

# **Treatment Advances with Novel Anti- Androgen Therapy, PARP Inhibitors, and NGI**

For Hormone-Sensitive  
and Castration-Resistant  
Prostate Cancer



## Faculty

**Matthew R. Smith, MD, PhD**

Professor of Medicine  
Harvard Medical School  
Director, MGH Genitourinary Malignancies  
Boston, Massachusetts

**Mary W. Dunn, MSN, RN, OCN, NP-C**

Adult Oncology Nurse Practitioner  
University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina



## Faculty Disclosures

- **Dr. Smith:** Consultant—ABMBRX, Bayer, Janssen, Lilly, Pfizer
- **Ms. Dunn** has disclosed no relevant financial relationship with any ineligible company (commercial interest)



## Program Information

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- Supported by an educational grant from Janssen Biotech, Inc., administered by Janssen Scientific Affairs, LLC.

# Learning Objectives

- Describe the utility of PSA and PSMA as diagnostic and prognostic biomarkers as well as emerging applications for next-generation imaging (NGI) in PC staging and treatment selection
- Evaluate key clinical efficacy and safety data from randomized clinical trials (RCTs) on current and emerging anti-androgen therapies and poly-ADP-ribose polymerase (PARP) inhibitors in PC
- Incorporate real-world data and clinical practice guideline recommendations and strategies for managing AEs associated with anti-androgen agents and PARP inhibitors to optimize treatment outcomes

PSA = prostate-specific androgen; PSMA = prostate-specific membrane antigen; PC = prostate cancer; AE = adverse event.

# Submit Your Questions and Post-Event Survey

- Scan the QR Code to submit your questions
- Scan the QR Code at the end to complete the Post-Event Survey for a chance to win a \$25 Gift Card!
- Look out for the Key Learning Point Icon throughout the talk!



# Treatment Advances with Novel Anti-Androgens, PARPi, and Next-Generation Imaging

**Matthew R. Smith, MD, PhD**  
Professor of Medicine  
Harvard Medical School  
Director, MGH Genitourinary Malignancies  
Boston, Massachusetts

# Objectives

- Discuss recent changes in the landscape of management for metastatic prostate cancer
- Describe the emerging role of PSMA PET imaging to detect metastatic disease and identify candidates for PSMA radioligand therapy
- Summarize the evidence supporting intensification of initial systemic therapy for metastatic castration-sensitive prostate cancer (mCSPC)
- Review the role of PARPi and PSMA radioligand therapy for the treatment of metastatic castration-resistant prostate cancer (mCRPC)

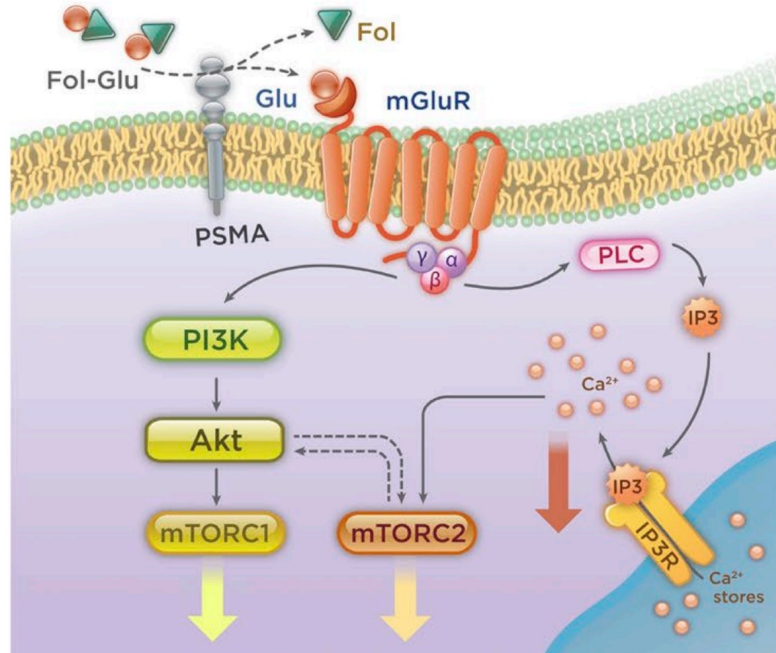
PARPi = PARP inhibitor; PET = positron emission tomography.

# Prostate Cancer in the United States

- Other than skin cancer, prostate cancer is the most common cancer in American men
- About 288,300 new cases in 2023
- About 34,700 deaths from prostate cancer
- Survival is related to prostate cancer stage and grade

American Cancer Society [www.acs.org]. Last updated January 12, 2023; March 1, 2023. Accessed October 14, 2023.  
<https://www.cancer.org/cancer/types/prostate-cancer/about/key-statistics.html>, <https://www.cancer.org/cancer/types/prostate-cancer/detection-diagnosis-staging/survival-rates.html>.

# Prostate-Specific Membrane Antigen (PSMA)



- Transmembrane carboxypeptidase
- Highly expressed in prostate cancer
- Relatively low expression in normal tissues
- Target for PET imaging, radioligand therapy, and adoptive cellular therapy

# PSMA PET Imaging

Bone Scan



PSMA PET Scan

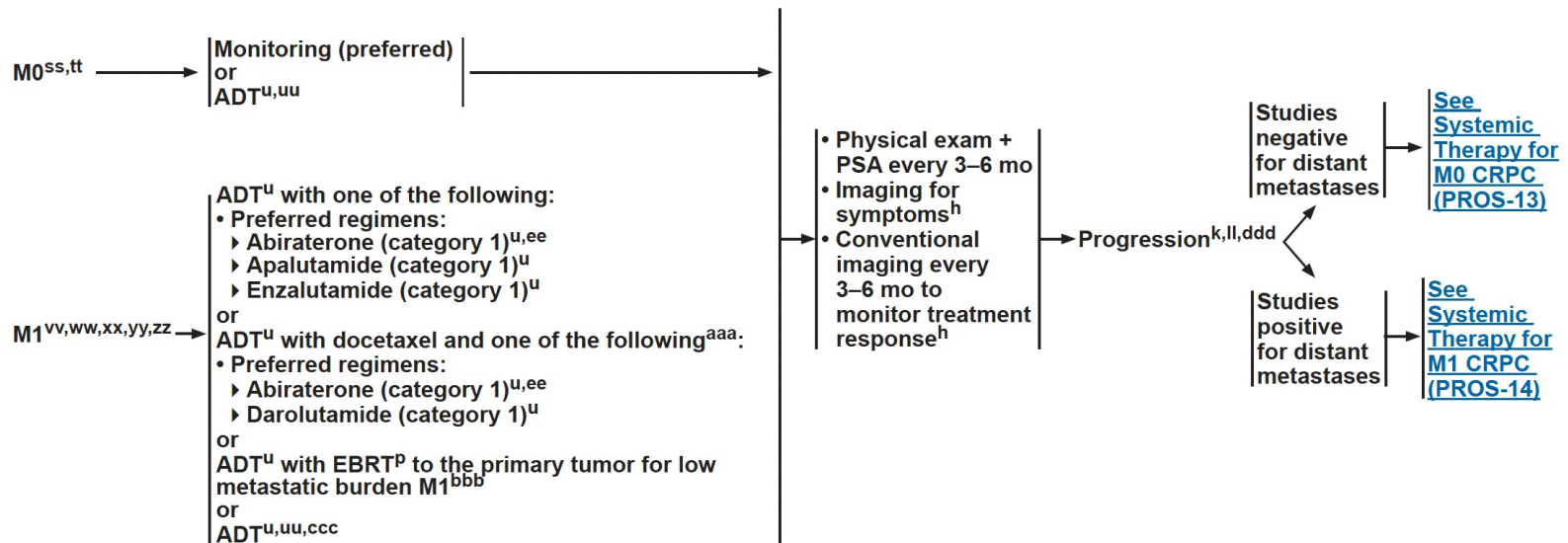


- More sensitive and specific than conventional imaging
- Widely available
- Several commercially available tracers
- Results in up-staging of many patients

# NCCN Guidelines Version 4.2023 Prostate Cancer

[NCCN Guidelines Index](#)  
[Table of Contents](#)  
[Discussion](#)

## SYSTEMIC THERAPY FOR CASTRATION-SENSITIVE PROSTATE CANCER<sup>††</sup>



ADT = androgen deprivation therapy; EBRT = external beam radiation therapy.  
National Comprehensive Cancer Network (NCCN) [www.nccn.org]. Last updated April 2023.  
[https://www.nccn.org/professionals/physician\\_gls/pdf/prostate.pdf](https://www.nccn.org/professionals/physician_gls/pdf/prostate.pdf).

