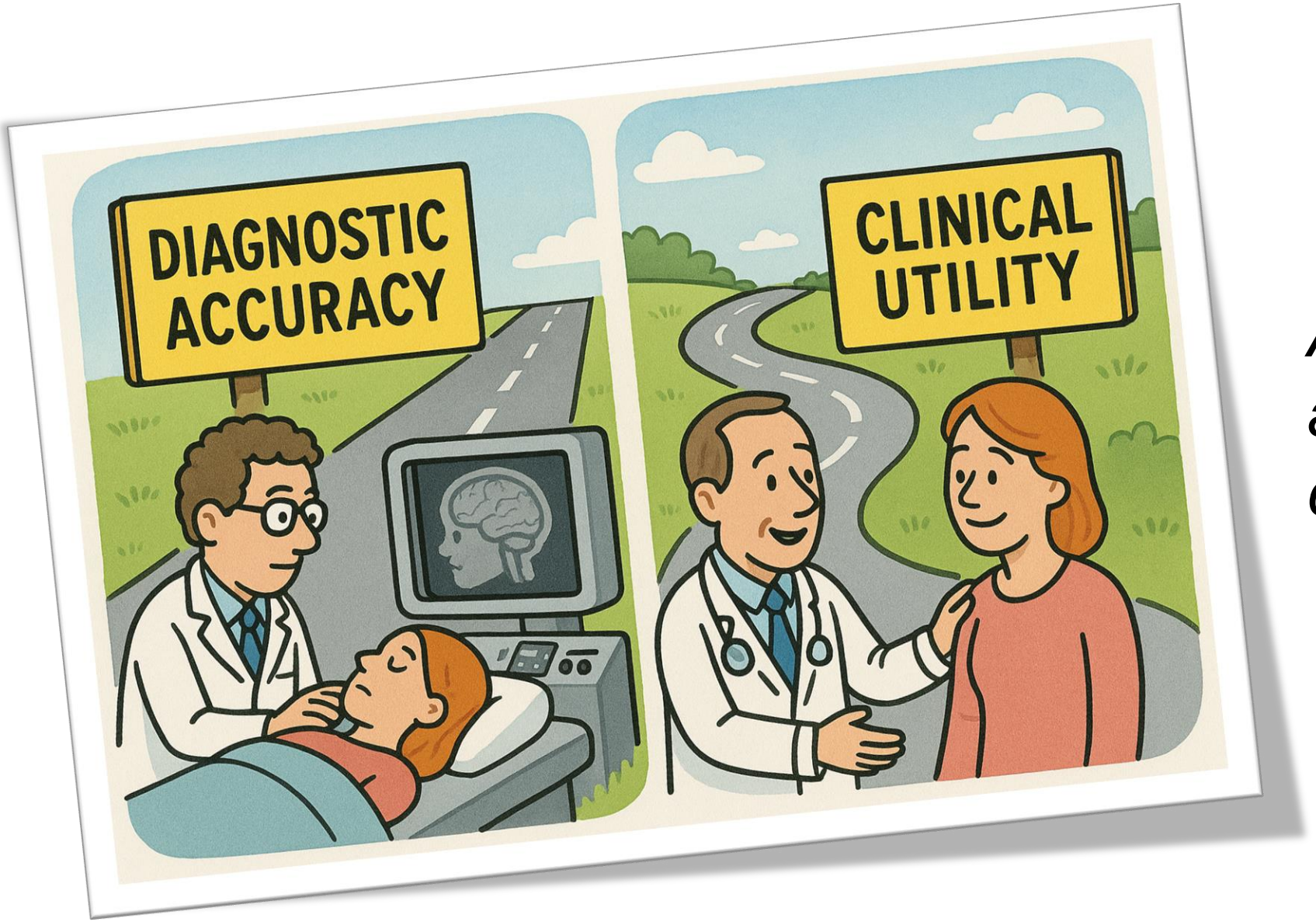
Prostate-specific membrane antigen PET-CT in patients with high-risk PCa before curative-intent surgery or radiotherapy (proPSMA): A prospective, randomised, multi-centre study

Accuracy, sensitivity, and specificity of conventional imaging compared with PSMA PET-CT

	N	Positive True/False	Negative True/False
Primary analysis			
Any metastatic disease	150	18/9	94/29
	145	34/2	103/6
Pelvic nodal	150	9/4	106/31
	145	29/1	109/6
Distant metastases	150	13/9	117/11
	145	22/1	120/2
Sensitivity analysis: equivocal lesions treated as positive			
Any metastatic disease	150	26/35	68/21
	145	35/11	94/5
Pelvic nodal	150	11/11	99/29
	145	29/2	108/6
Distant metastases	150	16/37	89/8
	145	22/11	110/2



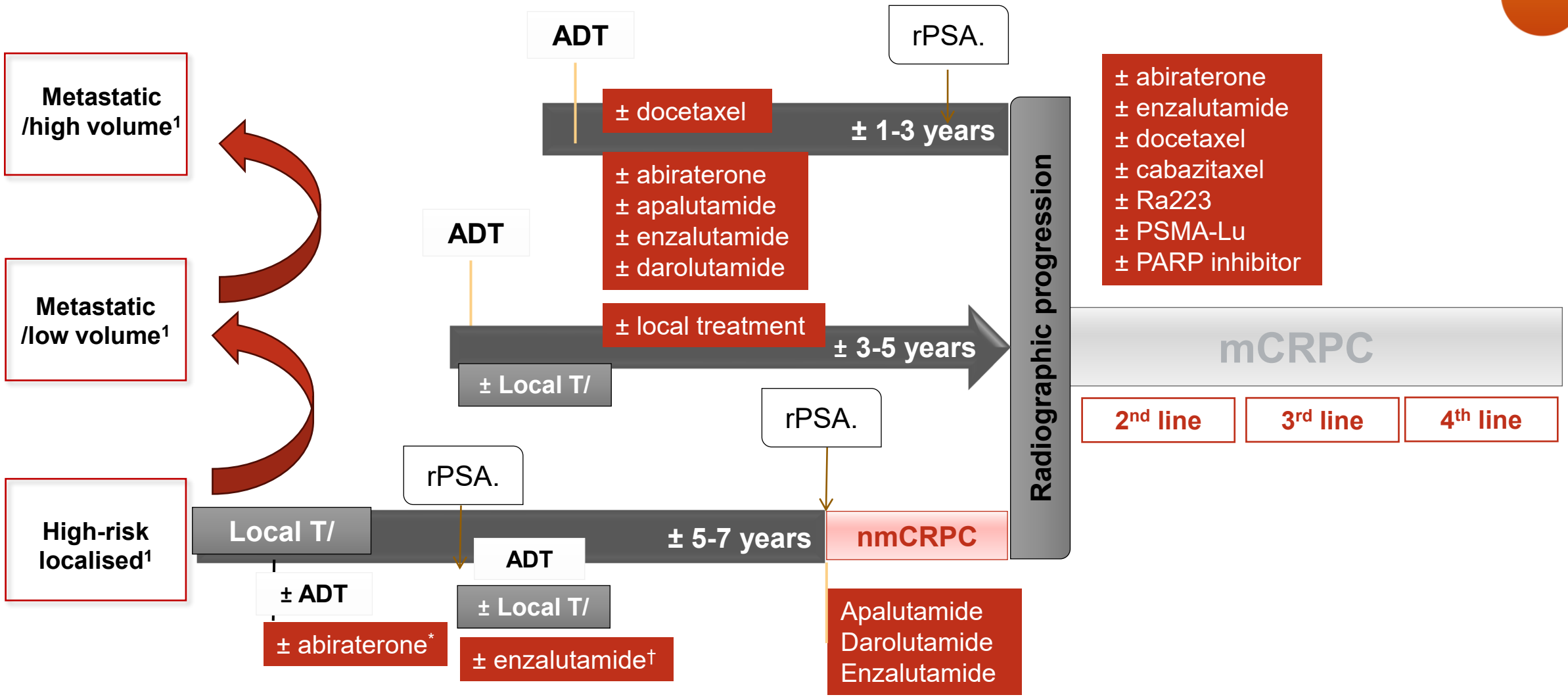
Adapted from Hofman MS, et al. *Lancet* 2020.
AUC, area under the curve; CI, confidence interval; CT, computed tomography; PCa, prostate cancer; PSMA, prostate-specific membrane antigen; PET, positron emission tomography.
Hofman MS, et al. *Lancet* 2020;395:1208–1216.



A tale of diagnostic accuracy and clinical utility

Image provided by the speaker.

Advanced PCa landscape in 2025



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ADT, androgen deprivation therapy; (n)mCRPC, (non) metastatic castration resistant prostate cancer; PCa, prostate cancer; PSA, prostate-specific antigen; rPSA, PSA recurrence; RT, radiotherapy; SRE, skeletal-related events; Sy, symptoms, SRE and deterioration of health related-quality of life; T/, treatment.

1. Gillessen S et al. *Eur Urol* 2025;87(2):157-216; 2. ZYTIGA (abiraterone acetate) Summary of Product Characteristics; 3. Freedland SJ, et al. *N Engl J Med* 2023;389:1453–1465.

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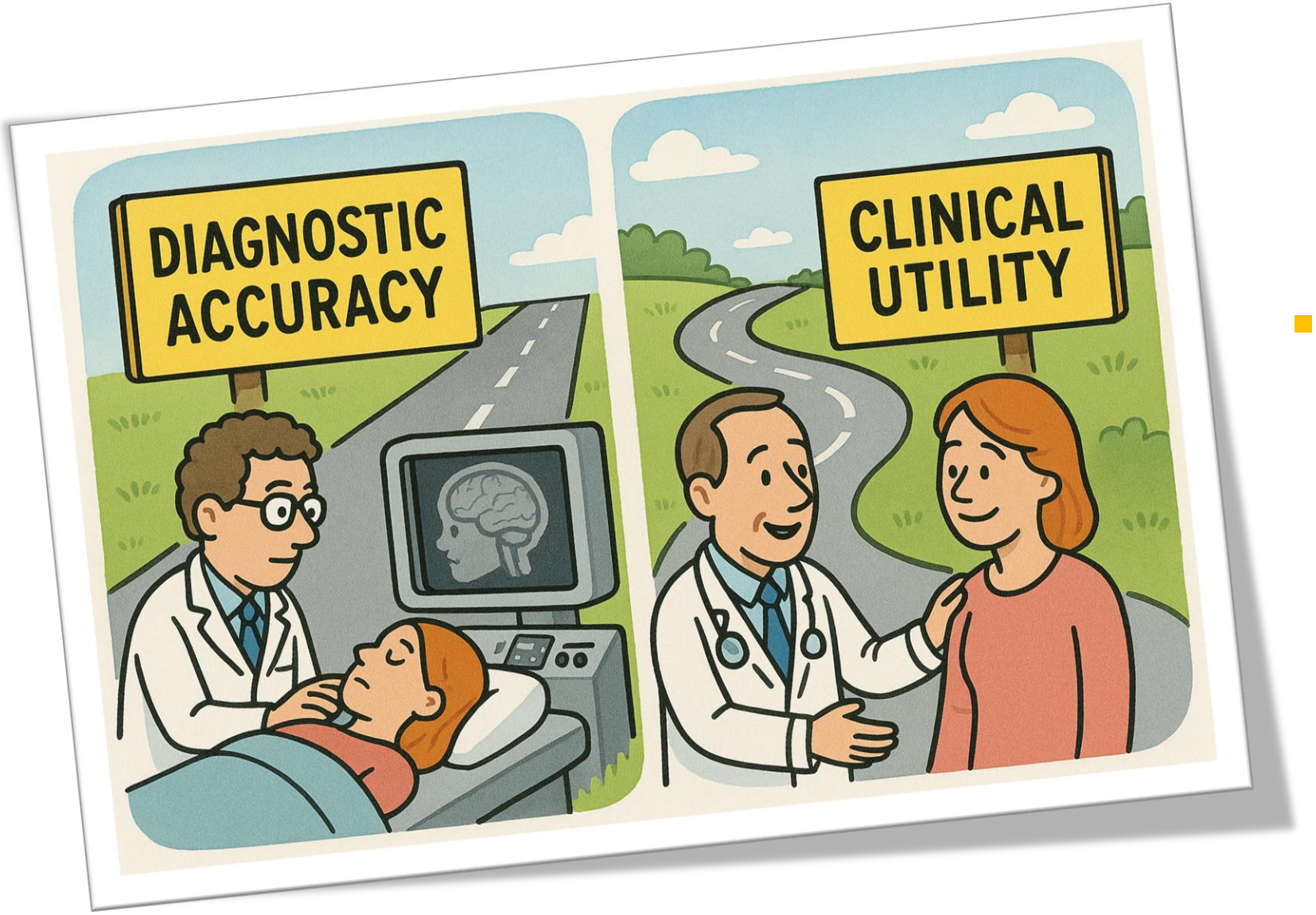
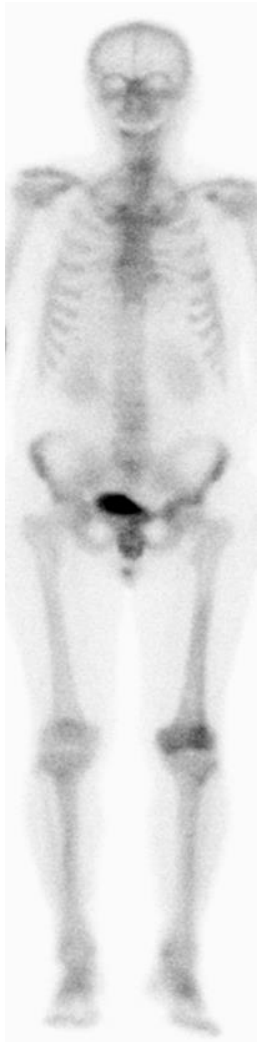


- In the mHSPC setting

Image provided by the speaker.
mHSPC, metastatic hormone sensitive prostate cancer.

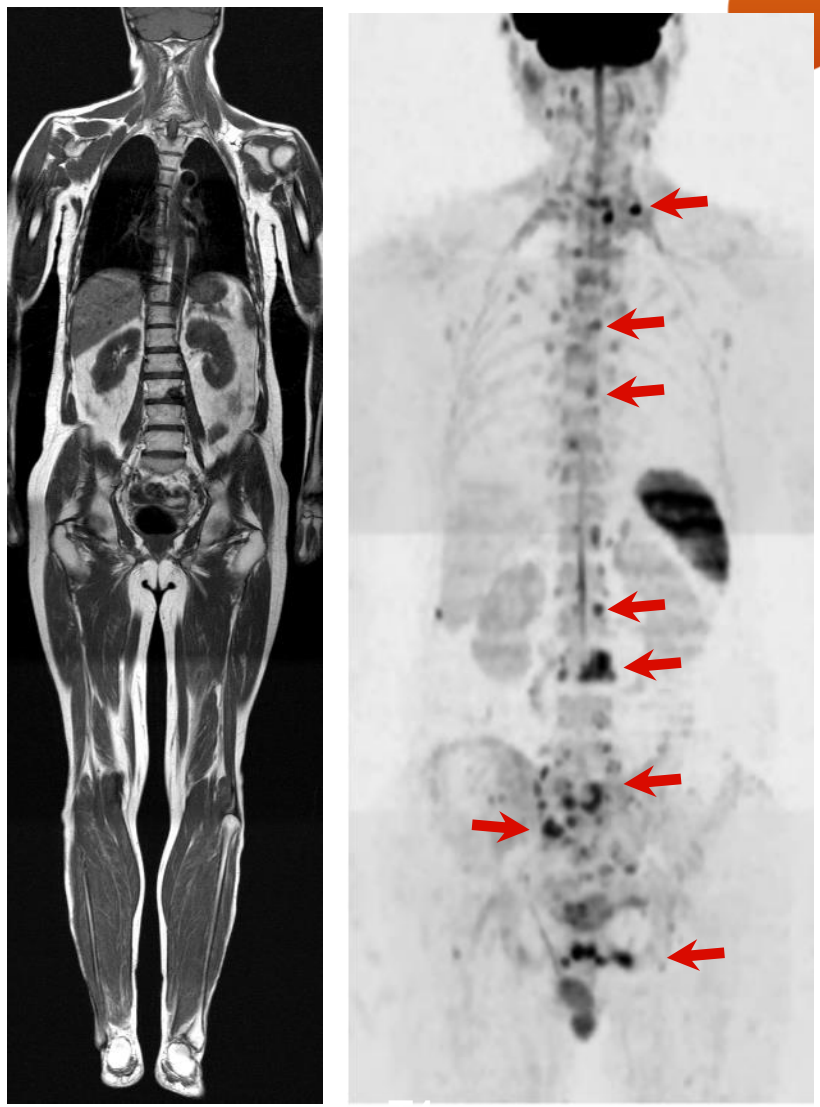
A.L. 63 years old



- Mild urinary symptoms (IPSS 15)
- PSA 14.6 ng/ml
- No comorbidities
- DRE T3a
- MRI pelvis: 1 large 20 mm PI-RADS 5 lesion and 1 pelvic bone metastases
- Biopsy: 5/12 + target Gleason Grade ISUP 5
- Bone scan: negative

- Patient is offered degarelix + enzalutamide and prostate RT
- Ask for a second opinion. He is offered WB-MRI

WB-MRI (+)



DWI

Fictional clinical case study created for illustrative purposes; Images copyrighted to Cliniques universitaires Saint-Luc, Brussels.
DRE, digital rectal examination; DWI, diffusion weight imaging; IPSS, international prostate symptom score; ISUP, international society of urological pathology; MRI, magnetic resonance imaging; PI-RADS, prostate imaging reporting and data system; PSA, prostate specific antigen; RT, radiotherapy; WB, whole body.
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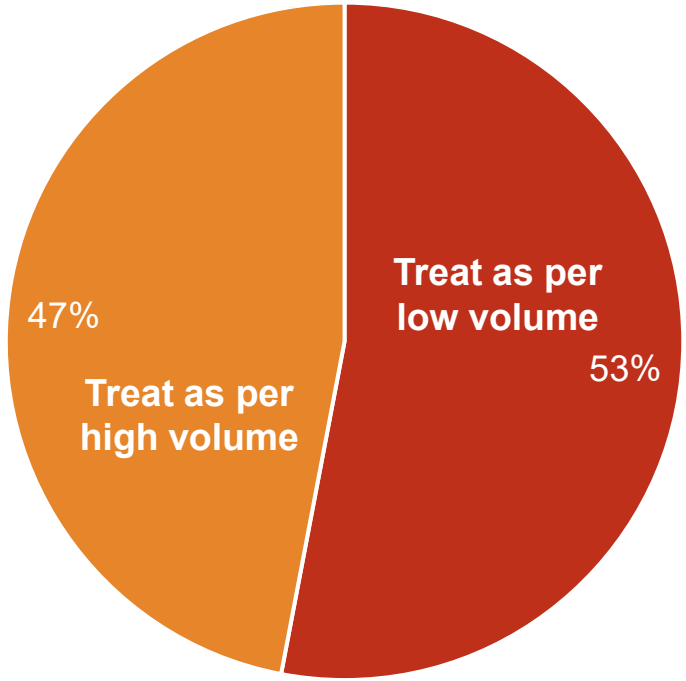
APCCC panel 2022

What would be the recommended treatment strategy for patients whose mHSPC is low volume on conventional imaging but high volume on next-generation imaging?

Panellists' responses:



Adapted from Gillessen S, et al. *Eur J Cancer* 2023.
APCCC, Advanced Prostate Cancer Consensus Conference; mHSPC, metastatic hormone-sensitive prostate cancer.
Gillessen S, et al. *Eur J Cancer* 2023;185:178–215.
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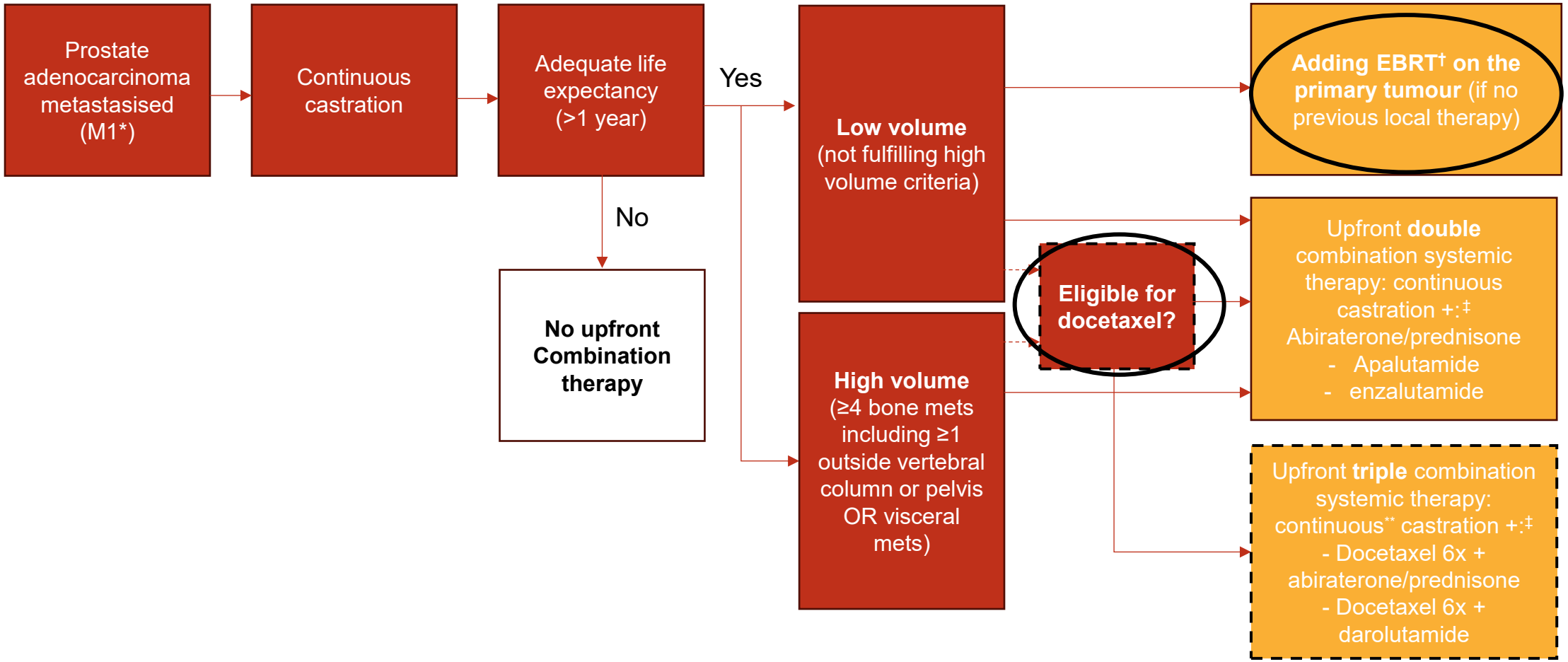
EAU guidelines

EAU – ESTRO – ESUR – SIOG Guidelines on **Prostate Cancer**



Adapted from EAU Guidelines on Prostate Cancer.
*Based on staging using combination of bone scan and CT; †EBRT: IMRT/VMAT + IGRT of the prostate (equivalent of up to 72 Gy in 2 Gy fractions); ‡Alphabetical order; ‡not for low volume, metachronous disease.
BCR, biochemical recurrence; EAU, European Association of Urology; EBRT, external beam radiotherapy; IGRT, image-guided radiotherapy; IMRT, intensity-modulated radiotherapy; ISUP, International Society of Urological Pathology; PSADT, prostate-specific antigen doubling time; RP, radical prostatectomy; RT, radiotherapy.
EAU. EAU–EANM–ESTRO–ESUR–ISUP–SIOG guidelines on prostate cancer. Available at: uroweb.org/guideline/prostate-cancer/. Last accessed: June 2025
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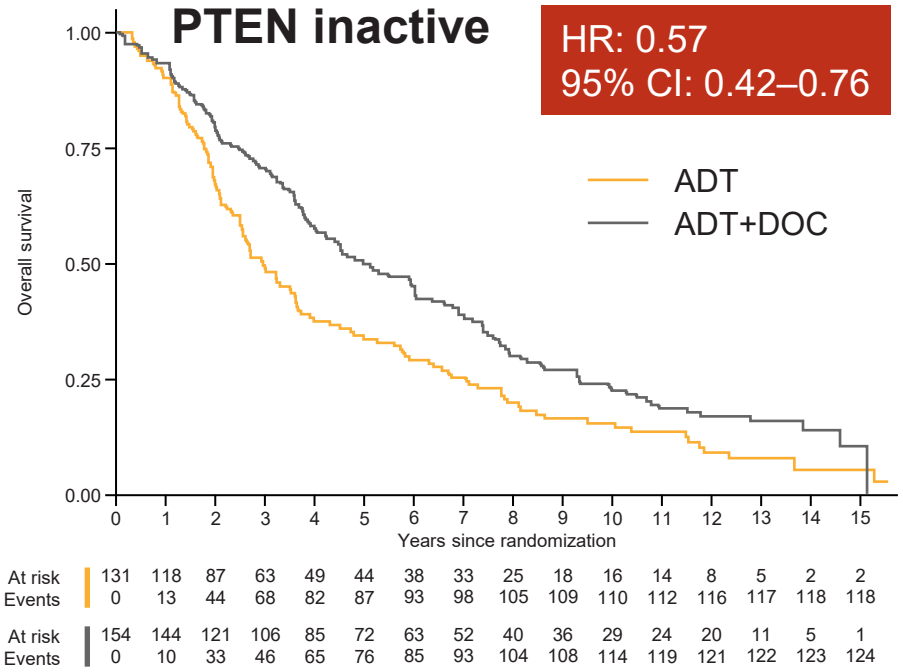
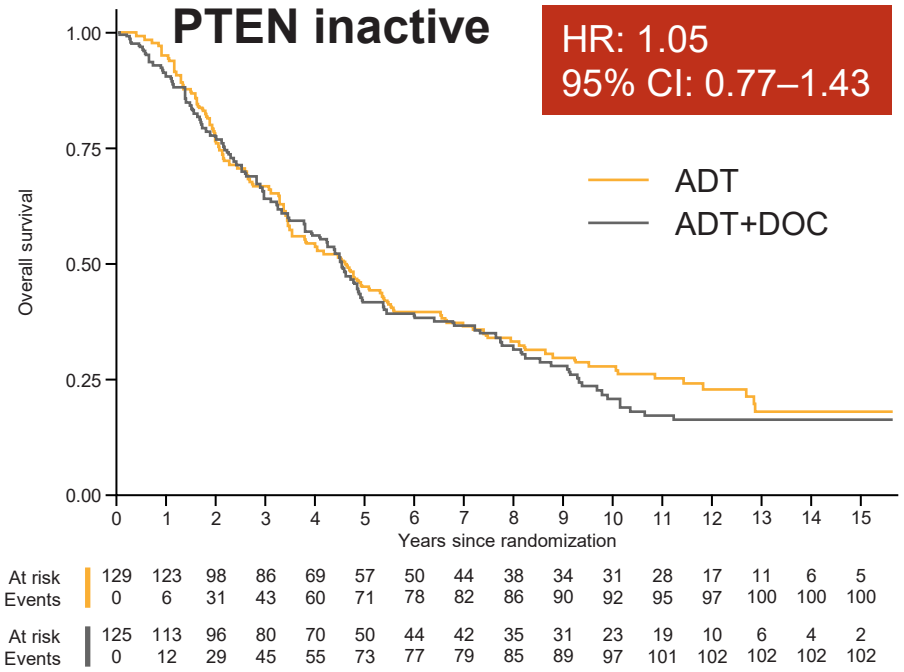
Transcriptome classification of PTEN inactivation to predict survival benefit from the addition of docetaxel to ADT for metastatic PCa: An ancillary study of the STAMPEDE trials

Overall population:





PTEN inactivation predicts docetaxel sensitivity; Tumour PTEN inactivity identifies metastatic patient most likely to benefit from docetaxel. Biomarker-treatment interaction effect p value=0.002*

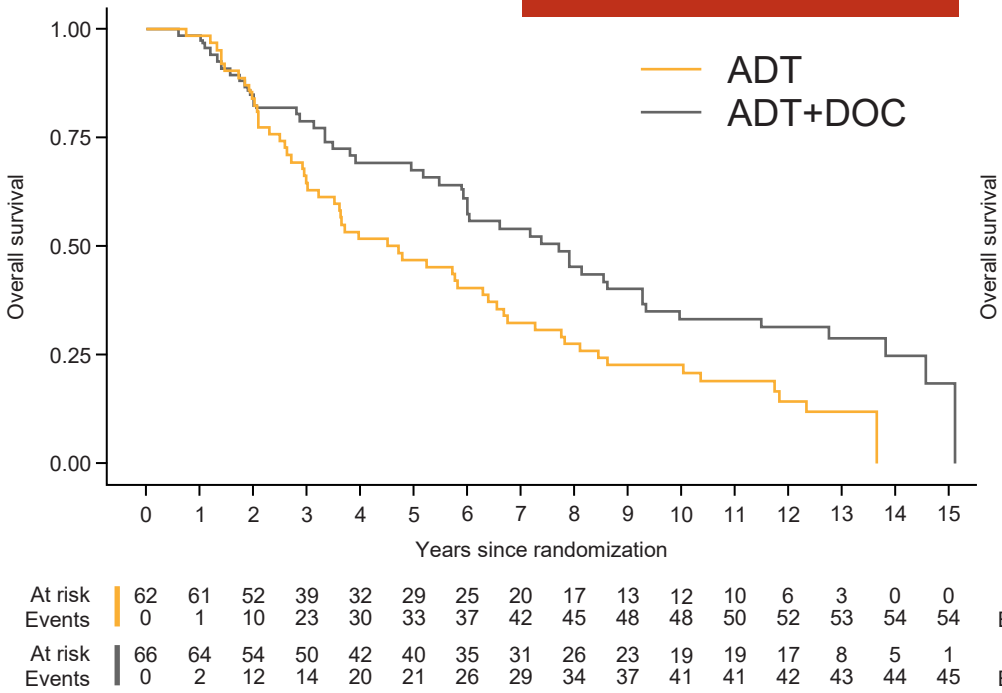
Adapted from Grist E, et al. Presented at ASCO 2025.
*Statistically significant.
ADT, androgen deprivation therapy; CI, confidence interval; DOC, docetaxel; HR, hazard ratio; PCa, prostate cancer.
Grist E, et al. Presented at ASCO 2025.,30 May –03 June. 2025, Chicago, IL, US, Abstract 5003.
MAT-NL-XTD-2025-00034 | July 2025

Transcriptome classification of PTEN inactivation to predict survival benefit from the addition of docetaxel to ADT for metastatic PCa: An ancillary study of the STAMPEDE trials

Patients with low-volume mHSPC:

PTEN inactive

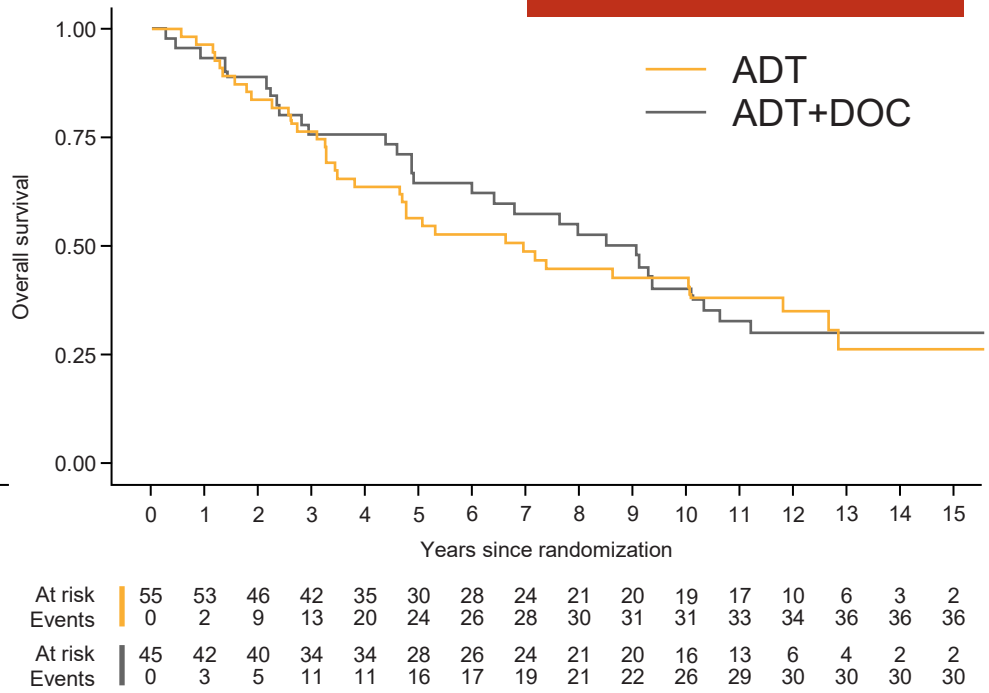
HR: 0.53
95% CI: 0.33–0.86



At risk	62	61	52	39	32	29	25	20	17	13	12	10	6	3	0	0
Events	0	1	10	23	30	33	37	42	45	48	48	50	52	53	54	54
At risk	66	64	54	50	42	40	35	31	26	23	19	19	17	8	5	1
Events	0	2	12	14	20	21	26	29	34	37	41	41	42	43	44	45

PTEN active

HR: 0.82
95% CI: 0.48–1.40



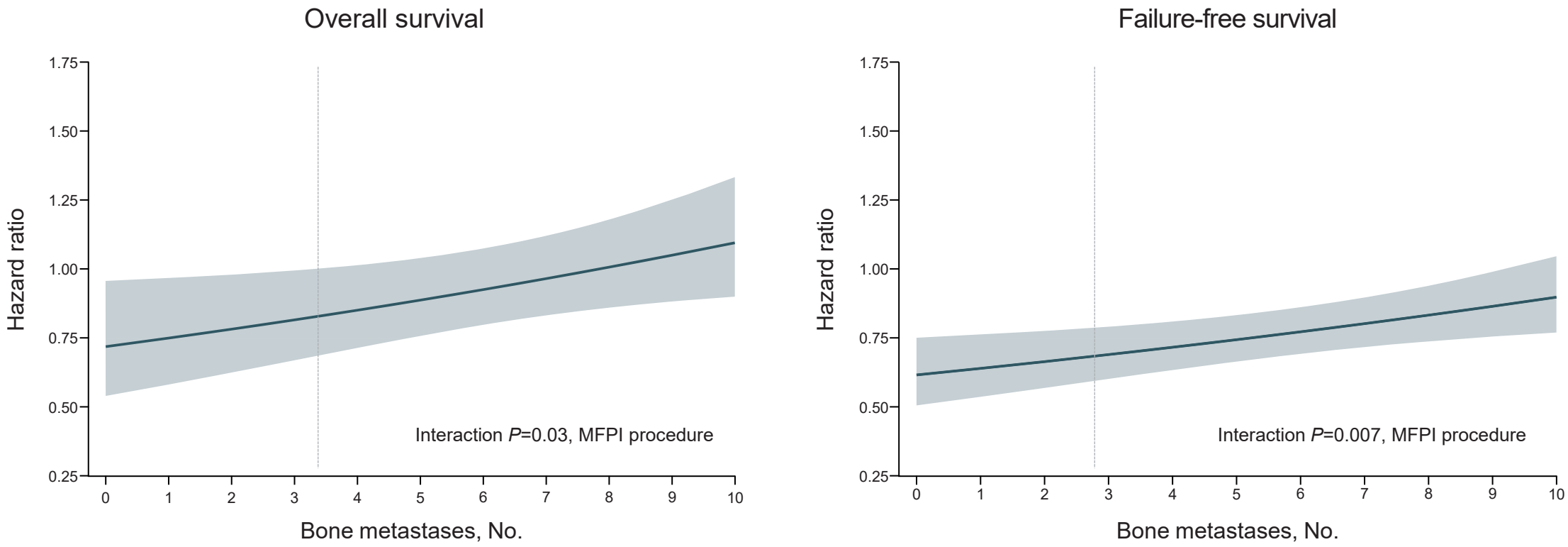
At risk	55	53	46	42	35	30	28	24	21	20	19	17	10	6	3	2
Events	0	2	9	13	20	24	26	28	30	31	31	33	34	36	36	36
At risk	45	42	40	34	34	28	26	24	21	20	16	13	6	4	2	2
Events	0	3	5	11	11	16	17	19	21	22	26	29	30	30	30	30