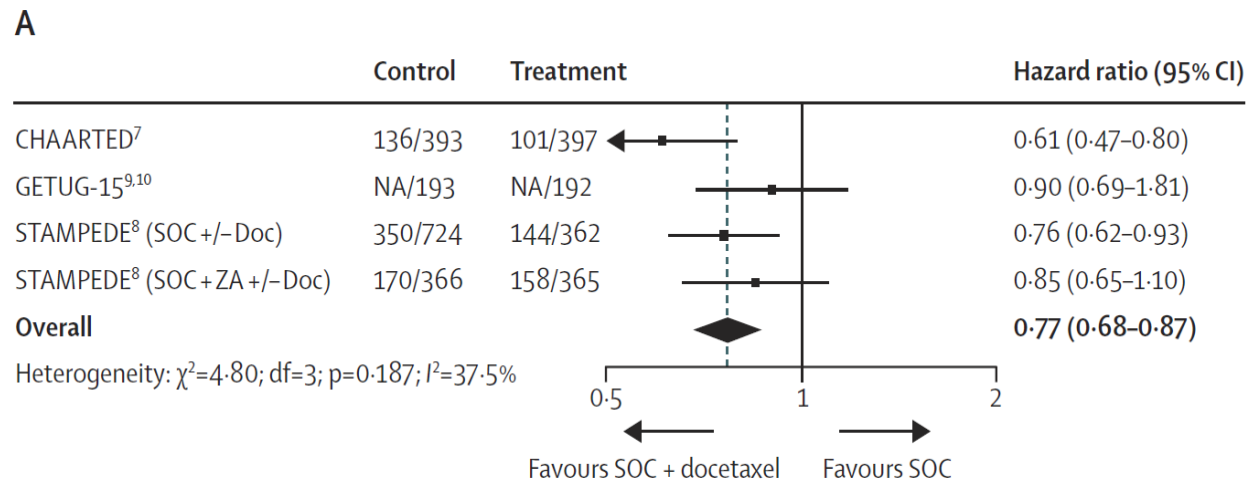
# Level 1 Evidence for Improved Overall Survival in mCSPC

Studies	Intervention	Control	Comments
STAMPEDE-H	Prostate radiation + ADT (+/- docetaxel)	ADT (+/- docetaxel)	Benefit in low-volume subgroup
GETUG-15 CHAARTED STAMPEDE-C	Docetaxel + ADT	ADT	Benefit in high-volume subgroup
LATITUDE STAMPEDE-G	Abiraterone + ADT	ADT	Similar benefits by risk group
ARCHES ENZAMET	Enzalutamide + ADT	ADT	Similar benefits by risk group
TITAN	Apalutamide + ADT	ADT	Similar benefits by risk group
ARASENS	Darolutamide + ADT + docetaxel	ADT + docetaxel	Similar benefits for recurrent and de novo metastatic disease
PEACE-1	Abiraterone + ADT + docetaxel (+/- prostate radiation)	ADT + docetaxel (+/- prostate radiation)	Subgroup analysis

Parker CC, et al. *Lancet*. 2018;392(10162):2353-2366. Armstrong AJ, et al. *J Clin Oncol*. 2022;40(15):1616-1622. Davis ID, et al. *N Engl J Med*. 2019;381(2):121-131. James ND, et al. *Lancet*. 2016;387(10024):1163-1177. Sweeney CJ, et al. *N Engl J Med*. 2015;373(8):737-746. Chi KN, et al. *N Engl J Med*. 2019;381(1):13-24. Fizazi K, et al. *N Engl J Med*. 2017;377(4):352-360. James ND, et al. *N Engl J Med*. 2017;377(4):338-351. Smith MR, et al. *N Engl J Med*. 2022;386(12):1132-1142. Fizazi K, et al. *Lancet*. 2022;399(10336):1695-1707.

# Meta-Analysis of RCTs of Docetaxel in mCSPC

## Overall Survival



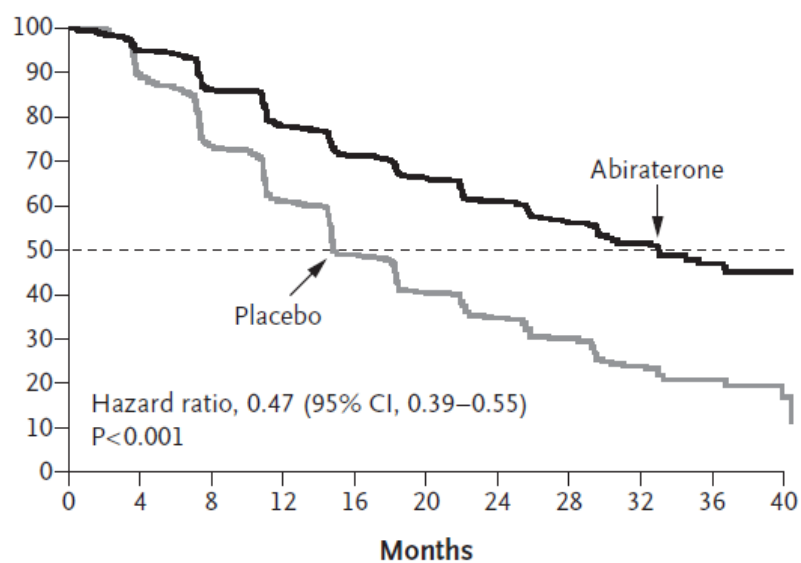
- Results based on 2992 men/2198 events
- 9% absolute improvement in survival at 4 years

SOC = standard of care; Doc = docetaxel.

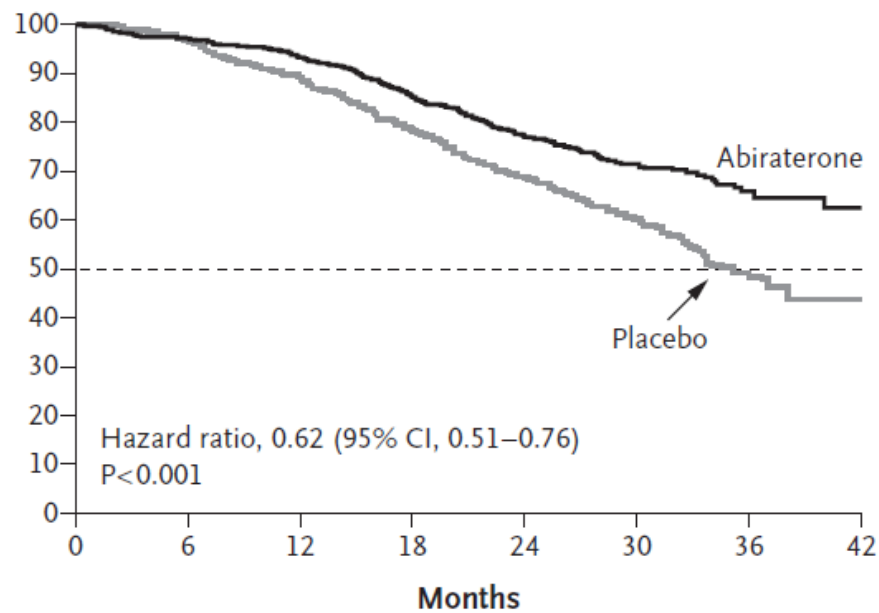
Vale CL, et al. *Lancet Oncol.* 2016;17(2):243-256.

# LATITUDE: Abiraterone Acetate for mCSPC

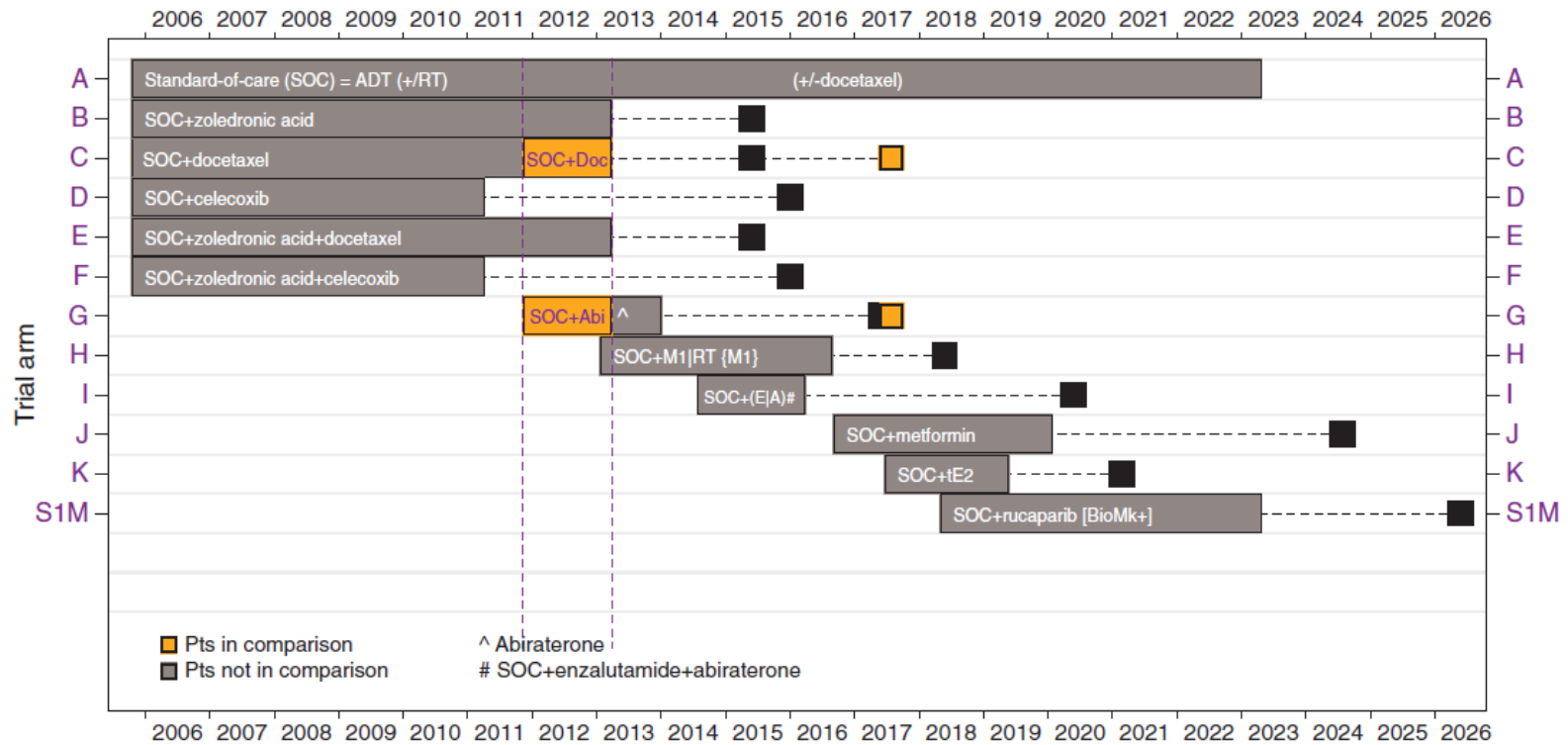
Radiographic Progression-Free Survival



Overall Survival



# STAMPEDE: Docetaxel vs Abiraterone Comparison

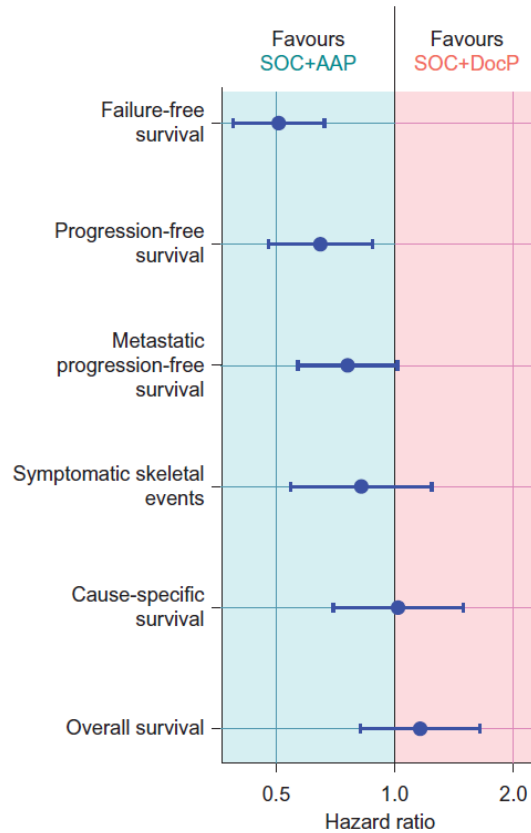


C = SOC+doc --> 189 pts  
 G = SOC+abi --> 377 pts

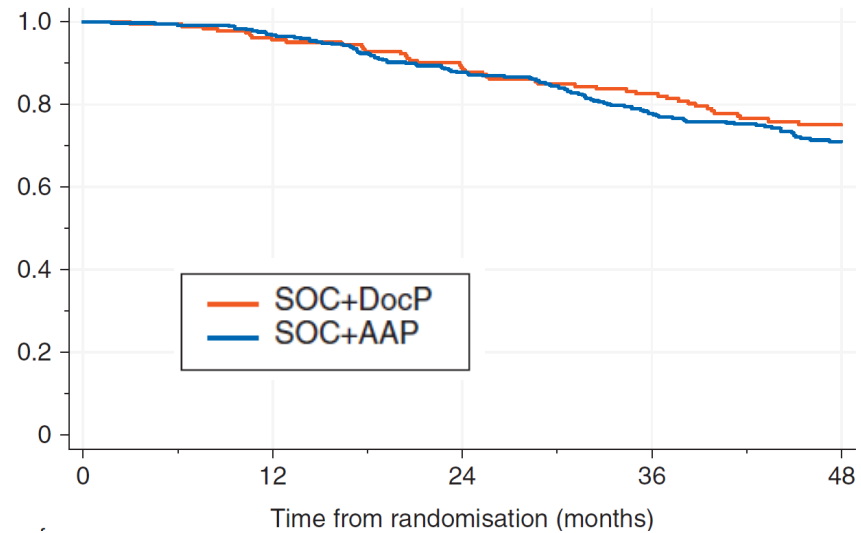
RT = radiotherapy.

Sydes MR, et al. *Ann Oncol.* 2018;29(5):1235-1248.

# STAMPEDE: Docetaxel vs Abiraterone Comparison

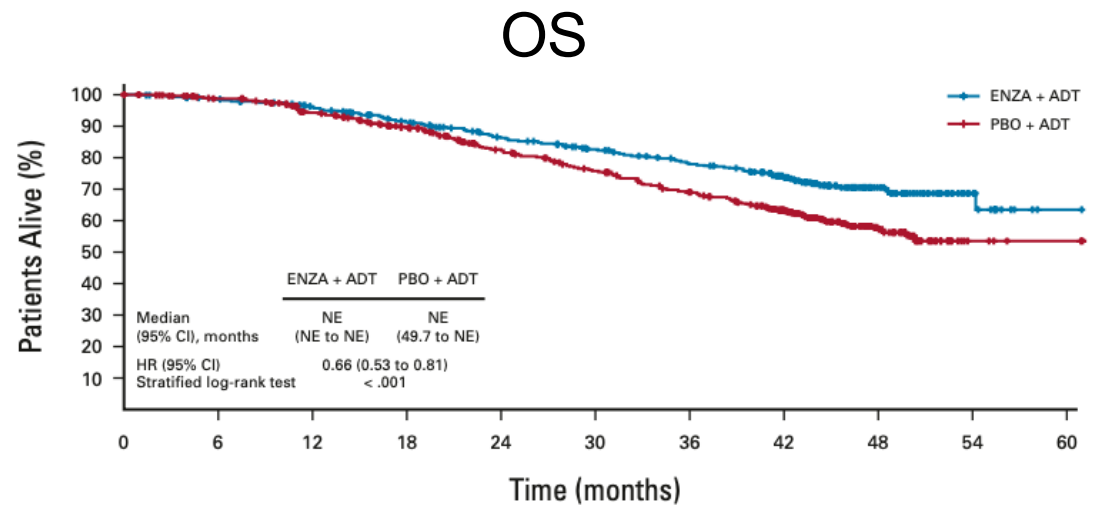
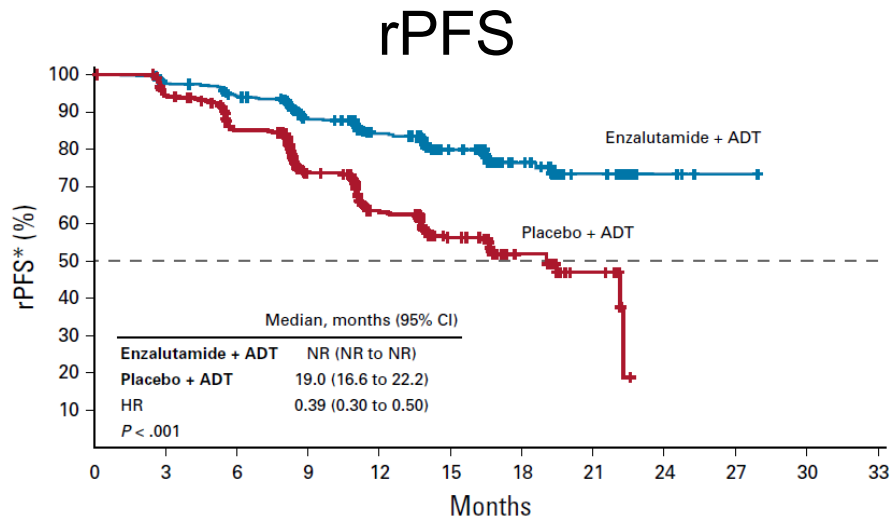


## Overall Survival



AAP = abiraterone acetate plus prednisone; DocP = docetaxel plus prednisone.  
Sydes MR, et al. *Ann Oncol*. 2018;29(5):1235-1248.