The direction of treatment effect is consistent in low volume disease

Adapted from Grist E, et al. Presented at ASCO 2025.
ADT, androgen deprivation therapy; CI, confidence interval; Doce, docetaxel; HR, hazard ratio; PCa, prostate cancer.
Grist E, et al. Presented at ASCO 2025.,30 May –03 June. 2025, Chicago, IL, US, Abstract 5003.
MAT-NL-XTD-2025-00034 | July 2025

Association of bone metastatic burden with survival benefit from prostate RT in patients with newly diagnosed metastatic PCa: A secondary analysis of a randomised clinical trial

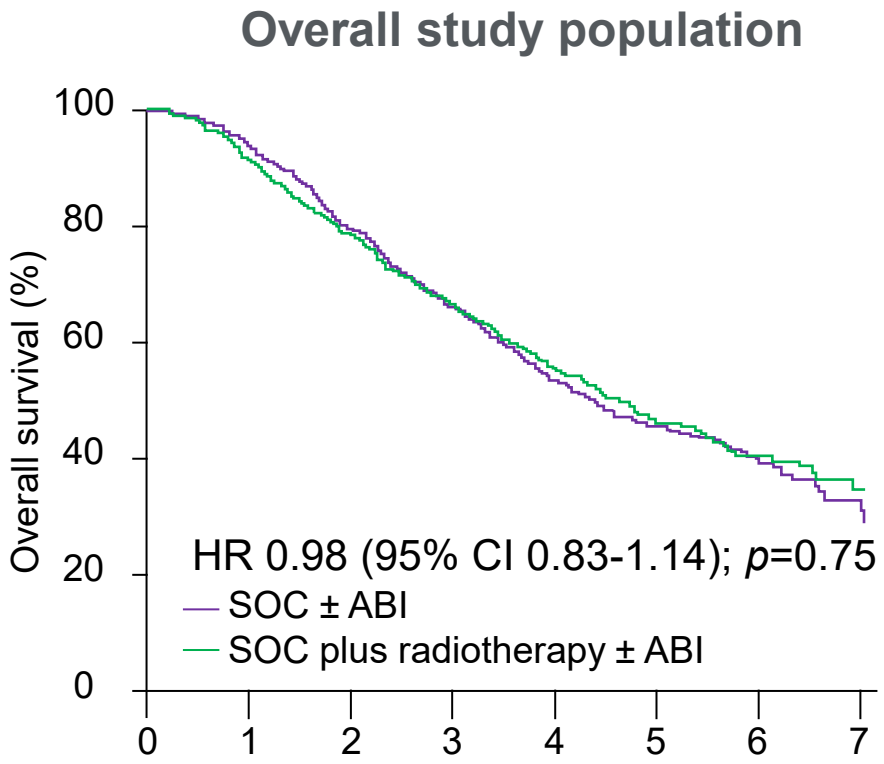
Treatment effect plots for bone metastatic count



Adapted from Ali A, et al. *JAMA Oncol* 2021.
MFPI, multivariable fractional polynomial interaction; No, number; PCa, prostate cancer; RT, radiotherapy
Ali A, et al. *JAMA Oncol* 2021;7:555–563.
MAT-NL-XTD-2025-00034 | July 2025

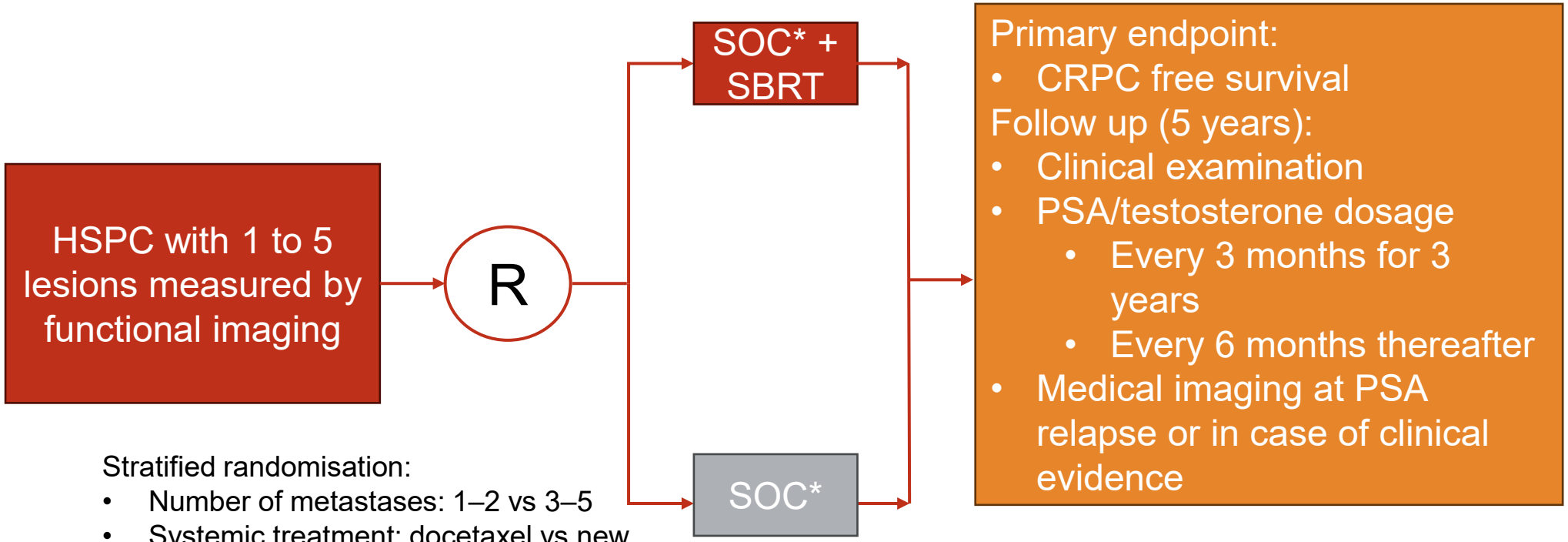
Efficacy and safety of the addition of prostate RT to SOC + ABI in *de novo* mHSPC (PEACE-1): a multicentre, open-label, randomised, Phase 3 study with a 2×2 factorial design

	Patients with low-volume metastatic disease		Overall study population	
	SOC ± ABI (n=253)	SOC plus RT ± ABI (n=252)	SOC ± ABI (n=588)	SOC plus RT ± ABI (n=584)
Age, years	67 (59–72)	66 (60–72)	67 (60–72)	66 (60–73)
ECOG PS score, n (%) 0 1–2	 180 (71.1) 73 (28.9)	 194 (77.0) 58 (23.0)	 411 (69.9) 177 (30.1)	 413 (70.7) 171 (29.3)
Gleason score at diagnosis, n (%) ≤7 ≥8 Data missing	 71 (28.1) 173 (68.4) 9 (3.6)	 66 (26.2) 184 (73.0) 2 (0.8)	 142 (24.1) 429 (73.0) 17 (2.9)	 136 (23.3) 441 (75.5) 7 (1.2)
Time from diagnosis to randomisation, months	2.5 (1.8–3.4)	2.6 (1.7–3.5)	2.2 (1.5–3.1)	2.3 (1.5–3.2)
Metastatic volume*, n (%) Low High	 253 (100.0) 0	 252 (100.0) 0	 253 (43.0) 335 (57.0)	 252 (43.2) 332 (56.8)
Baseline PSA concentration, ng/ml	10.3 (3.3–31.0)	9.0 (2.3–39.1)	13.1 (3.5–57.1)	12.6 (3.0–62.4)
Received docetaxel as a component of SOC, n (%)	127 (50.2)	127 (50.4)	355 (60.4)	355 (60.8)



Adapted from Bossi A, et al. *Lancet* 2024;404:2065–2076.
*High volume was characterised by ≥4 bone metastases with one or more metastasises outside the vertebral bodies or pelvis, or visceral metastases, or both; low volume was characterised as all other assessable situations.
ABI, abiraterone; CI, confidence interval; HR, hazard ratio; mHSPC, metastatic hormone sensitive prostate cancer; PSA, prostate-specific antigen; RT, radiotherapy; SOC, standard of care.
Bossi A, et al. *Lancet* 2024;404:2065–2076.

PEACE 6– Oligo PRESTO: PCa treatment using SRT for oligometastases ablation in hormone-sensitive patients – a GETUG-AFU Phase 3 randomised controlled trial



Stratified randomisation:
- Number of metastases: 1–2 vs 3–5
- Systemic treatment: docetaxel vs new generation hormonal therapy vs no treatment
- M1 disease: de novo vs previously treated (local) (defined as a recurrence occurring >6 months after local treatment

*Definition of standard of care (prior to randomisation):
•RT to the prostate in de novo metastatic patients
•RT to the pelvic lymph nodes in patients with positive pelvic nodes (given as full dose to the positive lymph node and prophylactic dose to the pelvic nodal basin)
•Long term ADT +/- intermittent treatment
•Additional therapy following tumour board meeting: Hormonal therapy (abiraterone, enzalutamide, apalutamide or other approved) or chemotherapy (docetaxel).

Adapted from NCT04115007.
ADT, androgen-deprivation therapy; CRCP, castration-resistant prostate cancer; HSPC, hormone sensitive prostate cancer; PCa, prostate cancer; RT, radiotherapy; SBRT, sterotatic body radiotherapy; SRT, salvage radiotherapy.
NCT04115007. Available at: Study Details | Prostate-cancer Treatment Using Stereotactic Radiotherapy for Oligometastases Ablation in Hormone-sensitive Patients | ClinicalTrials.gov. Last accessed: June 2025;
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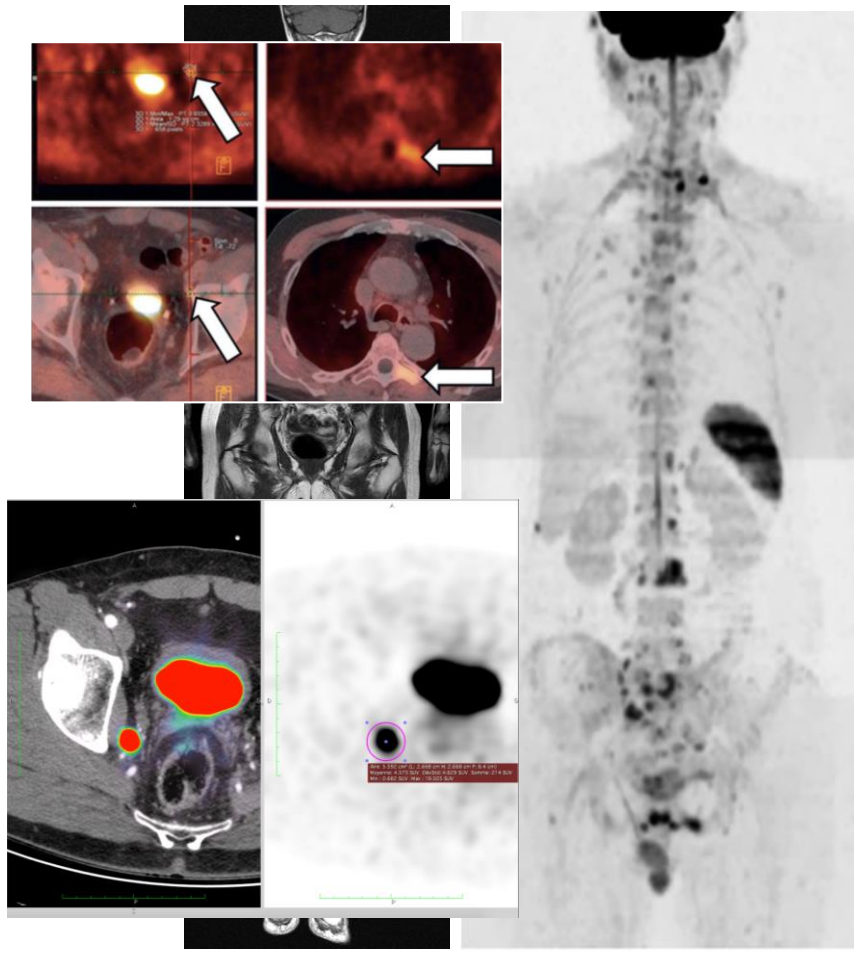
From conventional to next-generation imaging…



Clinical Utility

- **mHSPC**
- The SOC nowadays is combining ADT and an ARPI[1]
- Intensification with docetaxel goes well beyond volume[2]
- NGIT are required to confirm the oligometastastic status, but MDT is still investigational in that setting[3]

Images copyrighted to CUSL, Brussels (BE0416.885.016).
ADT, androgen deprivation therapy; MDT, metastasis-directed therapy; NGIT, next-generation imaging technologies.
1. EAU. EAU–EANM–ESTRO–ESUR–ISUP–SIOG guidelines on prostate cancer. Available at: uroweb.org/guideline/prostate-cancer/. Last accessed: June 2025; 2. Sweeney CJ, et al. *N Engl J Med* 2015;373:737–746;
3. Speaker's own experience.
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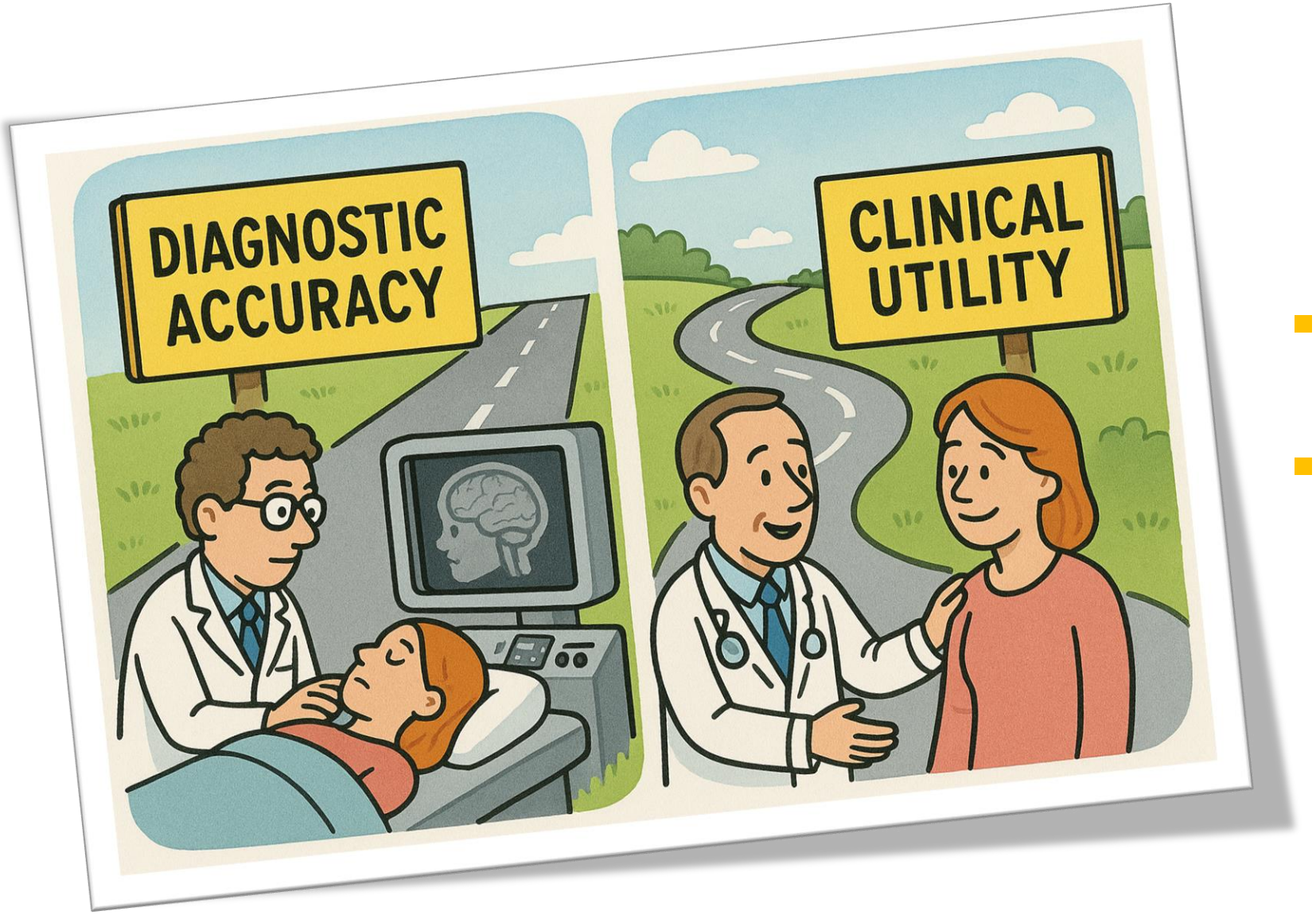
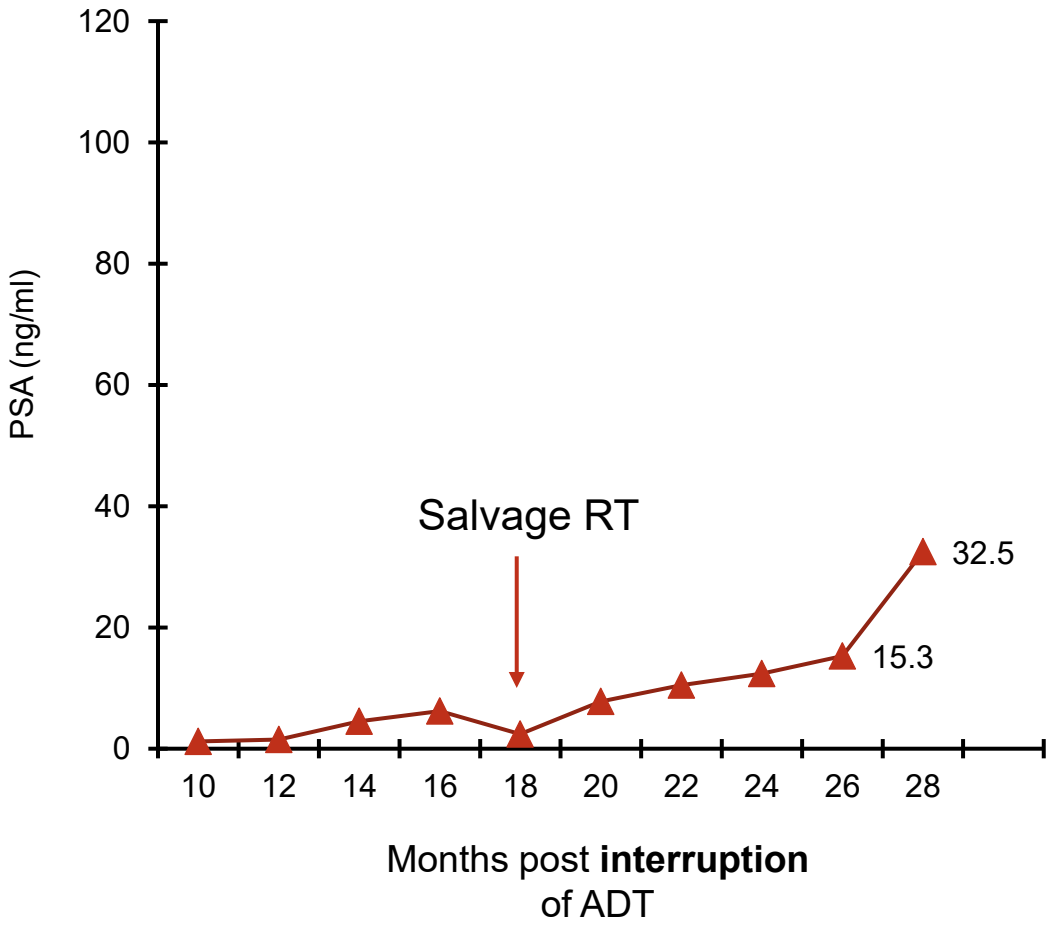
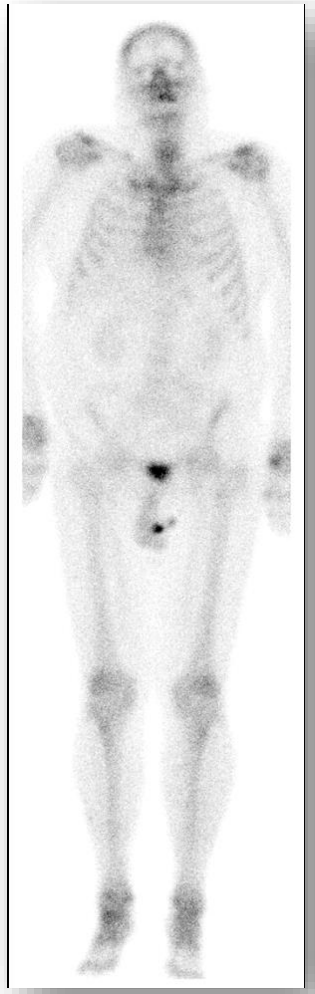