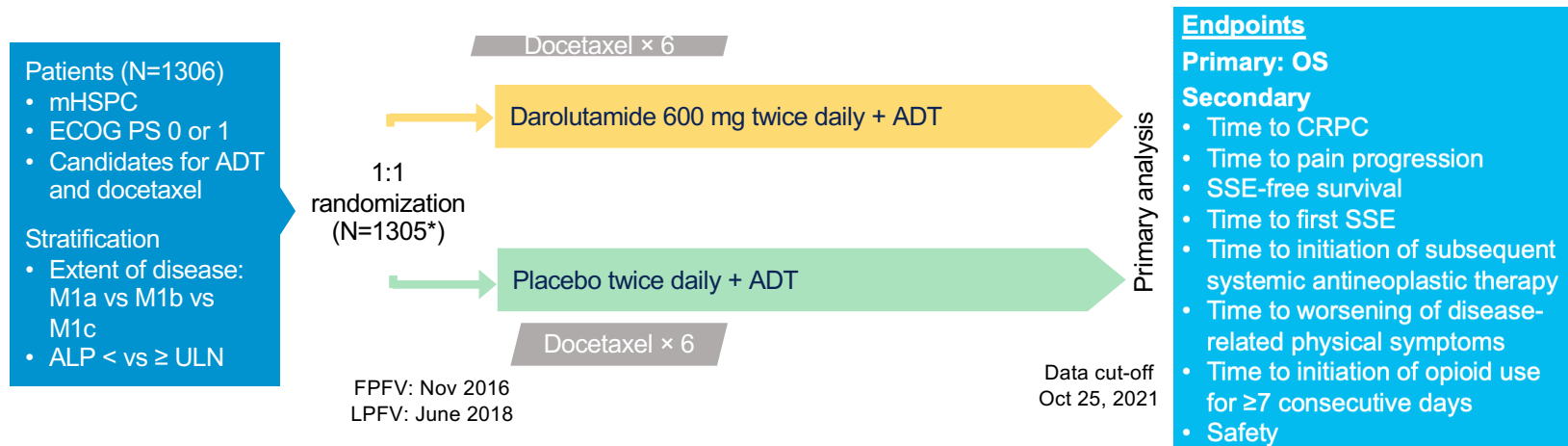
# ARCHES: Enzalutamide for mCSPC



rPFS = radiographic progression-free survival; OS = overall survival; ENZA = enzalutamide; PBO = placebo; NR = no response.  
 Armstrong AJ, et al. *J Clin Oncol.* 2019;37(32):2974-2986. Armstrong AJ, et al. *J Clin Oncol.* 2022;40(15):1616-1622.

# ARASENS Study Design

Global, Randomized, Double-Blind, Placebo-Controlled Phase III Study (NCT02799602)



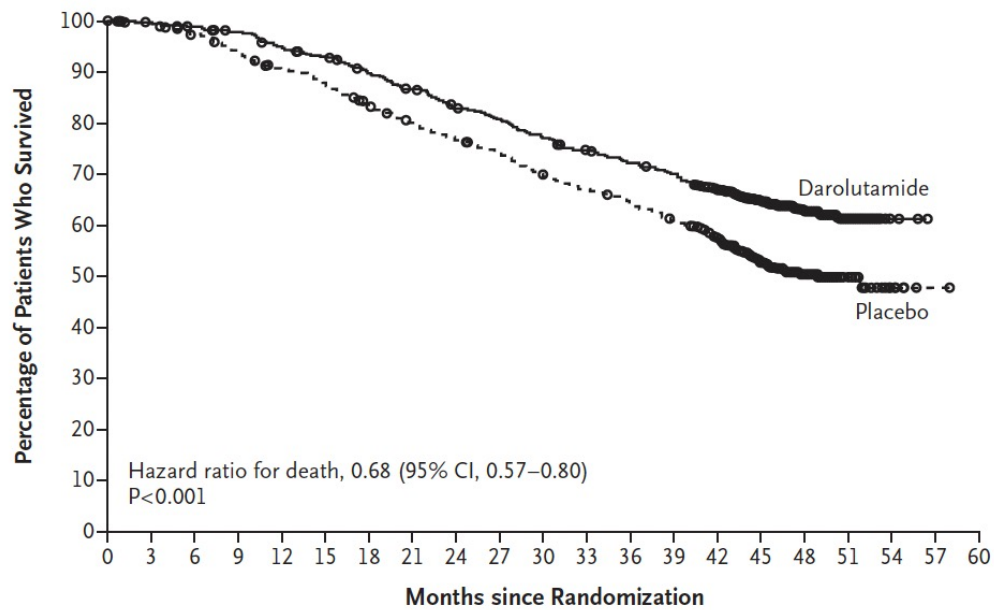
- The primary analysis was planned to occur after ~509 deaths
- Secondary efficacy endpoints were tested hierarchically

mHSPC = metastatic hormone-sensitive prostate cancer; ECOG PS = Eastern Cooperative Oncology Group performance status; ALP = alkaline phosphatase; ULN = upper limit of normal; SSE = symptomatic skeletal-related events; FPFV = first patient first visit; LPFV = last patient first visit; M1a = nonregional lymph node metastases only; M1b = bone metastases ± lymph node metastases; M1c = visceral metastases ± lymph node or bone metastases.

\*One enrolled patient was excluded from all analysis sets because of good clinical practice violations.

Smith MR, et al. *N Engl J Med.* 2022;386(12):1132-1142.

# ARASENS Primary Endpoint: Overall Survival



No. at Risk	0	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	48	51	54	57	60
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

	Median Survival (95% CI)
Darolutamide	mo
Placebo	48.9 (44.4–NE)



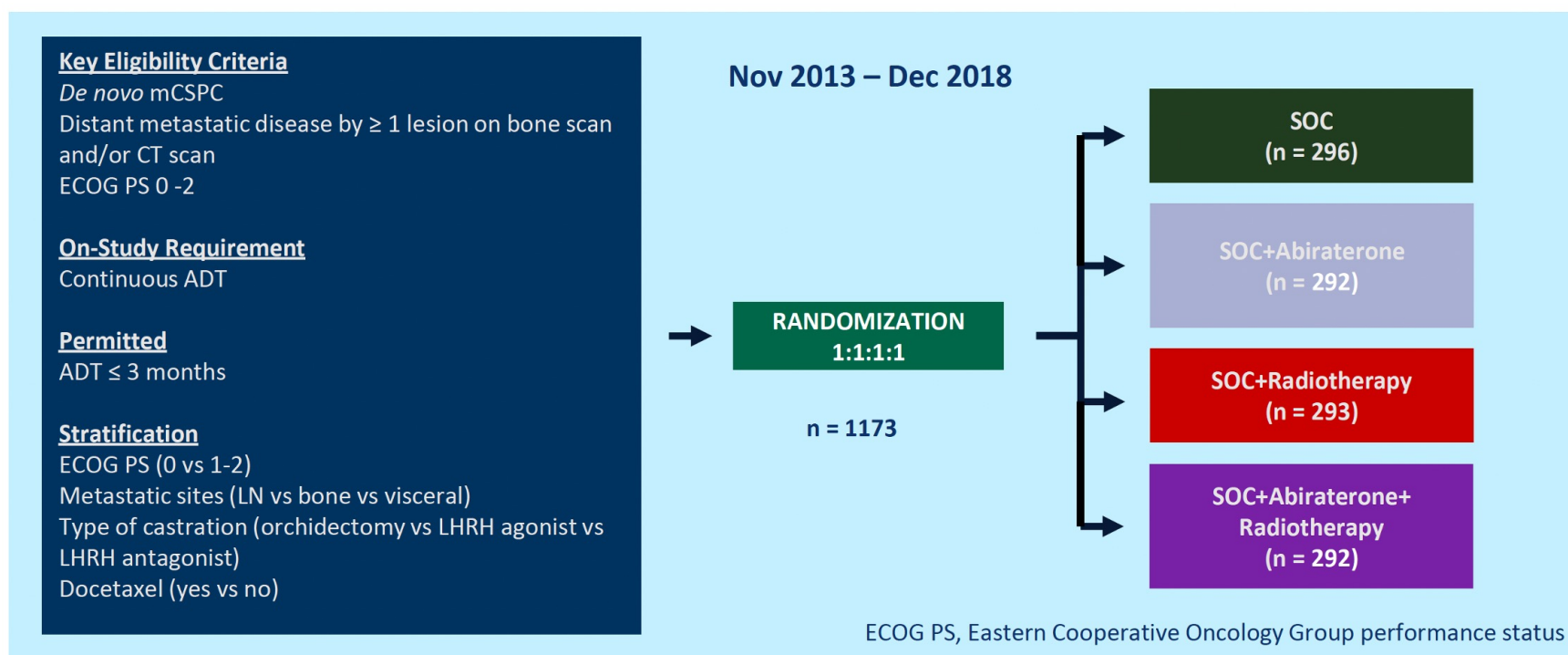
## Key Learning Points

- 33% lower risk of death with darolutamide compared to placebo
- Most common adverse event (Grade 3/4) was neutropenia

NE = not estimable.

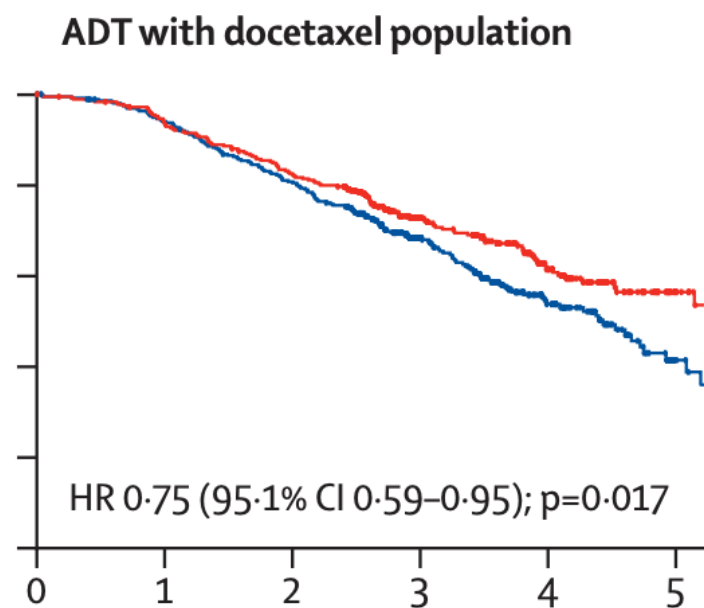
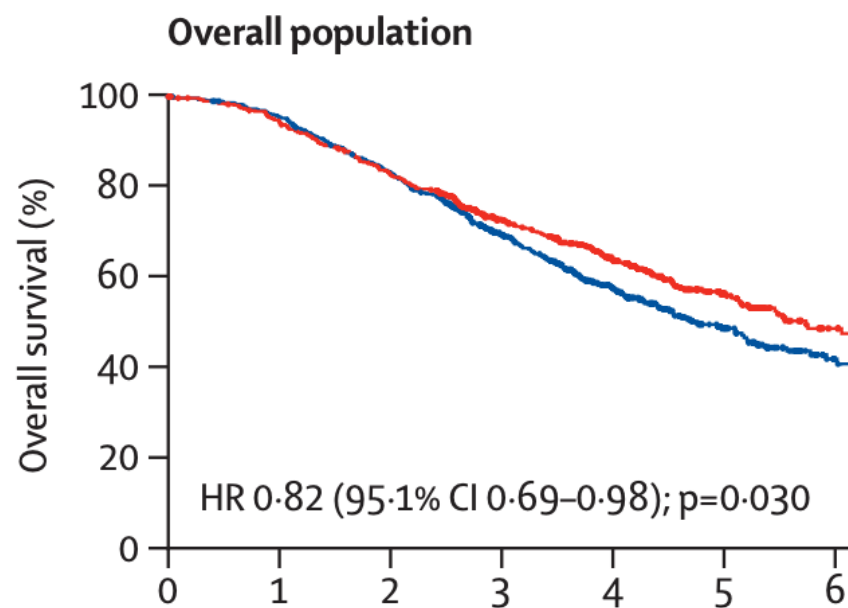
Smith MR, et al. *N Engl J Med.* 2022;386(12):1132-1142.

# PEACE-1 Study Design



CT = computed tomography; LN = lymph node; LHRH = luteinizing hormone-releasing hormone.  
Fizazi K, et al. *Lancet*. 2022;399(10336):1695-1707.

# PEACE-1: Overall Survival





**SYSTEMIC THERAPY FOR M1 CRPC: ADENOCARCINOMA<sup>iii, kkk, III</sup>**

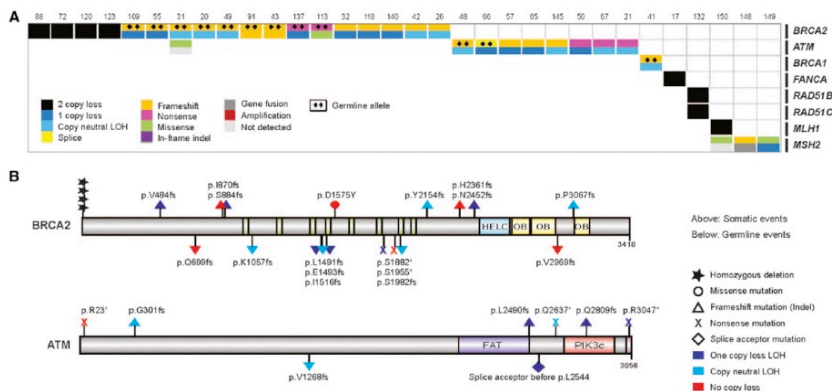
<p><b>No prior docetaxel/no prior novel hormone therapy<sup>mmm</sup></b></p> <ul style="list-style-type: none"> <li>• Preferred regimens             <ul style="list-style-type: none"> <li>▶ Abiraterone<sup>u, nnn, ooo</sup> (category 1)</li> <li>▶ Docetaxel<sup>fff, ppp</sup> (category 1)</li> <li>▶ Enzalutamide<sup>u</sup> (category 1)</li> </ul> </li> <li>• Useful in certain circumstances             <ul style="list-style-type: none"> <li>▶ Niraparib/abiraterone<sup>u, fff, zzz</sup> for BRCA mutation (category 1)</li> <li>▶ Olaparib/abiraterone<sup>u, fff, nnn, qqq</sup> for BRCA mutation (category 1)</li> <li>▶ Radium-223<sup>trr</sup> for symptomatic bone metastases (category 1)</li> <li>▶ Sipuleucel-T<sup>fff, sss</sup> (category 1)</li> <li>▶ Talazoparib/enzalutamide for HRRm<sup>u, fff, yyy</sup> (category 1)</li> </ul> </li> <li>• Other recommended regimens             <ul style="list-style-type: none"> <li>▶ Other secondary hormone therapy<sup>u</sup></li> </ul> </li> </ul>	<p><b>Prior novel hormone therapy/no prior docetaxel<sup>mmm, ttt</sup></b></p> <ul style="list-style-type: none"> <li>• Preferred regimens             <ul style="list-style-type: none"> <li>▶ Docetaxel (category 1)<sup>fff</sup></li> </ul> </li> <li>• Useful in certain circumstances             <ul style="list-style-type: none"> <li>▶ Cabazitaxel/carboplatin<sup>fff, jjj</sup></li> <li>▶ Niraparib/abiraterone<sup>u, fff, zzz</sup> for BRCA mutation (category 2B)</li> <li>▶ Olaparib for HRRm<sup>uuu</sup> (category 1)</li> <li>▶ Radium-223<sup>trr</sup> for symptomatic bone metastases (category 1)</li> <li>▶ Rucaparib for BRCA mutation<sup>vvv</sup></li> <li>▶ Sipuleucel-T<sup>fff, sss</sup></li> <li>▶ Talazoparib/enzalutamide for HRRm<sup>u, fff, yyy</sup> (category 2B)</li> </ul> </li> <li>• Other recommended regimens             <ul style="list-style-type: none"> <li>▶ Abiraterone<sup>u, nnn</sup></li> <li>▶ Abiraterone<sup>u</sup> + dexamethasone<sup>nnn, www</sup></li> <li>▶ Enzalutamide<sup>u</sup></li> <li>▶ Other secondary hormone therapy<sup>u</sup></li> </ul> </li> </ul>
<p><b>Prior docetaxel/no prior novel hormone therapy<sup>mmm</sup></b></p> <ul style="list-style-type: none"> <li>• Preferred regimens             <ul style="list-style-type: none"> <li>▶ Abiraterone<sup>u, nnn</sup> (category 1)</li> <li>▶ Cabazitaxel<sup>fff</sup></li> <li>▶ Enzalutamide<sup>u</sup> (category 1)</li> </ul> </li> <li>• Useful in certain circumstances             <ul style="list-style-type: none"> <li>▶ Cabazitaxel/carboplatin<sup>fff, jjj</sup></li> <li>▶ Mitoxantrone for palliation in symptomatic patients who cannot tolerate other therapies<sup>fff</sup></li> <li>▶ Niraparib/abiraterone<sup>u, fff, zzz</sup> for BRCA mutation</li> <li>▶ Olaparib/abiraterone<sup>u, fff, nnn, qqq</sup> for BRCA mutation</li> <li>▶ Radium-223<sup>trr</sup> for symptomatic bone metastases (category 1)</li> <li>▶ Sipuleucel-T<sup>fff, sss</sup></li> <li>▶ Talazoparib/enzalutamide for HRRm<sup>u, fff, yyy</sup></li> </ul> </li> <li>• Other recommended regimens             <ul style="list-style-type: none"> <li>▶ Other secondary hormone therapy<sup>u</sup></li> </ul> </li> </ul>	<p><b>Prior docetaxel and prior novel hormone therapy<sup>mmm, ttt</sup></b></p> <ul style="list-style-type: none"> <li>• Useful in certain circumstances             <ul style="list-style-type: none"> <li>▶ Lutetium Lu 177 vipivotide tetraxetan (Lu-177-PSMA-617) for PSMA-positive metastases<sup>xxx</sup> (category 1)</li> </ul> </li> <li>(The following systemic therapies are category 2B if visceral metastases are present)</li> <li>• Preferred regimens             <ul style="list-style-type: none"> <li>▶ Cabazitaxel<sup>fff, ooo</sup> (category 1)</li> <li>▶ Docetaxel rechallenge<sup>fff</sup></li> </ul> </li> <li>• Useful in certain circumstances             <ul style="list-style-type: none"> <li>▶ Cabazitaxel/carboplatin<sup>fff, jjj</sup></li> <li>▶ Mitoxantrone for palliation in symptomatic patients who cannot tolerate other therapies<sup>fff</sup></li> <li>▶ Olaparib for HRRm<sup>ooo, uuu</sup> (category 1)</li> <li>▶ Pembrolizumab for MSI-H, dMMR, or TMB ≥10 mut/Mb<sup>fff</sup></li> <li>▶ Radium-223<sup>trr</sup> for symptomatic bone metastases<sup>ooo</sup> (category 1)</li> <li>▶ Rucaparib for BRCA mutation<sup>vvv</sup></li> </ul> </li> <li>• Other recommended regimens             <ul style="list-style-type: none"> <li>▶ Abiraterone<sup>u, nnn</sup></li> <li>▶ Enzalutamide<sup>u</sup></li> <li>▶ Other secondary hormone therapy<sup>u</sup></li> </ul> </li> </ul>

BRCA = breast cancer; HRRm = homologous recombination repair gene mutation; MSI-H = high microsatellite instability; dMMR = DNA mismatch repair; DNA = deoxyribonucleic acid; TMB = tumor mutation burden.  
NCCN [www.nccn.org]. Last updated April 2023. [https://www.nccn.org/professionals/physician\\_gls/pdf/prostate.pdf](https://www.nccn.org/professionals/physician_gls/pdf/prostate.pdf).