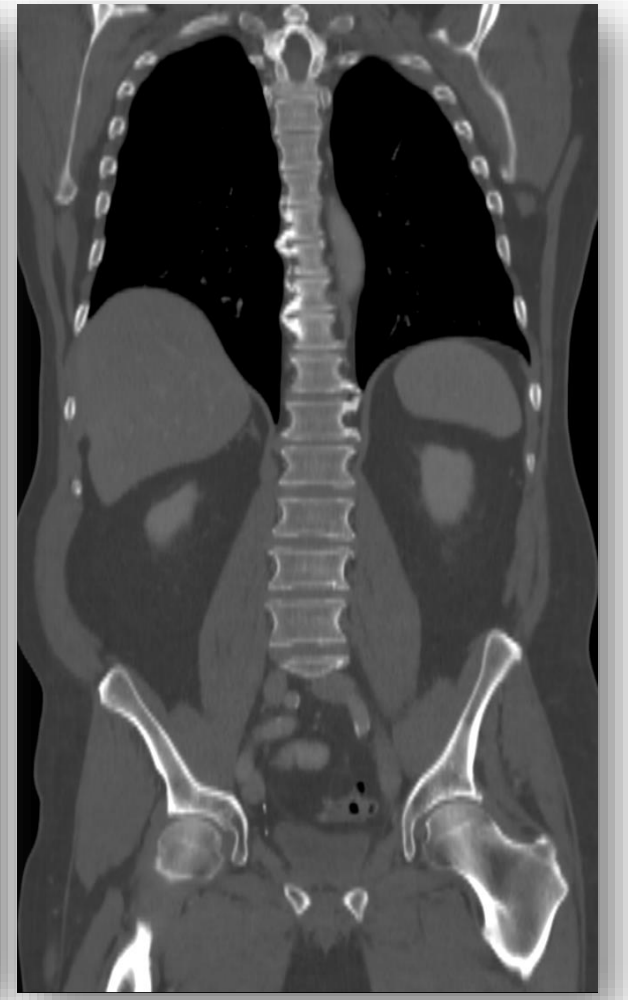
- In the mHSPC setting
- In the high-risk nmHSPC (BCR) setting

Image provided by the speaker.
BCR, biochemical recurrence; (n)mHSPC, (non) metastatic hormone sensitive prostate cancer.

71 year-old patient, EBRT + 2 years ADT for locally-advanced PCa (T3b, Gleason 8 (5+3), PSA 47 ng/ml, N0, M0), testosterone 43 ng/dl, PSA doubling time 7 months







Case provided by the speaker.
Images provided by B.Tombal & F.Lecouvet, Clinique Universities Saint-Luc, Belgium
ADT, androgen deprivation therapy; EBRT, external beam radiation therapy; PSA, prostate specific antigen; RT, radiotherapy.
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71 year-old patient, EBRT + 2 years ADT for locally-advanced PCa (T3b, Gleason 8 (5+3), PSA 47 ng/ml, N0, M0), testosterone 43 ng/dl, PSA doubling time 7 months

Recommendations for systemic salvage treatment	Strength rating
Offer enzalutamide with or without ADT to M0 patients with a high-risk BCR, defined as a PSA doubling time of ≤9 months and a PSA level of ≥2ng/mL above nadir after radiation therapy or ≥1 ng/m after radical prostatectomy with or without postoperative radiation therapy.	Strong

Recommendations for systemic salvage treatment	Strength rating
At recurrence, only perform imaging if the result will affect treatment planning.	Strong

Case provided by the speaker.
Images provided by B.Tombal & F.Lecouvet, Clinique Universities Saint-Luc, Belgium
ADT: androgen deprivation therapy; BCR, biochemical recurrence; EBRT, external beam radiation therapy; PSA, prostate specific antigen; RT, radiotherapy.
EAU. EAU–EANM–ESTRO–ESUR–ISUP–SIOG guidelines on prostate cancer. Available at: https://uroweb.org/guidelines/prostate-cancer (Last accessed: June 2025).
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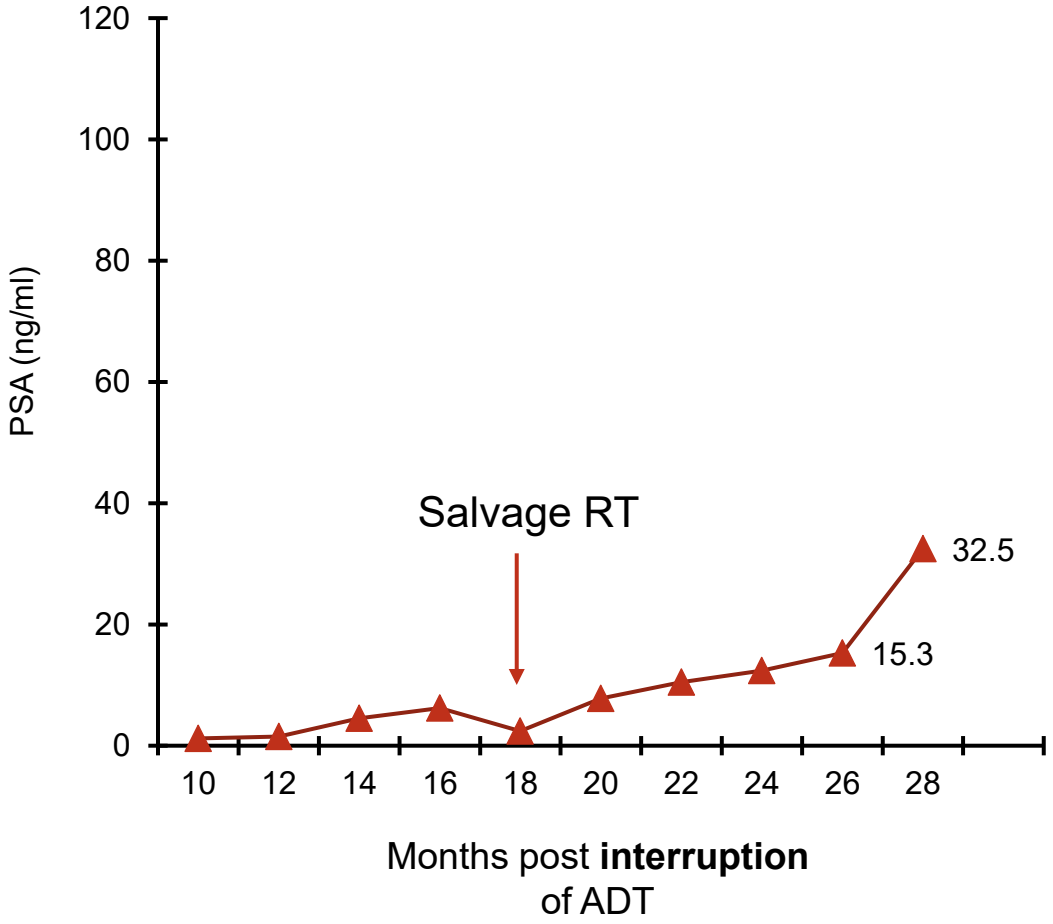
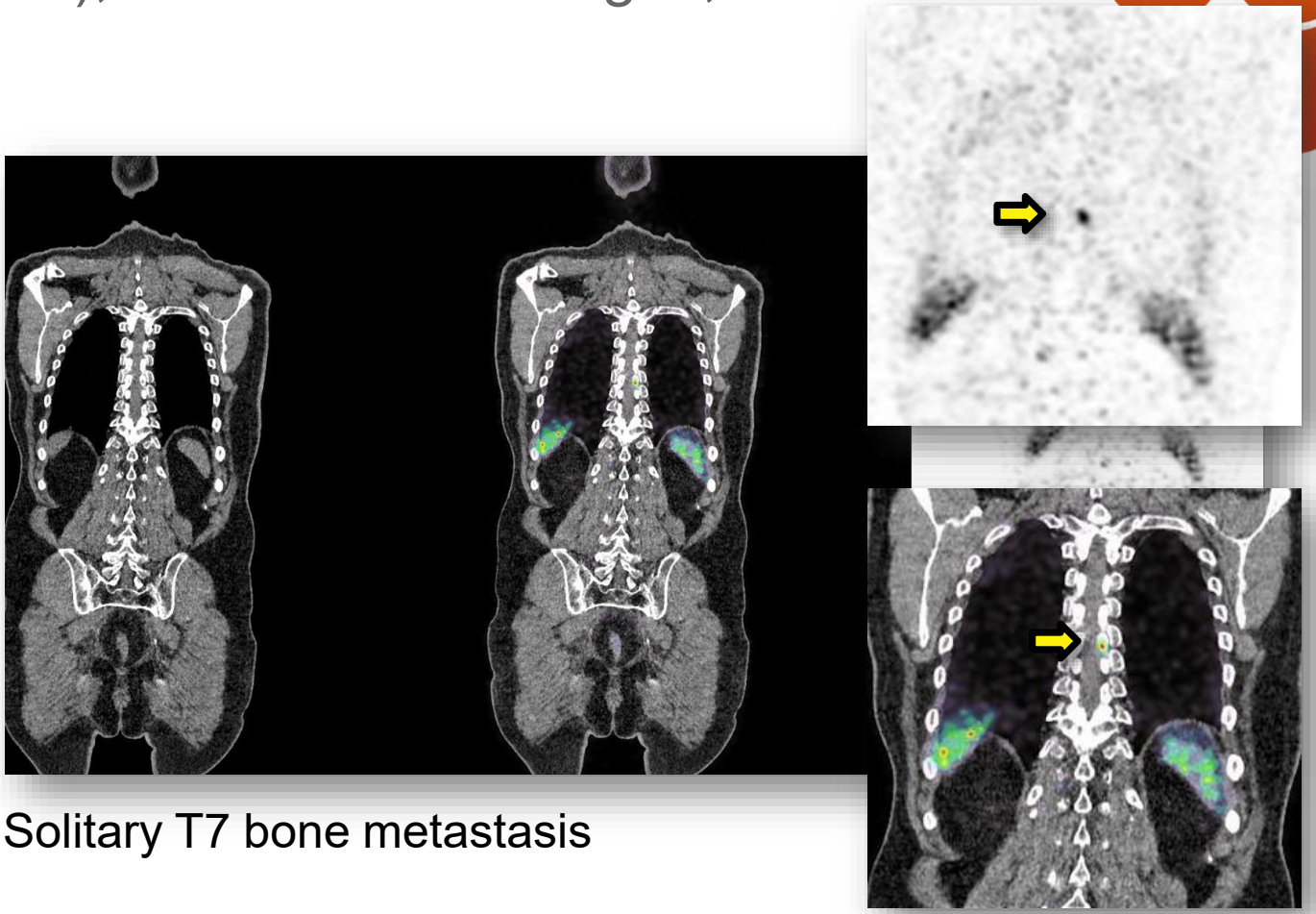
71 year-old patient, EBRT + 2 years ADT for locally-advanced PCa (T3b, Gleason 8 (5+3), PSA 47 ng/ml, N0, M0), testosterone 43 ng/dl, PSA doubling time 7 months





Solitary T7 bone metastasis

Case provided by the speaker.
Images provided by B.Tombal & F.Lecouvet, Clinique Universities Saint-Luc, Belgium
ADT: androgen deprivation therapy; EBRT: external beam radiation therapy; PSA, prostate specific antigen; RT, radiotherapy.
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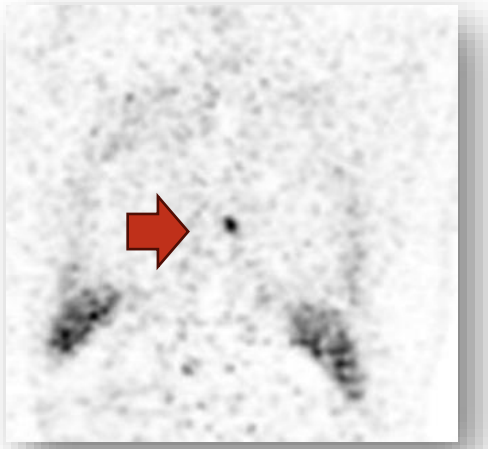
71 year-old patient, EBRT + 2 years ADT for locally-advanced PCa (T3b, Gleason 8 (5+3), PSA 47 ng/ml, N0, M0), testosterone 43 ng/dl, PSA doubling time 7 months



Case provided by the speaker.
Images provided by B.Tombal & F.Lecouvet, Clinique Universities Saint-Luc, Belgium
ADT: androgen deprivation therapy; EBRT: external beam radiation therapy; PSA, prostate specific antigen; RT, radiotherapy.
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What would you recommend?

- **A** Keep monitoring
- **B** MDT
- **C** Start systemic therapy
- **D** MDT + systemic therapy

Case provided by the speaker.
MDT, metastasis-directed therapy
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Targeting oligometastasis with SABR or surgery in mHSPC: A systematic review of prospective clinical trials

Hormone-sensitive oligometastatic prostate cancer. Clinical trial design

STOMP	ORIOLE	POPSTAR	MSKCC
Phase II RCT Intervention arm: 31 Observation arm: 31 Oligometastases recurrence, 1–3 metastases (PET/CT), M1a–c SABR, or all-site metastasectomy	Phase II RCT (2:1) Intervention arm: 36 Observation arm: 18 Oligometastases recurrence, 1–3 metastases (conventional imaging), M1a–b SABR	Phase I Single arm: 33 (22*) Oligometastatic recurrence, 1–3 metastases (PET/CT), M1a–b SABR	Phase I Single arm: 20 Synchronous, 1–10 metastases (conventional imaging), M1a–b CRP + PLND ± RPLND ± SABR

Clinical trial outcomes

STOMP	ORIOLE	POPSTAR	MSKCC
LC: 100% 3 years	LC: 98.9% 6 mo	LC: 97% 1 year	NR
ADT-FS Intervention arm: 21 mo Observation arm: 13 mo HR 0.60 (95% CI: 0.40–0.90; p=0.11†)	PFS Intervention arm: not reached Observation arm: 31 mo HR 0.30 (95% CI: 0.11–0.81; p=0.02)	ADT-FS 2 year:* 48% (95% CI: 31–75)	PFS (PSA ≤0.05 ng/ml) 12 mo: 60% (10%‡) 20 mo: 50% (20%‡)

Adapted from Connor MJ, et al. *Eur Urol Oncol* 2020.

*Hormone-sensitive cohort only; †80% confidence interval; ‡PSA was ≤0.05 ng/ml and testosterone recovery defined as ≥50 mg/dl.

ADT, androgen deprivation therapy; ADT-FS, ADT-free survival; CI, confidence interval; HR, hazard ratio; CRP, cytoreductive radical prostatectomy; LC, local control; mo, months; mHSPC, metastatic hormone-sensitive prostate cancer; MSKCC, Memorial Sloan Kettering Cancer Centre; NR, not reported; PET/CT, positron emission tomography/computerised tomography; PFS, progression-free survival; PLND, pelvic lymph node dissection; PSA, prostate specific antigen; RCT, randomised controlled trial; RPLND, retroperitoneal lymph node dissection; SABR, stereotactic ablation radiotherapy.

Connor MJ, et al. *Eur Urol Oncol* 2020;3:582–593.