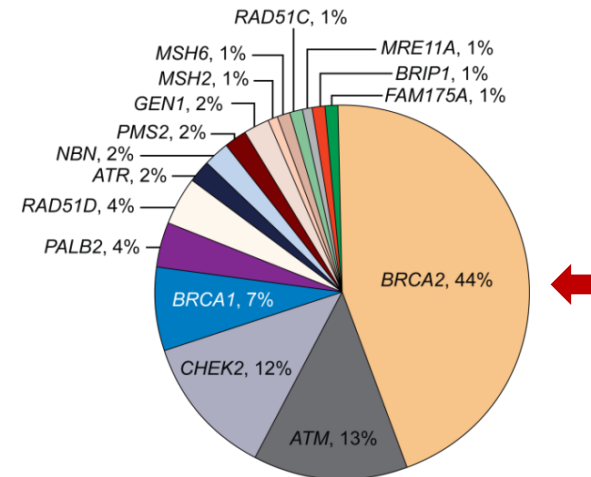
# HRR Genes and Metastatic Prostate Cancer

## Somatic

- **23%** of metastatic castration-resistant prostate cancers harbor DNA repair alterations
- The frequency of DNA repair alterations **increases in metastatic disease vs. localized disease**



## Germline



- **12%** of men with metastatic prostate cancer have a germline DNA repair defect

RAD = radialis; MSH = MutS homolog; PMS = postmeiotic segregation; NBN = nibrin; ATR = ataxia telangiectasia and Rad3-related protein; PALB2 = partner and localizer of BRCA2; MRE = meiotic recombination; BRIP = BRCA1 interacting protein; FAM = family with sequence similarity; CHEK = checkpoint kinase.

Robinson D, et al. *Cell*. 2015;161(5):1215-1228. Pritchard CC, et al. *N Engl J Med*. 2016;375(5):443-453.

# Prostate NCCN Guidelines v 1.2023

## Germline Testing

Germline testing is recommended in patients with a personal history of prostate cancer who:

- Have metastatic, regional (N+), very-high-risk localized, or high-risk localized prostate cancer
- Have family history and/or ancestry with:
  - ≥1 first, second, or third degree relative with
    - Breast cancer at age ≤50 years
    - Colorectal or endometrial cancer at age ≤50 years
    - Male breast cancer at any age
    - Ovarian cancer at any age
    - Pancreatic cancer at any age
    - Metastatic, regional, very-high-risk, or high-risk prostate cancer at any age
  - ≥1 first degree relative with prostate cancer at age ≤60 years
  - ≥2 first, second, or third degree relatives with:
    - Breast cancer at any age
    - Prostate cancer at any age
  - ≥3 first or second degree relatives with:
    - Lynch syndrome-related cancers, especially if diagnosed at age <50 years
    - A known family history of a familial cancer risk mutation
    - Ashkenazi Jewish ancestry
- Personal history of male breast cancer

Germline testing may be considered in patients with a personal history of PCa who:

- Have intermediate-risk prostate cancer with intraductal/cribriform histology
- Have a personal history of pancreatic, colorectal, gastric, melanoma, upper tract urothelial, glioblastoma, biliary tract, or small intestinal cancer

*Germline multigene testing that includes at least BRCA1, BRCA2, ATM, PALB2, CHEK2, HOXB13, MLH1, MSH2, MSH6, and PMS2 is recommended; additional genes may be appropriate based on clinical context*

## Somatic Tumor Testing

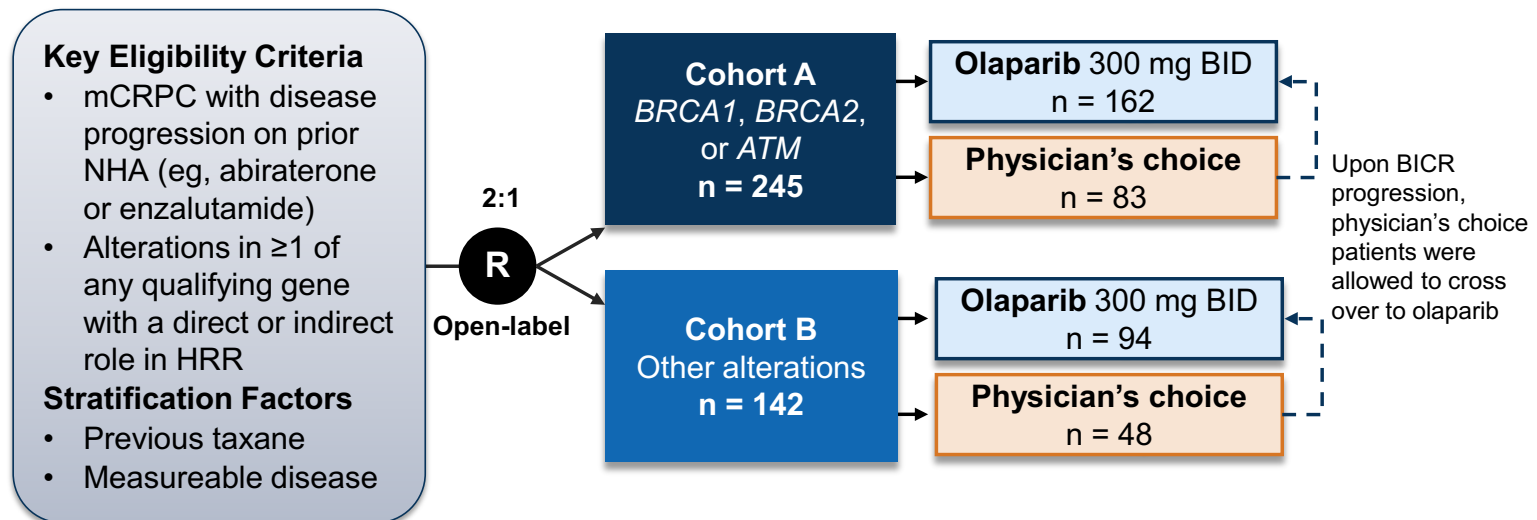
Tumor testing for alterations in HRR DNA repair genes such as **BRCA1, BRCA2, ATM, PALB2, FANCA, RAD51D, CHEK2, and CDK12** is recommended in patients with metastatic prostate cancer, and may be considered for patients with regional (N+) prostate cancer

Tumor testing for MSI-H or dMMR is recommended in patients with mCRPC, and may be considered for patients with mCSPC

TMB testing may be considered in patients with mCRPC

PCa = prostate cancer; HOXB = homeo box B cluster; FANCA = Fanconi anemia; CDK = cyclin-dependent kinase.  
NCCN [www.nccn.org]. Last updated January 2023. <https://www.nccn.org/guidelines/guidelines-process/transparency-process-and-recommendations/GetFileFromFileManagerGuid?FileManagerGuidId=48c2a3b5-a7c2-4222-9f48-59921011b4a7>.