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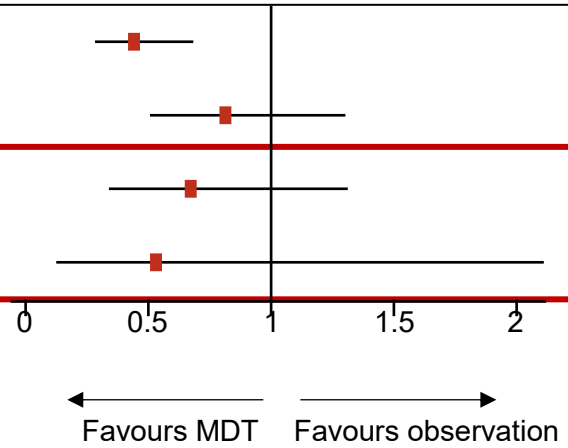
Long-term outcomes and genetic predictors of response to metastasis-directed therapy versus observation in oligometastatic PCa: Analysis of STOMP and ORIOLE trials

Time-to-event outcomes of MDT vs. observation

Outcome	MDT Median Time to Event, months (95% CI)	Observation Median Time to Event, months (95% CI)	HR (95% CI)	*P*
PFS	11.9 (8 to 18.3)	5.9 (3.2 to 7.1)	0.44 (0.29 to 0.66)	<0.001
rPFS	18.3 (12 to 36)	17 (13 to 22.8)	0.81 (0.50 to 1.29)	0.37
CRPC	NR (62 to NR)	63 (53.9 to NR)	0.67 (0.34 to 1.31)	0.24
OS	NR (84 to NR)	NR (73 to NR)	0.53 (0.13 to 2.11)	0.36

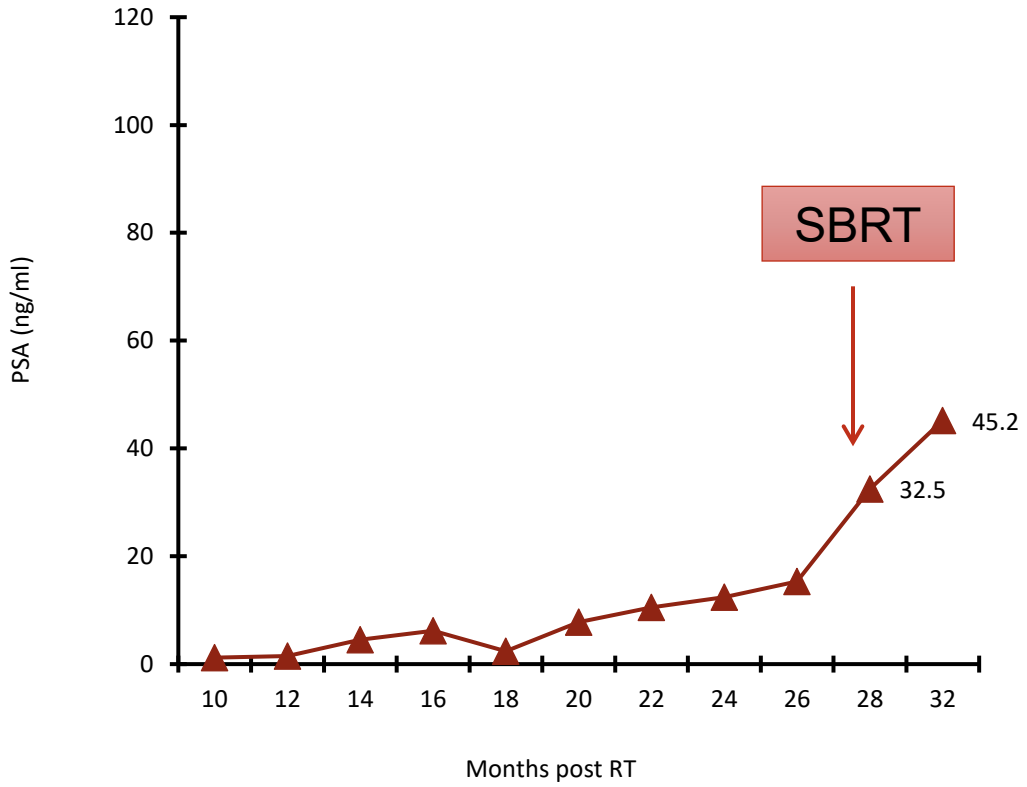


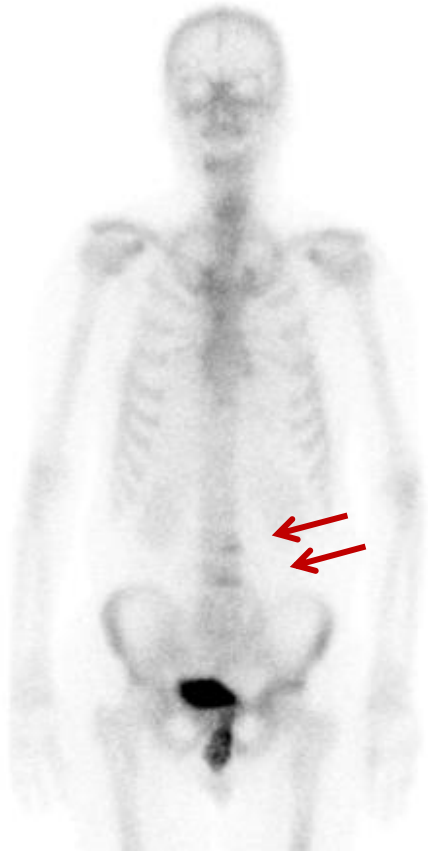
Median delay of ADT ± 6 months

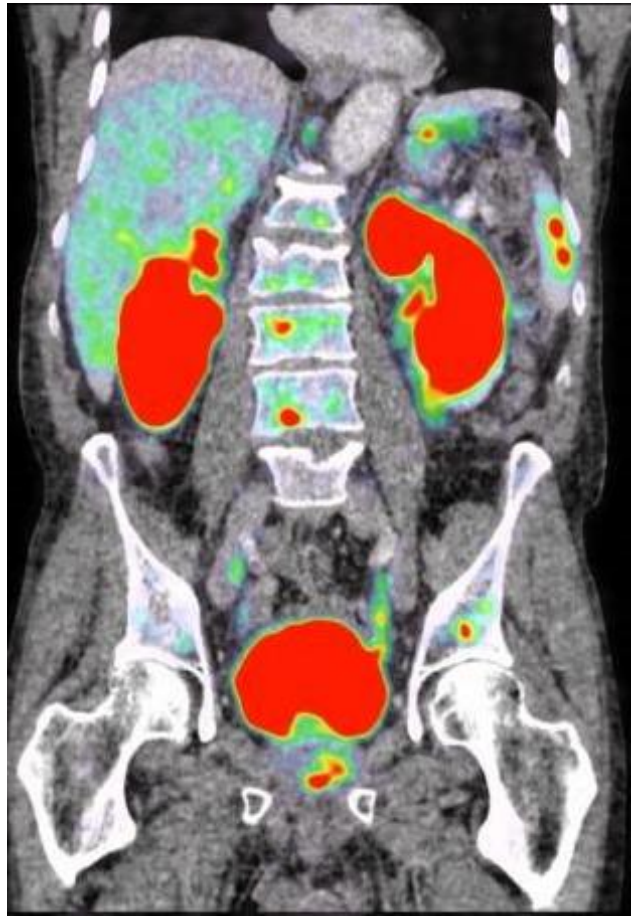
No demonstrated benefit on time to CRPC and OS, yet

Adapted from Deek M, et al. *J Clin Oncol* 2022.
ADT, androgen deprivation therapy; CI, confidence interval; CRPC, castration resistant prostate cancer; HR, hazard ratio; MDT, metastatsis directed therapy; NR, not reported; OS, overall survival; PCa, prostate cancer; (r)PFS, (radiographic) progression-free survival.
Deek M, et al. *J Clin Oncol* 2022;40:3377–3382.
MAT-NL-XTD-2025-00034 | July 2025

71 year-old patient, EBRT + 2 years ADT for locally-advanced PCa (T3b, Gleason 8 (5+3), PSA 47 ng/ml, N0, M0), testosterone 43 ng/dl, PSA doubling time 7 months, SBRT administered on metastasis

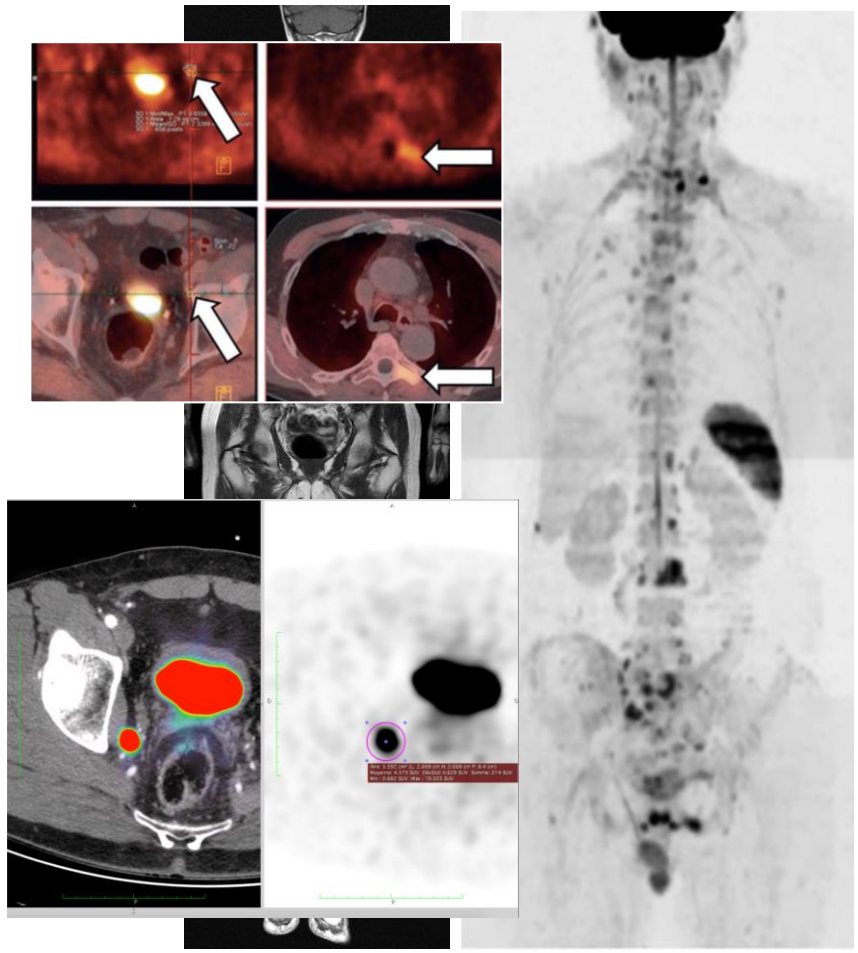






Case provided by the speaker.
Images provided by B.Tombal & F.Lecouvet, Clinique Universities Saint-Luc, Belgium
ADT: androgen deprivation therapy; EBRT: external beam radiation therapy; PSA, prostate specific antigen; RT, radiotherapy.
MAT-NL-XTD-2025-00034 | July 2025

From conventional to next-generation imaging…



Clinical Utility

nmHSPC (BCR)

- The reference treatment of high-risk BCR is enzalutamide[1]
- NGIT will reveal a significant proportion of patients with oligometastastic disease[1]
- Delaying the initiation of enzalutamide (±ADT) is no longer an option after EMBARK[2]
- We need to redefine the role of NGIT and MDT[1]

Images provided by B.Tombal & F.Lecouvet, Clinique Universities Saint-Luc, Belgium
ADT, androgen deprivation therapy; BCR, biochemical recurrence; MDT, metastasis directed therapy; NIT, next-generation imaging techniques; nmHSPC, non-metastatic hormone sensitive prostate cancer.
1. Speaker's own opinion; 2. Freedland SJ, et al. *N Engl J Med* 2023;389:1453–1465.
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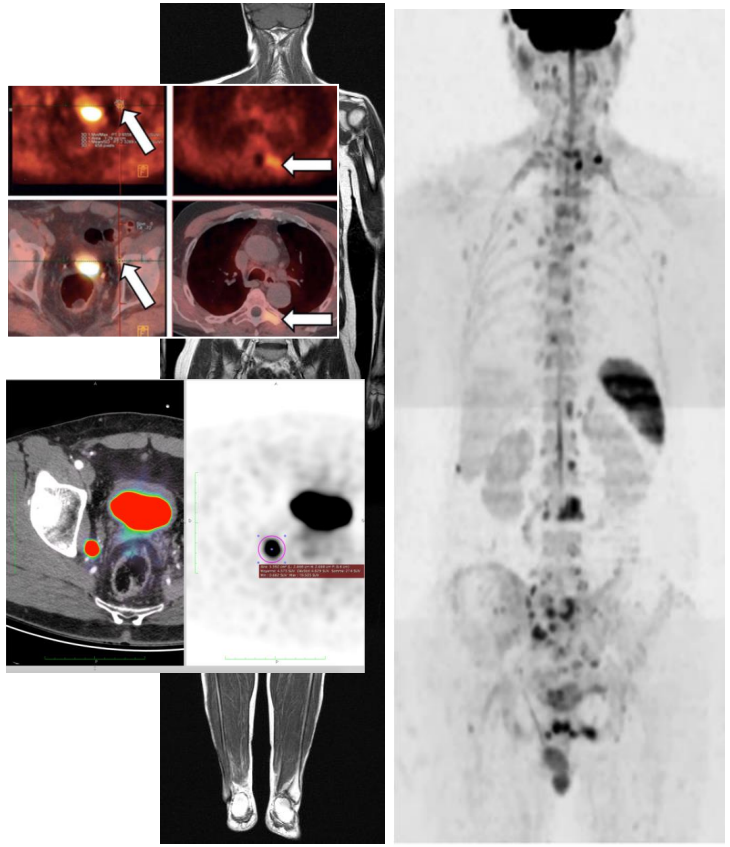
Next-generation imaging: How does it change the evidence seen in trials?



- Next-generation imaging technology are here to stay
- In the end, they challenge our willingness to study rather than disseminate
- Whether we are happy treating our patient on the acceptability of low impact data, it’s entirely up to us
- But I believe patients deserve definitive evidence and not conventional wisdom

Images provided by B.Tombal & F.Lecouvet, Clinique Universities Saint-Luc, Belgium
Speaker’s own opinion.
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Genitourinary Masterclass

astellas

The value of molecular imaging: Case study

Professor Fabio Calabrò
Regina Elena National Cancer Institute, Rome, Italy

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Disclosures

Relationship	Company/Organisation
Advisory boards	AAA, Accord, Astellas, AstraZeneca, BMS, Gilead, Ipsen, J&J, Merck, MSD, Novartis, Pfizer
Consulting	Astellas, J&J
Honoraria	Astellas
Financial	None
Research support	None
Stock ownership	None

- The speaker has received an honorarium from Astellas for this presentation

AAA, Advanced Accelerator Applications; BMS, Bristol Myers Squibb; J&J, Johnson & Johnson; MSD, Merck Sharp & Dohme.

Case study

- 68-year-old man
- ECOG PS of 0
- No relevant family history
- No urinary symptoms
- Hypertension;
  on treatment with
  an ACE inhibitor

Fictitious patient case study created for illustrative purposes.
ACE, angiotensin-converting enzyme; ECOG PS, Eastern Cooperative Oncology Group performance status.

Case study

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Diagnosis

Screening PSA = 7 ng/ml

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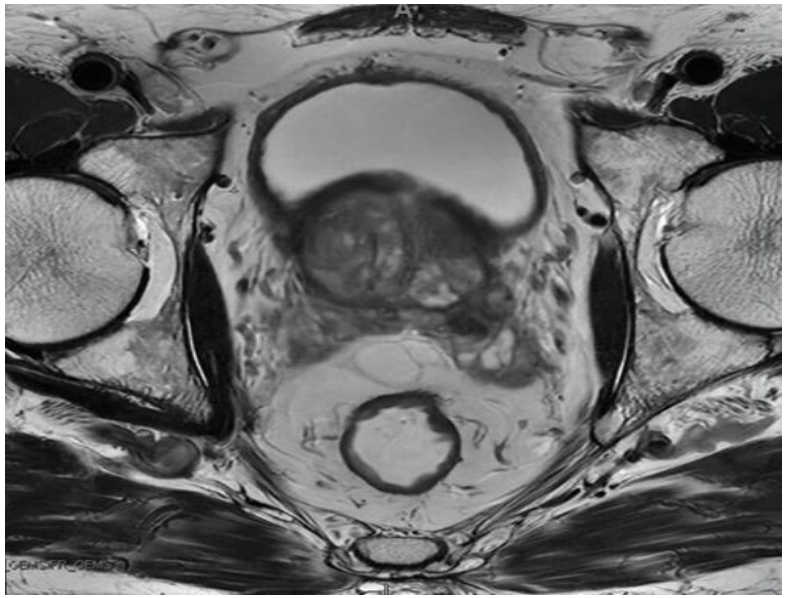
Diagnosis

Screening PSA = 7 ng/ml

Assessment

Multi-parametric prostate MRI



- 2.8 cm on the left with capsule bulging
- Left inferior seminal vesicle invasion
- No suspicious pelvic adenopathy or bone lesions
- PI-RADS 5

Fictitious patient case study created for illustrative purposes. Clinical image provided by the presenter.
ACE, angiotensin-converting enzyme; ECOG PS, Eastern Cooperative Oncology Group performance status; MRI, magnetic resonance imaging; PI-RADS, Prostate Imaging-Reporting and Data System; PSA, prostate-specific antigen.

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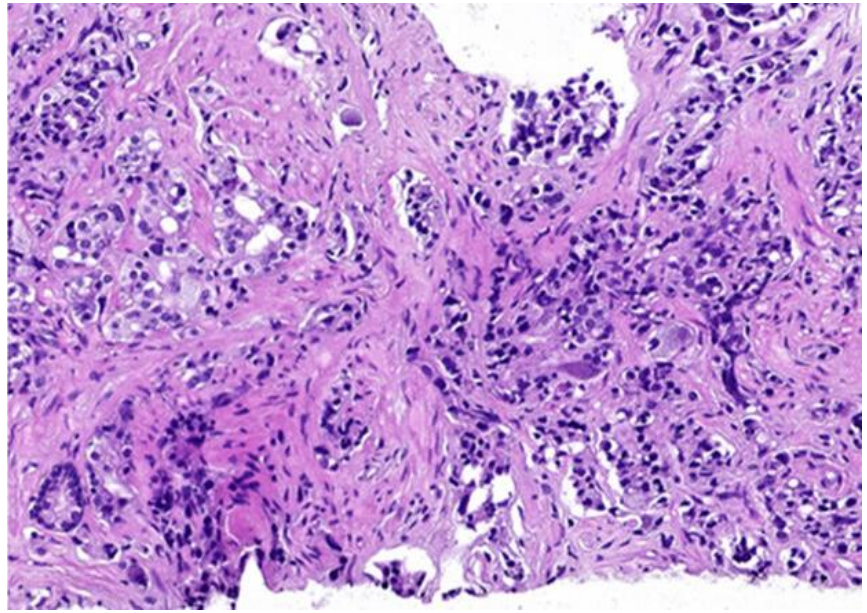
Diagnosis

Screening PSA = 7 ng/ml
MRI = PI-RADS score of 5

Assessment

Biopsy

- Grade Group 5 acinar adenocarcinoma in 7/12 cores
- Six left-sided cores positive



Fictitious patient case study created for illustrative purposes. Histological image provided by the presenter.
ACE, angiotensin-converting enzyme; ECOG PS, Eastern Cooperative Oncology Group performance status; MRI, magnetic resonance imaging; PI-RADS, Prostate Imaging-Reporting and Data System; PSA, prostate-specific antigen.

What imaging would you obtain to evaluate the extent of disease?

- **A** Combined abdomen and pelvis CT scan and bone scan
- **B** ^{18}F-fluciclovine PET scan
- **C** PSMA PET scan
- **D** Whole-body MRI with DWI

Fictitious patient case study created for illustrative purposes.

^{18}F, fluorine-18; CT, computed tomography; DWI, diffusion-weighted imaging; MRI, magnetic resonance imaging; PET, positron emission tomography; PSMA, prostate-specific membrane antigen.

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Diagnosis

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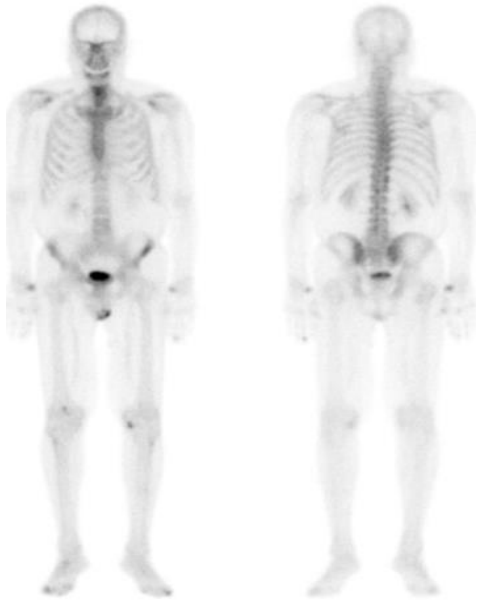
MRI = PI-RADS score of 5
Biopsy = adenocarcinoma GG 5



Assessment

Bone scan

- No evidence of lymph node or visceral metastases on CT scan
- No evidence of bone metastases at bone scan

Fictitious patient case study created for illustrative purposes. Clinical images p

ACE, angiotensin-converting enzyme; CT, computed tomography; ECOG PS, Eastern Cooperative Oncology Group performance status; GG, Grade Group; MRI, magnetic resonance imaging; PI-RADS, Prostate Imaging-Reporting and Data System; PSA, prostate-specific antigen.

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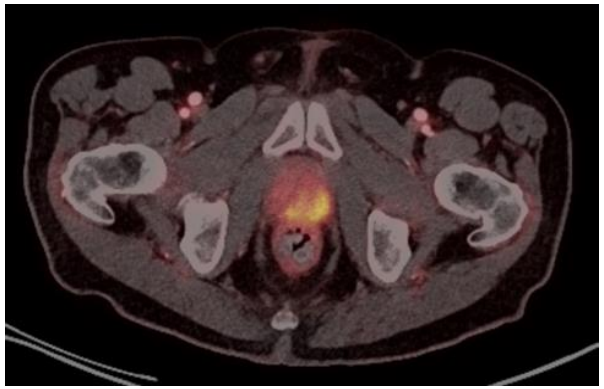
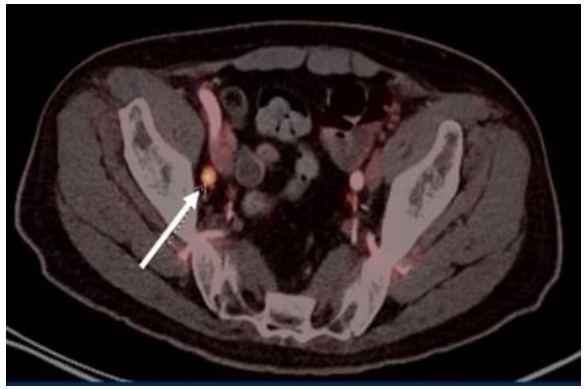
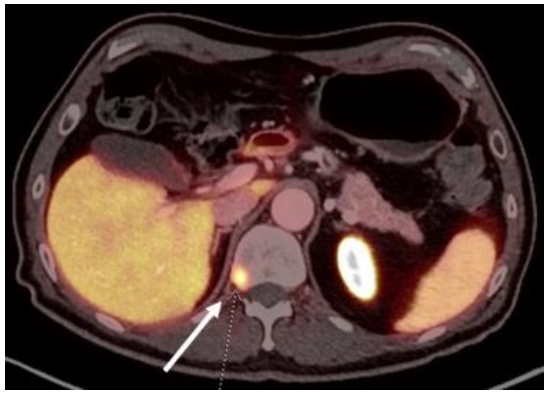
  on treatment with
  an ACE inhibitor

Diagnosis

Screening PSA = 7 ng/ml
MRI = PI-RADS score of 5
Biopsy = adenocarcinoma GG 5

Assessment

PSMA PET

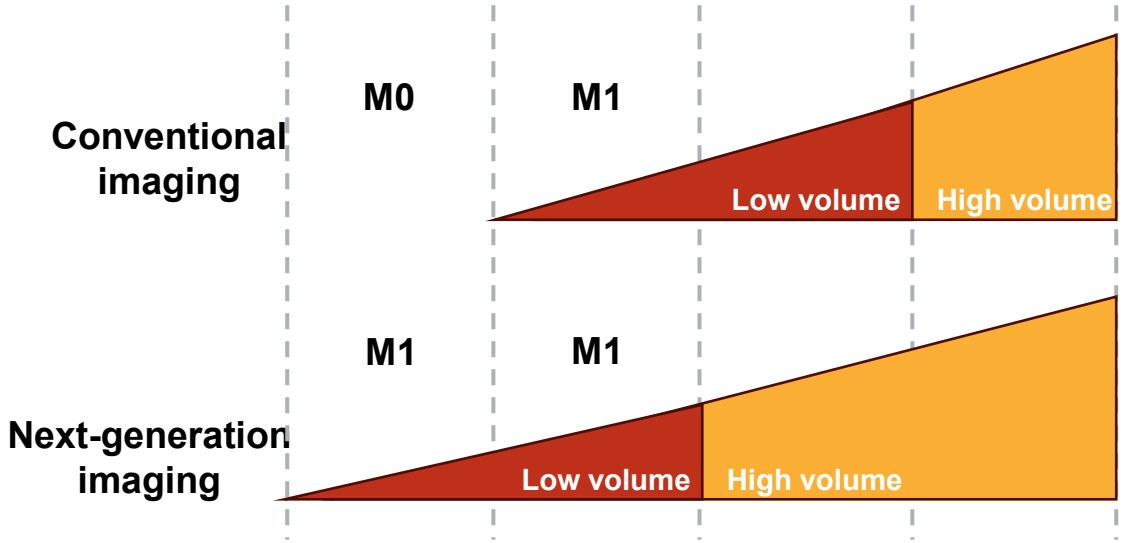




- Heterogeneous PSMA uptake in prostate gland (SUV 15.4)
- 9 mm right obturator node (SUV 8.9) and right internal iliac node (SUV 7.9)
- Right T11 (SUV 13.6)

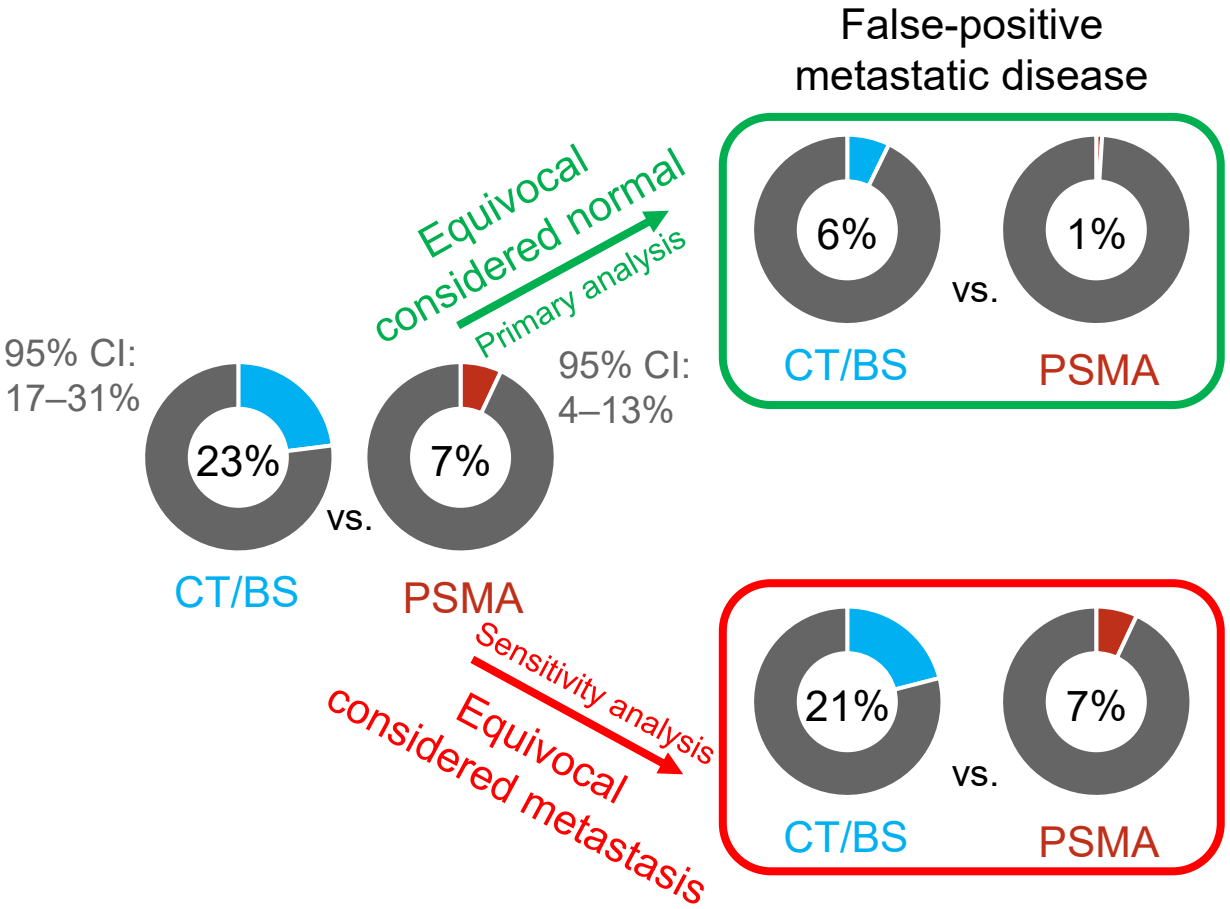
Fictitious patient case study created for illustrative purposes. Clinical images provided by the presenter.
ACE, angiotensin-converting enzyme; ECOG PS, Eastern Cooperative Oncology Group performance status; GG, Grade Group; MRI, magnetic resonance imaging; PET, positron emission tomography; PI-RADS, Prostate Imaging-Reporting and Data System; PSA, prostate-specific antigen; PSMA, prostate-specific membrane antigen; SUV, standard uptake value.

Two sides of the same coin

Stage migration from low volume (conventional imaging) to high volume (PSMA PET)[1]



False-positive findings with conventional imaging (from high volume to low volume)[2]



Figures adapted from Olka R, et al. *Cansers* 2024 and Hofman MS, et al. *Lancet* 2020.[1,2]
BS, bone scan; CI, confidence interval; CT, computed tomography; M0, non-metastatic; M1, metastatic; PET, positron emission tomography; PSMA, prostate-specific membrane antigen.
1. Oka R, et al. *Cancers (Basel)* 2024;16:507; 2. Hofman MS, et al. *Lancet* 2020;395:1208–1216.
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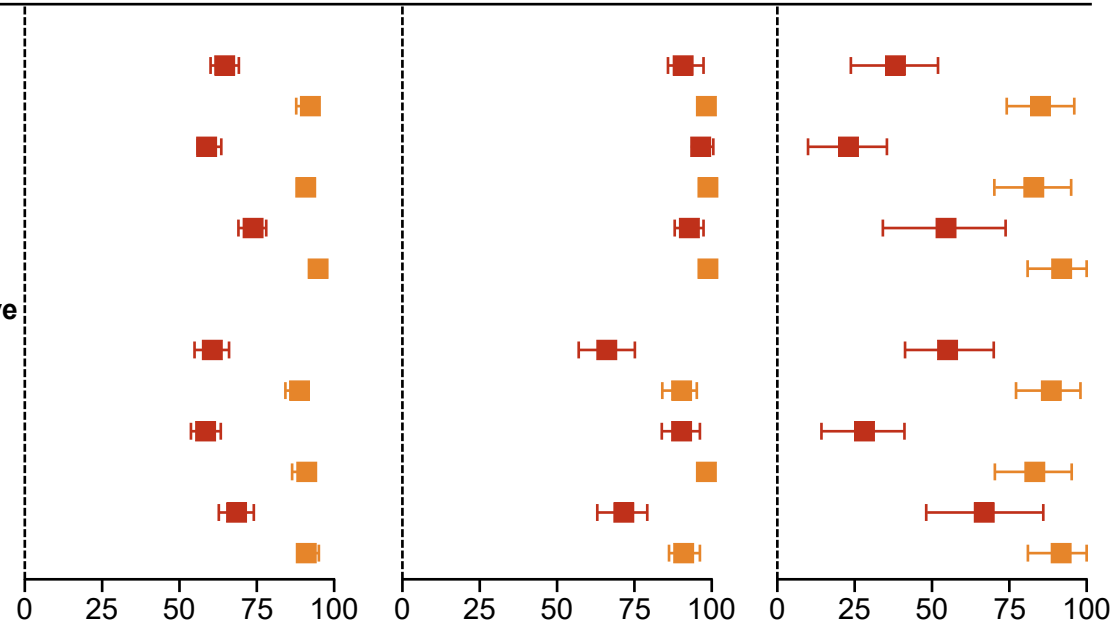
PSMA PET in high-risk prostate cancer

proPSMA trial

Accuracy, sensitivity and specificity of conventional imaging compared with PSMA PET/CT

	N	Positive True/False	Negative True/False
Primary analysis			
Any metastatic disease	150	18/19	94/29
	145	34/2	103/6
Pelvic nodal	150	9/4	106/31
	145	29/1	109/6
Distant metasases	150	13/9	117/11
	145	22/1	120/2
Sensitivity analysis: equivocal lesions treated as positive			
Any metastatic disease	150	26/35	68/21
	145	35/11	94/5
Pelvic nodal	150	11/11	99/29
	145	29/2	108/6
Distant metasases	150	16/37	89/8
	145	22/11	110/2



These stage modifications were associated with modifications in the management plan in 15% of patients with conventional imaging vs. 28% of patients with PSMA PET, and a shift from curative to palliative care in 14% of patients who underwent first-line PSMA PET

Adapted from Hofman MS, et al. *Lancet* 2020.

AUC, area under the curve; CI, confidence interval; CT, computed tomography; PET, positron emission tomography; PSMA, prostate-specific membrane antigen.

Hofman MS, et al. *Lancet* 2020;395:1208–1216.

What systemic treatment do you recommend?

- **A** ADT doublet
- **B** ADT alone
- **C** ADT triplet
- **D** ADT +chemotherpy

Fictitious patient case study created for illustrative purposes.
ADT, androgen deprivation therapy.
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The redefined era of intensification

Trial	Intervention arms	% HV in investigative arm	OS HR for overall population	OS HR for subpopulation	
				High volume:	Low volume:
CHAARTED[1] (N=790)	ADT + docetaxel	66	0.61	0.60	0.60
	ADT				
STAMPEDE[2] (N=1086)	ADT + docetaxel	54	0.81	0.81	0.76
	ADT				
LATITUDE[3,4] (N=1199)	ADT + ABI (+ prednisone)	80	0.66	0.62	0.72
	ADT				
STAMPEDE[5] (N=1003)	ADT + ABI	48*	0.60	0.54*	0.54*
	ADT				
ENZAMET†‡[6] (N=1125)	ADT + ENZ	52	0.67	0.80	0.43
	ADT + SNA				
ARCHES[7] (N=1150)	ADT + ENZ	62	0.66	0.66	0.66
	ADT				
TITAN[8,9] (N=1052)	ADT + APA	62	0.65	0.70	0.52
	ADT				
ARASENS[10] (N=1306)	ADT + docetaxel + DARO	-	0.68	-	-
	ADT + docetaxel				
PEACE-1‡[11] (N=710)	ADT + docetaxel + ABI ± RT	63	0.75	0.72	0.83
	ADT + docetaxel ± RT				

Interpret with caution; table is for illustrative purposes only. Studies should not be compared.

*Rather than high-volume and low volume, patients in the STAMPEDE trial were defined as high-risk or low-risk using the criteria from the LATITUDE trial; †ENZAMET was not powered to analyse the results of overall survival in individual subgroups. Therefore, an improvement in overall survival cannot be demonstrated formally in any subgroup, including mHSPC patients taking XTANDI + LHRH therapy with or without concomitant docetaxel; ‡Enzalutamide + docetaxel + ADT and Abiraterone + docetaxel + ADT triplet therapy combinations are not licensed for use in patients with mHSPC.

ABI, abiraterone; ADT, androgen deprivation therapy; APA, apalutamide; DARO, darolutamide; ENZ, enzalutamide; HR, hazard ratio; HV, high-volume; OS, overall survival; RT, radiotherapy; SNA, standard non-steroidal anti-androgen.

1. Sweeney C, et al. *N Engl J Med* 2015;373:737–46; 2. Clarke NW, et al. *Ann Oncol* 2019;30:1992–2003; 3. Fizazi K, et al. *Lancet Oncol* 2019;20:686–700; 4. Fizazi K, et al. *Lancet Oncol* 2019;20:686–700 (supplementary material); 5. James ND, et al. *Int J Cancer* 2022;151:422–434; 6. Davis ID, et al. *N Engl J Med* 2019;381:121–131; 7. Armstrong AJ, et al. *J Clin Oncol* 2022;40:1616–1622; 8. Chi KN, et al. *N Engl J Med* 2019;381:13–24; 9. Chi KN, et al. *J Clin Oncol* 2021;39:2294–2303; 10. Smith MR, et al. *N Engl J Med* 2022;386:1132–1142; 11. Fizazi K, et al. *Lancet* 2022;399:1695–1707.