# PROfound: Randomized Phase 3 Study of Olaparib

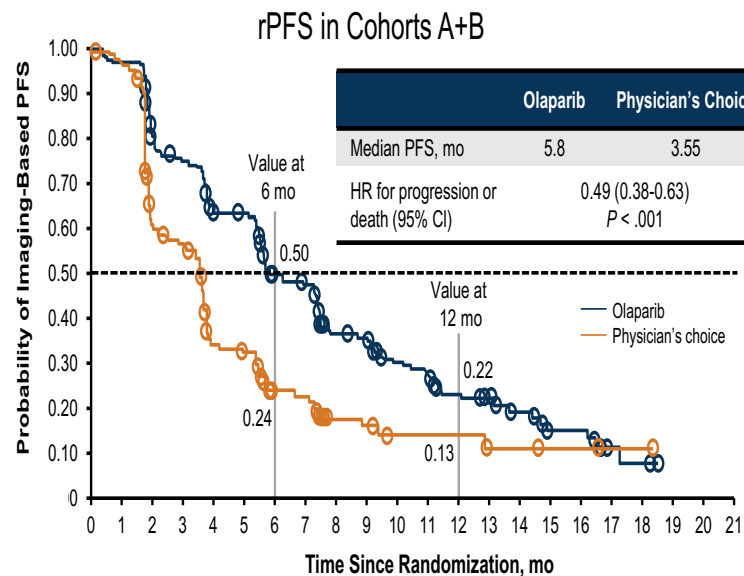


- Primary endpoint: rPFS in cohort A (RECIST 1.1 and PCWG3 by BICR)
- Key secondary endpoints: rPFS (cohorts A+B); confirmed radiographic ORR in cohort A; time to pain progression in cohort A; OS in cohort A

NHA = new hormonal agent; ATM = ataxia-telangiectasia mutated; BID = twice daily; BICR = blinded independent central review; ORR = overall response rate.

De Bono J, et al. *N Engl J Med.* 2020;382(22):2091-2102.

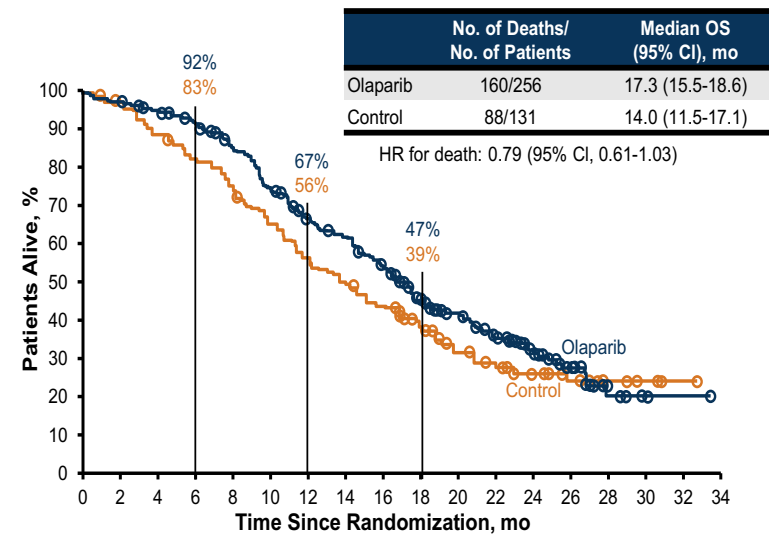
# PROfound: rPFS and OS in Whole Population (A+B)



**No. at Risk**

Olaparib	256	239	188	176	145	143	106	100	67	63	48	43	31	28	21	11	11	3	2	0	0	0
Control	131	123	73	67	38	35	20	19	9	8	5	5	5	3	3	2	2	1	1	0	0	0

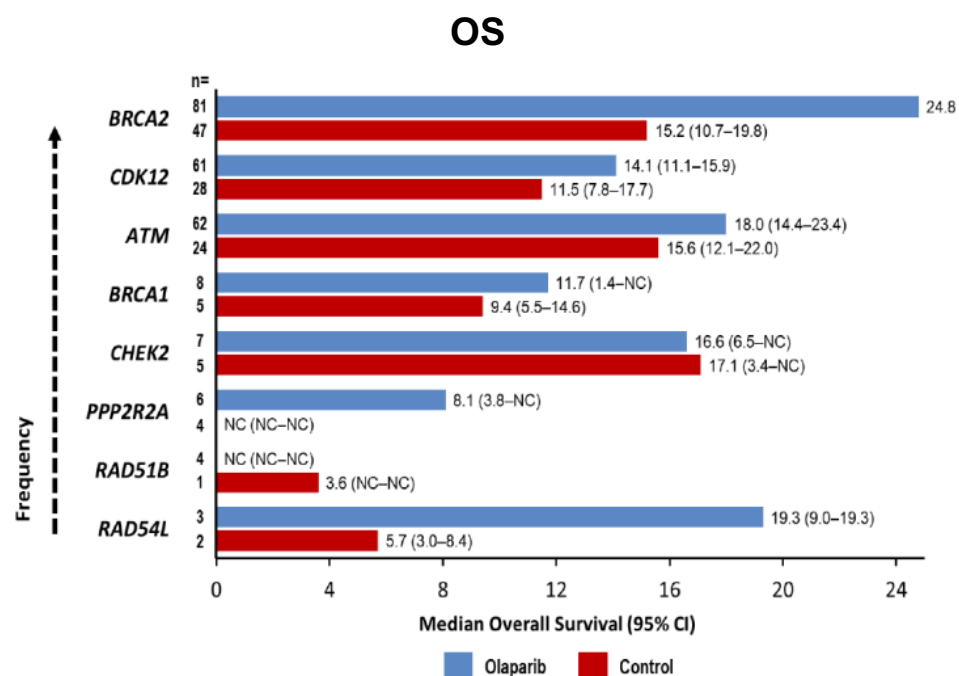
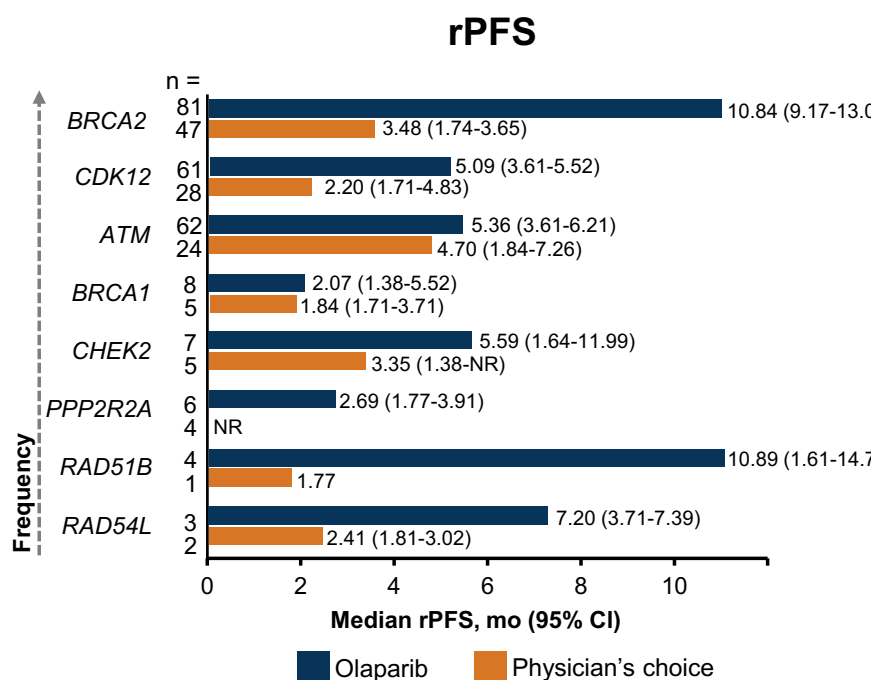
**OS in the Overall Population (Cohorts A + B)**



**No. at Risk**

Olaparib	256	249	240	228	209	182	157	146	126	96	73	56	39	22	7	2	1	0
Control	131	125	115	106	96	83	71	63	55	37	27	22	15	11	6	3	1	0

# PROfound: Gene-by-Gene, rPFS, and OS Analyses

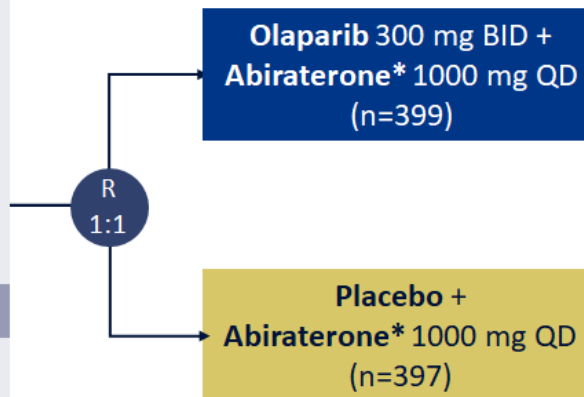


PPP2R2A = protein phosphatase 2 regulatory subunit balpha.

De Bono J, et al. *N Engl J Med.* 2020;382(22):2091-2102. Hussain M, et al. *N Engl J Med.* 2020;383(24):2345-2357.