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Patients with LV disease may benefit from ADT intensification

Trial	Patients with low-volume disease, n	OS HR in low-volume disease population
LATITUDE (ABI)[1,2]	243	0.72
STAMPEDE (ABI)[3]	428*	0.54*
TITAN (APA)[4,5]	392	0.52
ARCHES (ENZ)[6]	423	0.66
ENZAMET (ENZ)†[7]	537	0.43

Interpret with caution; table is for illustrative purposes only. Studies should not be compared.

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ABI, abiraterone; ADT, androgen deprivation therapy; APA, apalutamide; ENZ, enzalutamide; HR, hazard ratio; LV, low-volume; OS, overall survival.
1. Fizazi K, et al. *Lancet Oncol* 2019;20:686–700; 2. Fizazi K, et al. *Lancet Oncol* 2019;20:686–700 (supplementary material); 3. James ND, et al. *Int J Cancer* 2022;151:422–434;
4. Chi KN, et al. *N Engl J Med* 2019;381:13–24; 5. Chi KN, et al. *J Clin Oncol* 2021;39:2294–2303; 6. Armstrong AJ, et al. *J Clin Oncol* 2022;40:1616–1622; 7. Davis ID, et al. *N Engl J Med* 2019;381:121–131.
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Case study

- 68-year-old man
- ECOG PS of 0
- No relevant family history
- No urinary symptoms
- Hypertension;
  on treatment with
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Diagnosis

Screening PSA = 7 ng/ml
MRI = PI-RADS score of 5
Biopsy = adenocarcinoma GG 5

Assessment

PSMA PET = PSMA uptake in prostate gland, right obturator and internal iliac node, T11

Treatment

ADT + enzalutamide

Fictitious patient case study created for illustrative purposes.
ACE, angiotensin-converting enzyme; ADT, androgen deprivation therapy; ECOG PS, Eastern Cooperative Oncology Group performance status; GG, Group Grade; MRI, magnetic resonance imaging; PET, positron emission tomography; PI-RADS, Prostate Imaging-Reporting and Data System; PSA, prostate-specific antigen; PSMA, prostate-specific membrane antigen.
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Do you recommend treatment to the prostate?

A **Not treatment to the prostate**

B **Radiation therapy**

C **Surgery**

D **Surgery + radiation therapy**

Fictitious patient case study created for illustrative purposes.

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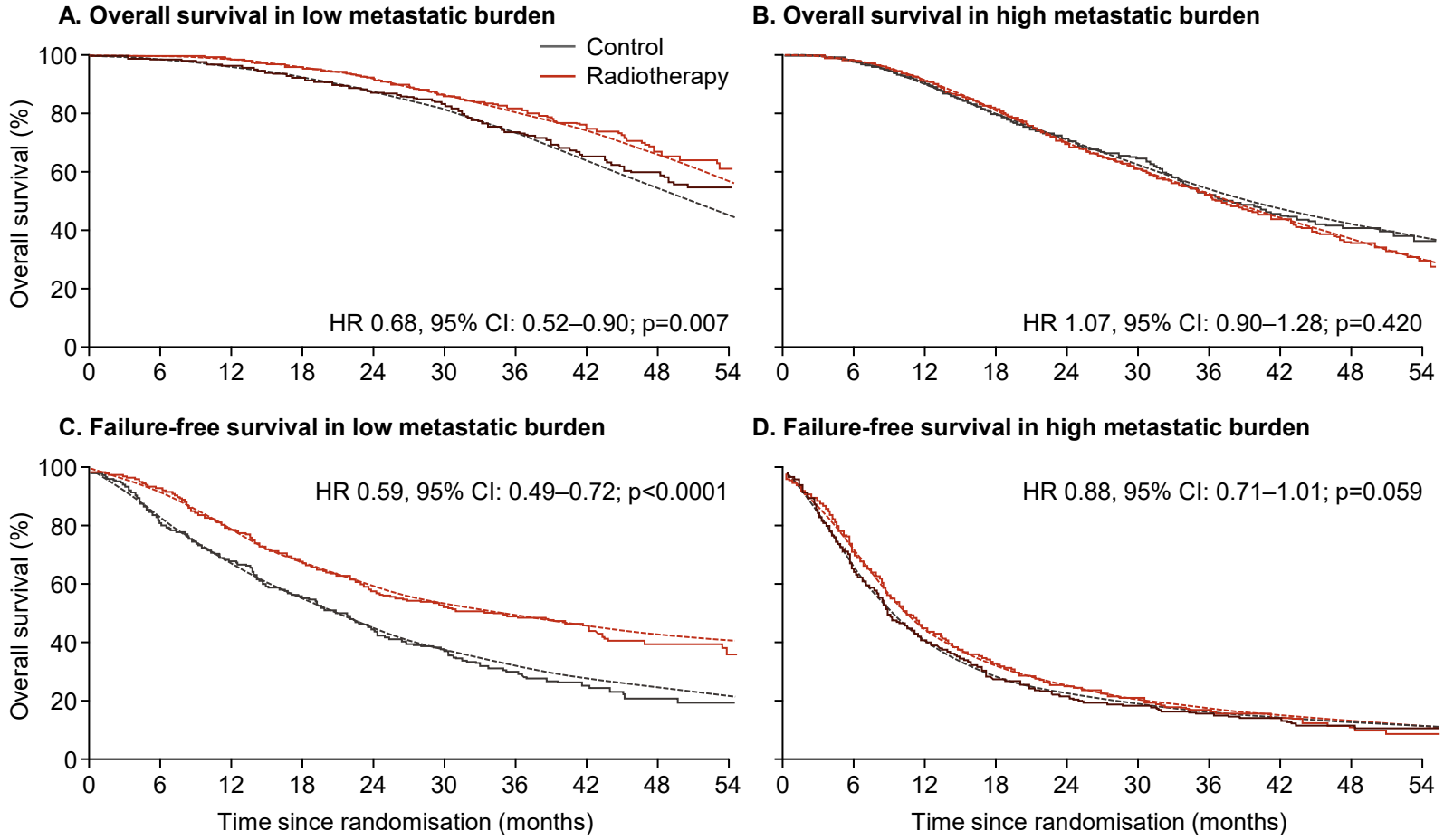
OS with radiotherapy in M1 disease
STAMPEDE

OS and FFS by treatment and metastatic burden



Adapted from Parker CC, et al. *Lancet* 2018.
CI, confidence interval; FFS, failure-free survival; HR, hazard ratio; M1, metastatic; OS, overall survival.
Parker CC, et al. *Lancet* 2018;392:2353–2366.
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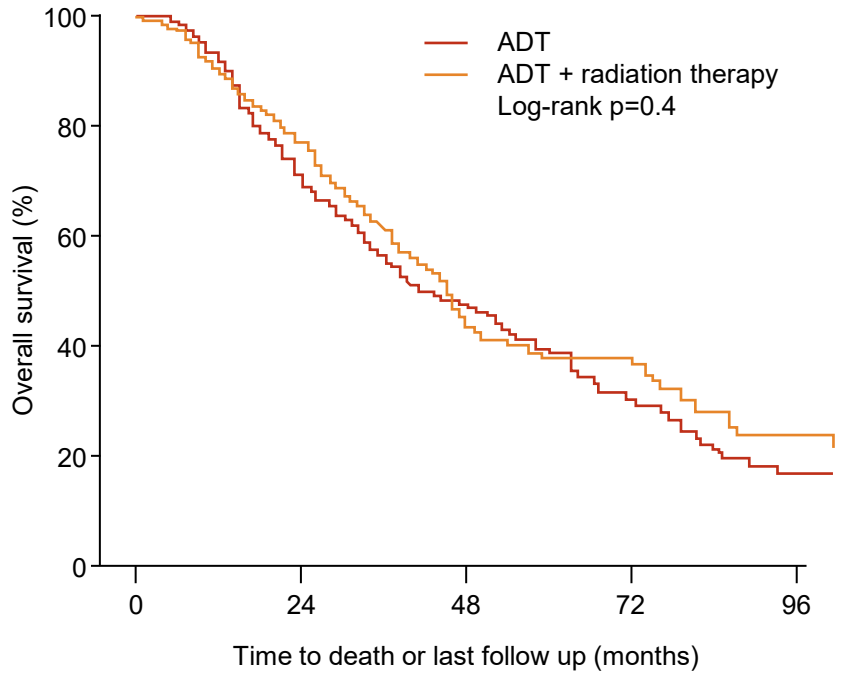
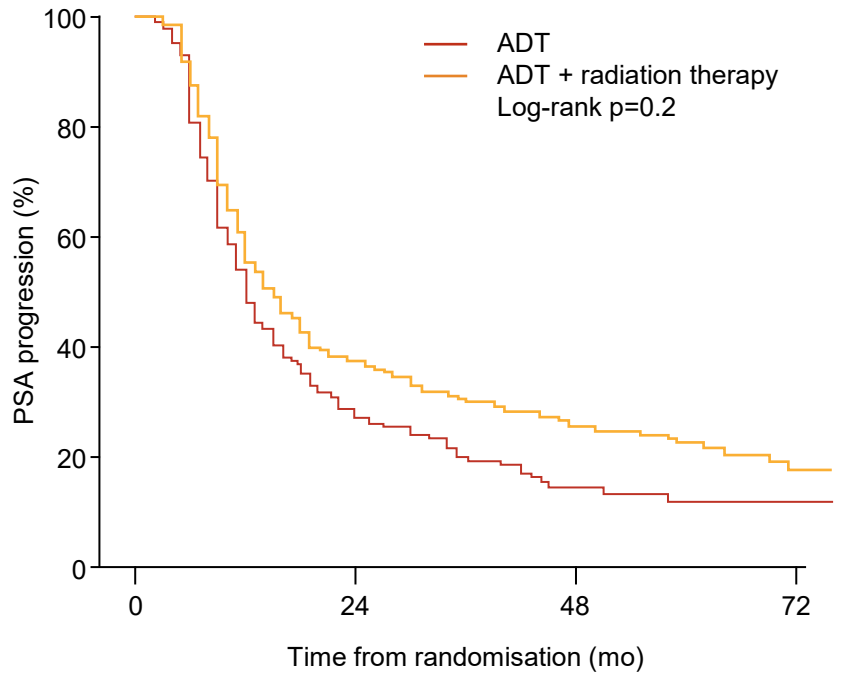
OS with radiotherapy in M1 disease
HORRAD: A multicentre RCT (n=432)

Kaplan–Meier estimates of OS (ITT)



Kaplan–Meier time to PSA progression (ITT)



Adapted from Boeve LMS, et al. *Eur Urol* 2019.
ADT, androgen deprivation therapy; ITT, intention-to-treat; M1, metastatic; OS, overall survival; PSA, prostate-specific antigen; RCT, randomised controlled trial.
Boeve LMS, et al. *Eur Urol* 2019;75:410–441.
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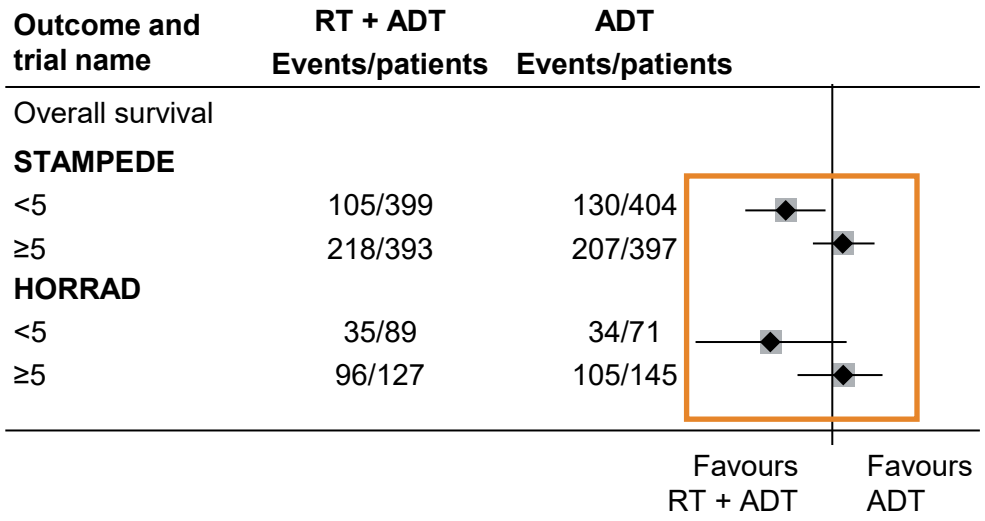
OS with radiotherapy in M1 disease
STOPCAP meta-analysis

Effect of adding RT to ADT on OS



- Systematic review of prostate RT trials including HORRAD and STAMPEDE
- Significant OS benefit observed in patients with <5 bone metastases:
  - HR 0.73 (95% CI: 0.58–0.92); p=0.0071
  - This translated to a 7% improvement from 70% to 77% in 3-year OS for RT+ADT vs. ADT alone

Adapted from Burdett S, et al. *Eur Urol* 2019.
ADT, androgen deprivation therapy; CI, confidence interval; HR, hazard ratio; M1, metastatic; OS, overall survival; RT, radiotherapy.
Burdett S, et al. *Eur Urol* 2019;76:115–124.
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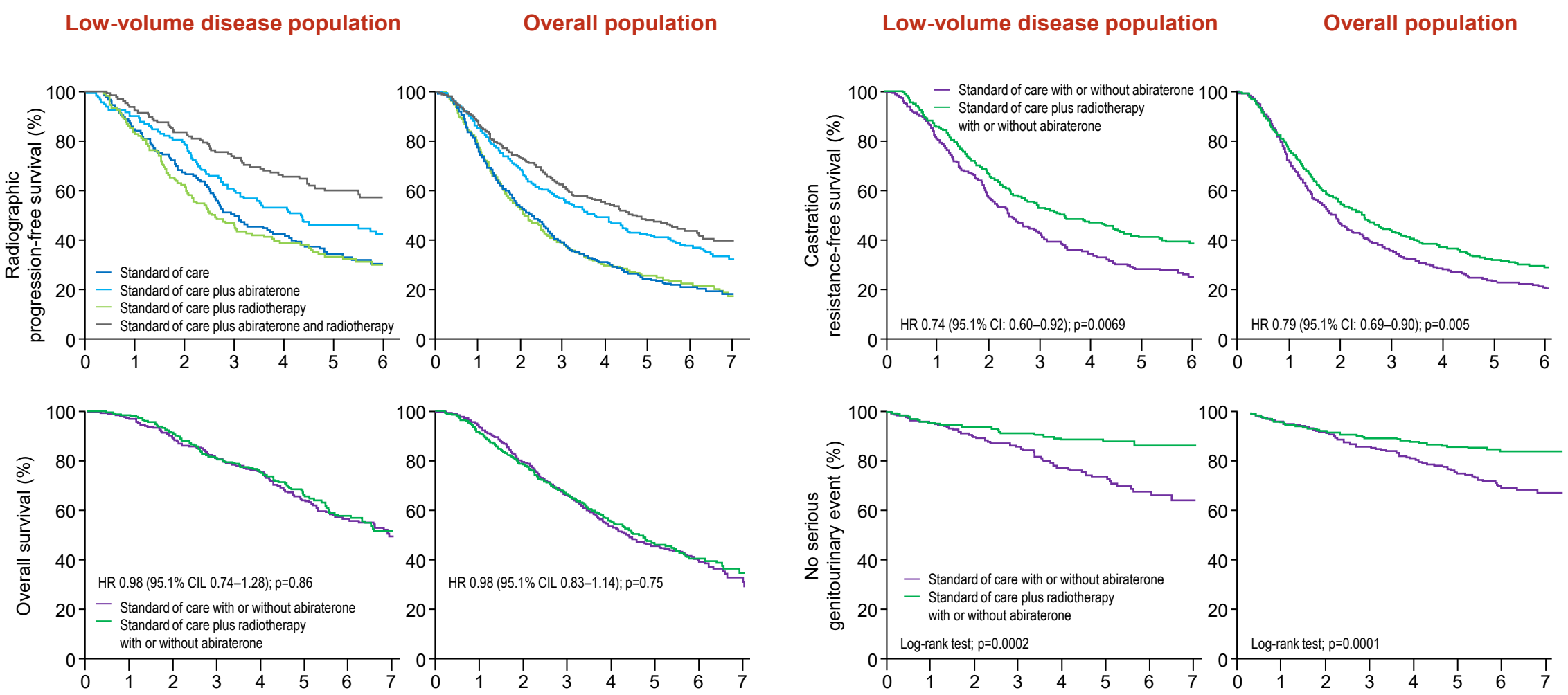
OS with radiotherapy in low-volume M1 disease
PEACE-1



Adapted from Bossi A, et al. *Lancet* 2024.
CI, confidence interval; HR, hazard ratio; M1, metastatic; OS, overall survival.
Bossi A, et al. *Lancet* 2024;404:2065–2076.
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Assessment

PSMA PET = PSMA uptake in prostate gland, right obturator and internal iliac node, T11

Treatment

ADT + enzalutamide
RT of prostate

Fictitious patient case study created for illustrative purposes.
ACE, angiotensin-converting enzyme; ADT, androgen deprivation therapy; ECOG PS, Eastern Cooperative Oncology Group performance status; GG, Grade Group; MRI, magnetic resonance imaging; PET, positron emission tomography; PI-RADS, Prostate Imaging-Reporting and Data System; PSA, prostate-specific antigen; PSMA, prostate-specific membrane antigen; RT, radiotherapy.

For this patient, would you consider metastasis-directed therapy?

A No

B Yes

C Only in symptomatic sites

D Only for CRPC

Fictitious patient case study created for illustrative purposes.
CRPC, castration-resistant prostate cancer.
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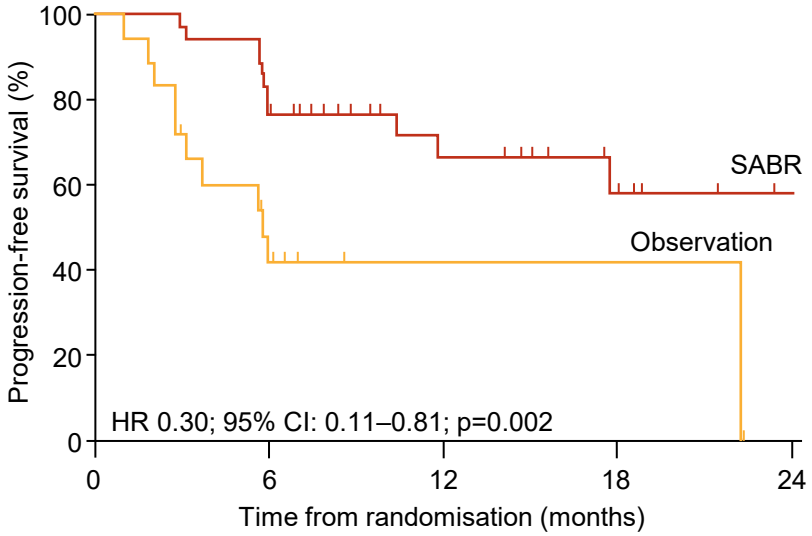
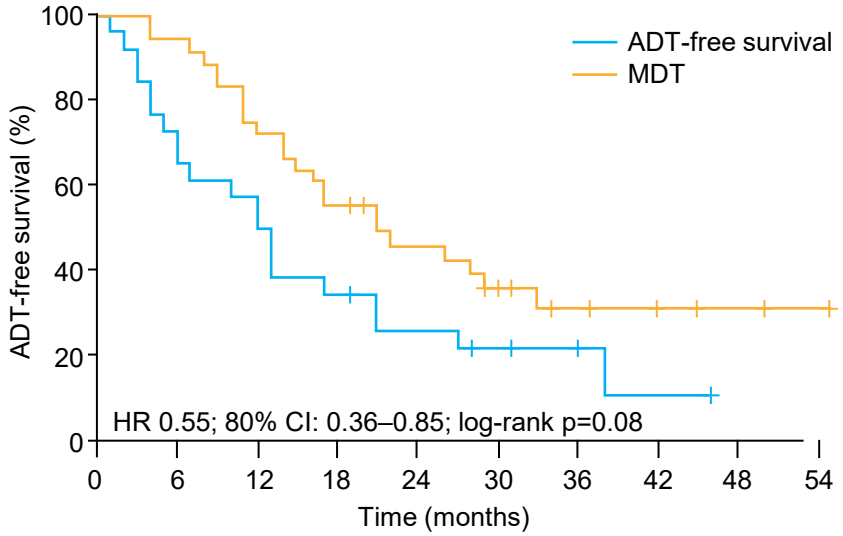
Metastasis-directed therapy
STOMP and ORIOLE trials

Composite PFS stratified by study arm[1]

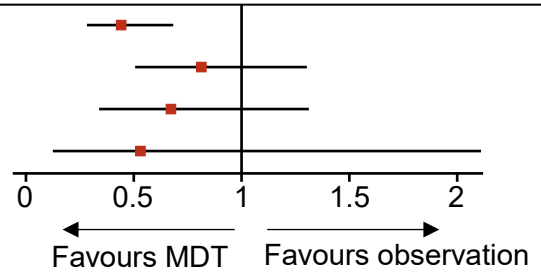


ADT-free survival vs. MDT (per-protocol analysis)[2]



Time-to-event outcomes of MDT vs. observation[3]

Outcome	MDT Median Time to Event, months (95% CI)	Observation Median Time to Event, months (95% CI)	HR (95% CI)	p-value
PFS	11.9 (8–18.3)	5.9 (3.2–7.1)	0.44 (0.29–0.66)	<0.001
rPFS	18.3 (12–36)	17 (13–22.8)	0.81 (0.50–1.29)	0.37
CRPC	NR (62–NR)	63 (53.9–NR)	0.67 (0.34–1.31)	0.24
OS	NR (84–NR)	NR (73–NR)	0.53 (0.13–2.11)	0.36



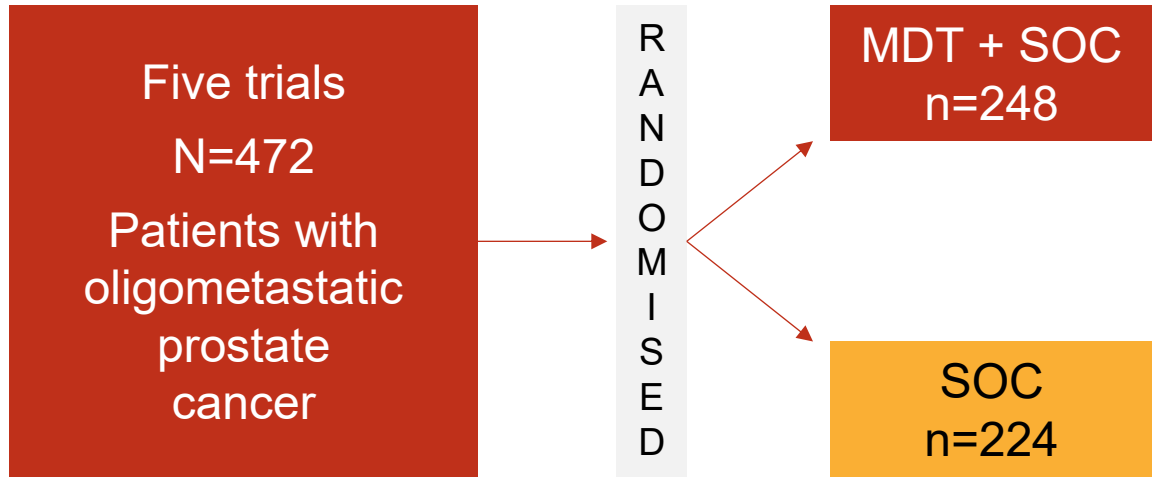
Adapted from Phillips R, et al. *JAMA Oncol* 2020, Ost P, et al. *J Clin Oncol* 2018 and, Deek MP, et al. *J Clin Oncol* 2022.[1–3]

ADT, androgen deprivation therapy; CI, confidence interval; CRPC, castration-resistant prostate cancer; HR, hazard ratio; MDT, metastasis-directed therapy; NR, not reached; OS, overall survival; PFS, progression-free survival; rPFS, radiographic progression-free survival; SABR, stereotactic ablative radiotherapy.

1. Phillips R, et al. *JAMA Oncol* 2020;6:650–659; 2. Ost P, et al. *J Clin Oncol* 2018;36:446–453, 3. Deek MP, et al. *J Clin Oncol* 2022;40:3377–3382.

Worldwide oligometastatic prostate cancer meta-analysis

	SOC	SOC + MDT
Second-generation ARPI, n (%)	134 (60%)	125 (50%)
ADT alone, n (%)	40 (18%)	52 (21%)
Observation, n (%)	50 (22%)	69 (28%)
Median PSA at enrolment, ng/ml	1.9	1.9
Number of metastases, n	2	2
CRPC, n (%)	104 (46%)	95 (38%)
HSPC, n (%)	120 (54%)	153 (62%)
Primary treated, no, n (%)	37 (17%)	42 (17%)
Primary treated, yes, n (%)	185 (83%)	204 (82%)
Baseline conventional imaging, n (%)	79 (35%)	110 (44%)
Baseline PET imaging, n (%)	145 (65%)	138 (56%)

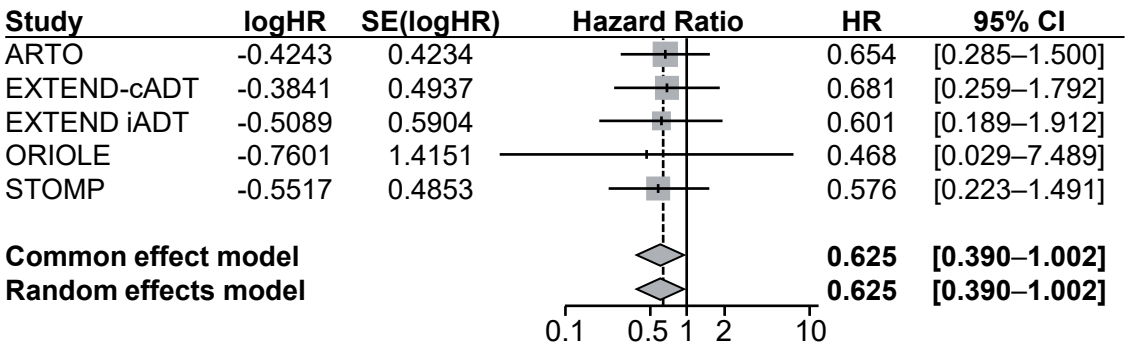


Median follow-up: 41 months

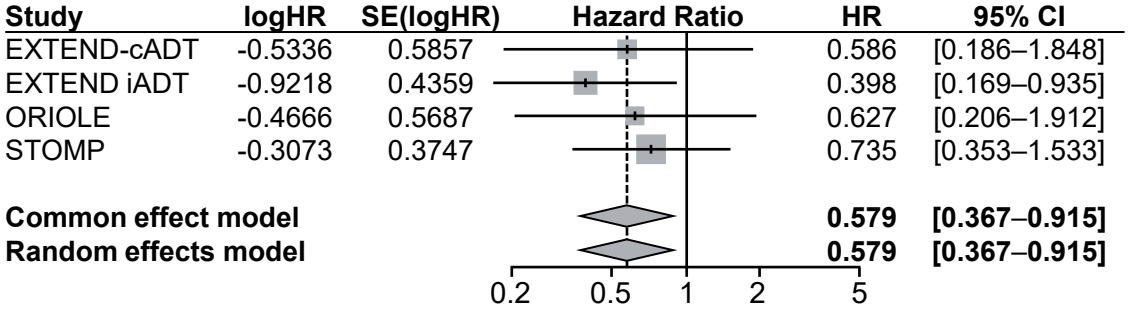
Adapted from Tang C, et al. Presented at ASCO GU 2025,
ADT, androgen deprivation therapy; ARPI, androgen receptor pathway inhibitor; CRPC, castration-resistant prostate cancer; HSPC, hormone-sensitive prostate cancer; MDT, metastasis-directed therapy; PET, positron emission tomography; PSA, prostate-specific antigen; SOC, standard of care.
Tang C, et al. Presented at ASCO GU 2025, 13–15 February 2025, San Francisco, CA, USA. Abstract 15.

Worldwide oligometastatic prostate cancer meta-analysis

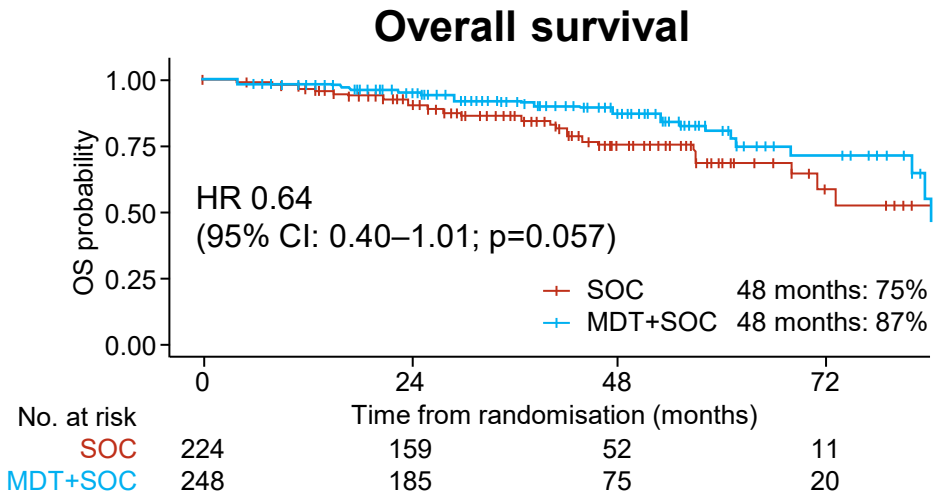
Castration-sensitive population

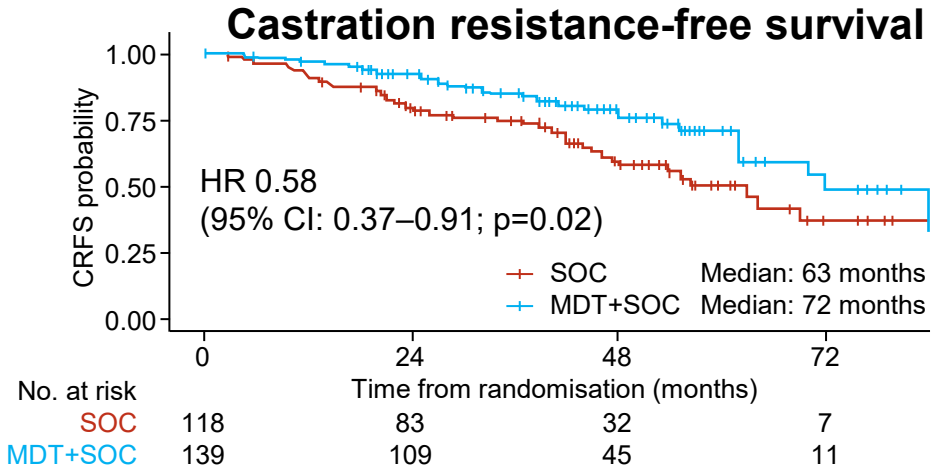


Heterogeneity: I^2=0%, τ^2=0, p=1.00



Heterogeneity: I^2=0%, τ^2=0, p=0.76





Adapted from Tang C, et al. Presented at ASCO GU 2025,
cADT, continuous androgen deprivation therapy; CI, confidence interval; CRFS, castration resistance-free survival; HR, hazard ratio; iADT, intermittent androgen deprivation therapy; MDT, metastasis-directed therapy; SE, standard error; SOC, standard of care.
Tang C, et al. Presented at ASCO GU 2025, 13–15 February 2025, San Francisco, CA, USA. Abstract 15.

Ongoing trials

Trial characteristics	PLATON (NCT03784755)[1]	Oligo-PRESTO (NCT04115007)[2]	VA STARPORT (NCT04787744)[3,4]	METANOVA (NCT06150417)[5]	START-MET (NCT05209243)[6]
Disease status	*De novo* + recurrent	*De novo* + recurrent	Oligorecurrent	*De novo*	*De novo* + recurrent
Imaging	Conventional imaging	Choline PET, PSMA PET or WB-MRI	Conventional imaging, choline PET, PSMA PET	Conventional imaging or PSMA-PET/CT	Conventional imaging, choline PET or PSMA PET
Oligometastases definition	≤5 metastases	≤5 metastases	1–10 metastases	1–5 metastases by conventional imaging; 1–10 metastases by PSMA-PET	≤5 metastases
ADT	Yes, continuous	Yes, continuous or intermittent	Yes, continuous	Yes, continuous	Yes, continuous
Primary endpoint	FFS	CRPC-FS	CRPC-FS	FFS	rPFS
Sample size	409	550	464	200	266

ADT, androgen deprivation therapy; CRPC-FS, castration-resistant prostate cancer–free survival; FFS, failure-free survival; OS, overall survival; PET, positron emission tomography; PSMA, prostate-specific membrane antigen; rPFS, radiographic progression-free survival; WB-MRI, whole-body magnetic resonance imaging.

1. NCT03784755. Available at: https://clinicaltrials.gov/study/NCT03784755. Last accessed: June 2025; 2. NCT04115007. Available at: https://clinicaltrials.gov/study/NCT04115007. Last accessed: June 2025; 3. Solanki AA, et al. *J Clin Oncol* 2024;42(Suppl 16):Abstract TPS5120; 4. NCT04787744. Available at: https://clinicaltrials.gov/study/NCT04787744. Last accessed: June 2025; 5. NCT06150417. Available at: https://clinicaltrials.gov/study/NCT06150417. Last accessed: June 2025; 6. NCT05209243. Available at: https://clinicaltrials.gov/study/NCT05209243. Last accessed: June 2025.

Case study

- 68-year-old man
- ECOG PS of 0
- No relevant family history
- No urinary symptoms
- Hypertension;
  on treatment with
  an ACE inhibitor

Diagnosis

Screening PSA = 7 ng/ml
MRI = PI-RADS score of 5
Biopsy = adenocarcinoma GG 5

Assessment

PSMA PET = PSMA uptake in prostate gland, right obturator and internal iliac node, T11

Treatment

ADT + enzalutamide
RT of prostate
MDT

Fictitious patient case study created for illustrative purposes.
ACE, angiotensin-converting enzyme; ADT, androgen deprivation therapy; ECOG PS, Eastern Cooperative Oncology Group performance status; GG, Grade Group; MDT, metastasis-directed therapy; MRI, magnetic resonance imaging; PET, positron emission tomography; PI-RADS, Prostate Imaging-Reporting and Data System; PSA, prostate-specific antigen; PSMA, prostate-specific membrane antigen; RT, radiotherapy.

Take-home messages

- PSMA PET has demonstrated greater accuracy, sensitivity and specificity than combined conventional imaging for detection of metastases for high-risk prostate cancer in RCTs[1]
- Doublet therapy with ADT + ARPI is the standard of care for patients with metastatic castration-sensitive prostate adenocarcinoma; including those with synchronous oligometastatic disease[2]
- A subgroup analysis of RCTs has shown a role of radiation to the prostate in the realm of oligometastatic HSPC[3–6]
- Metastasis-directed therapy has emerged as an option in patients with oligorecurrent HSPC, and its role in *de novo* oligometastatic HSPC will be determined in ongoing trials[6]

ADT, androgen deprivation therapy; ARPI, androgen receptor pathway inhibitor; HSPC, hormone-sensitive prostate cancer;
PET, positron emission tomography; PSMA, prostate-specific membrane antigen; RCT, randomised controlled trial.

1. Hofman MS, et al. *Lancet* 2020;395:1208–1216; 2. EAU. EAU–EANM–ESTRO–ESUR–ISUP–SIOG guidelines on prostate cancer. Available at: https://uroweb.org/guidelines/prostate-cancer. Last accessed: June 2025;
3. Parker CC, et al. *Lancet* 2018;392:2353–2366; 4. Boeve LMS, et al. *Eur Urol.* 2019;75:410–441; 5. Burdett S, et al. *Eur Urol* 2019;76:115–124; 6. Speaker's own opinion.

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Genitourinary Masterclass

astellas

Please refer to the EMA SmPC for XTANDI™ (enzalutamide) via the following link: https://www.ema.europa.eu/en/documents/product-information/xtandi-epar-product-information_en.pdf

Scan/click here for the XTANDI™ UK prescribing information

Scan/click here for the XTANDI™ NL SmPC

XTANDI is subject to medicinal prescription.
Astellas Pharma B.V., Sylviusweg 62, 2333 BE Leiden, The Netherlands.
aPI, abbreviated Prescribing Information; EMA, European Medicines Agency; SmPC, Summary of Product Characteristics.
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