# PROpel: Phase III Trial of Abiraterone +/- Olaparib

Patient population
<ul style="list-style-type: none"><li>▪ mCRPC</li><li>▪ Docetaxel for mCSPC allowed</li><li>▪ No prior abiraterone</li><li>▪ Other NHT allowed if stopped ≥12 months prior to enrollment</li><li>▪ Ongoing ADT</li><li>▪ ECOG PS 0–1</li></ul>
Stratification factors
<ul style="list-style-type: none"><li>▪ Site of distant metastases (bone only vs visceral vs other)</li><li>▪ Prior taxane for mCSPC</li></ul>

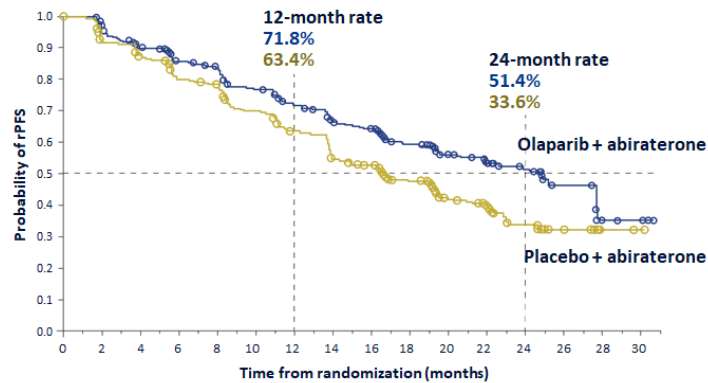


Primary endpoint
rPFS or death by investigator assessment
Key secondary endpoint
<ul style="list-style-type: none"><li>▪ OS</li></ul>
Additional endpoints
<ul style="list-style-type: none"><li>▪ TFST</li><li>▪ PFS2</li><li>▪ ORR</li><li>▪ HRR mutation prevalence (tested retrospectively)</li><li>▪ HRQOL</li><li>▪ Safety and tolerability</li></ul>

\*Plus prednisone or prednisolone 5 mg BID

TFST = time to first subsequent therapy; QD = daily; HRQOL = health-related quality of life.  
Clarke NW, et al. *NEJM Evid.* 2022;1(9).

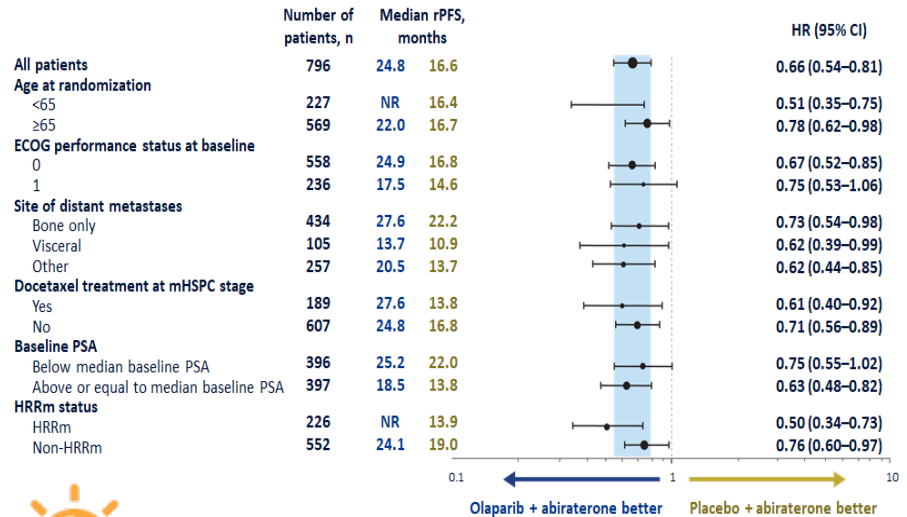
# PROpel: Radiographic Progression-Free Survival



	Olaparib + abiraterone (n=399)	Placebo + abiraterone (n=397)
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rPFS by investigator assessment		
Events, n (%)	168 (42.1)	226 (56.9)
Median rPFS, months	24.8	16.6
HR (95% CI)	0.66 (0.54–0.81); $P < 0.0001$	

rPFS by blinded independent central review		
HR (95% CI)	0.61 (0.49–0.74); $P < 0.0001$	



## Key Learning Points

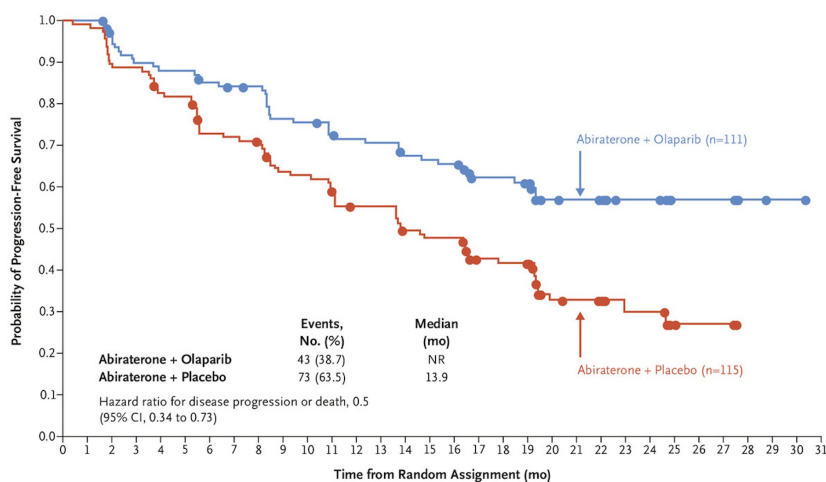
- Median overall survival was approximately 42 months with olaparib plus abiraterone
- Most common adverse event (Grade 3/4) was anemia

Clarke NW, et al. *NEJM Evid.* 2022;1(9).

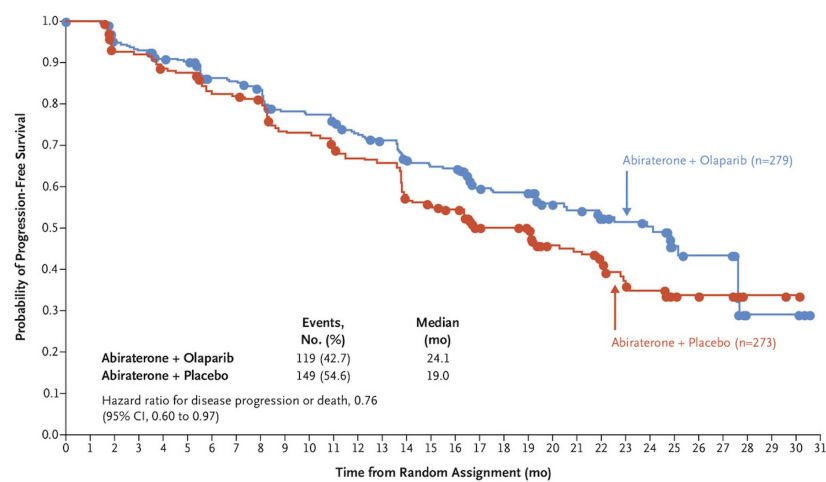


# PROpel: rPFS by Homologous Recombination Repair Gene Mutation (HRRm) Subgroup

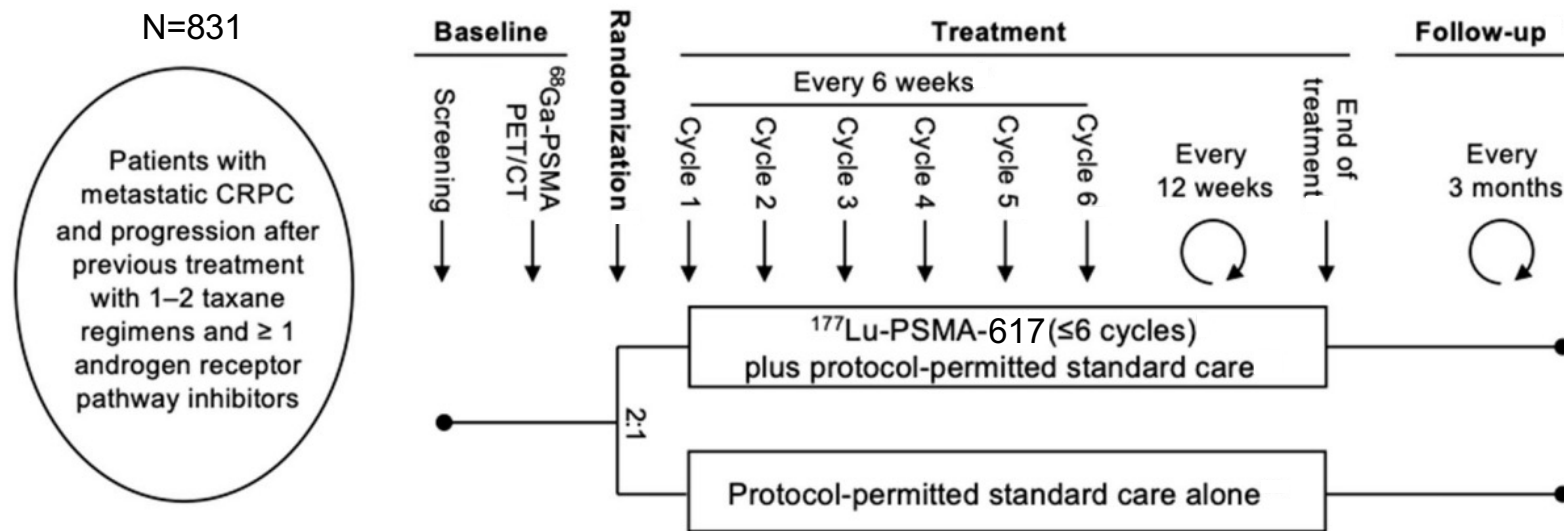
## HRRm Subgroup



## Non-HRRm Subgroup

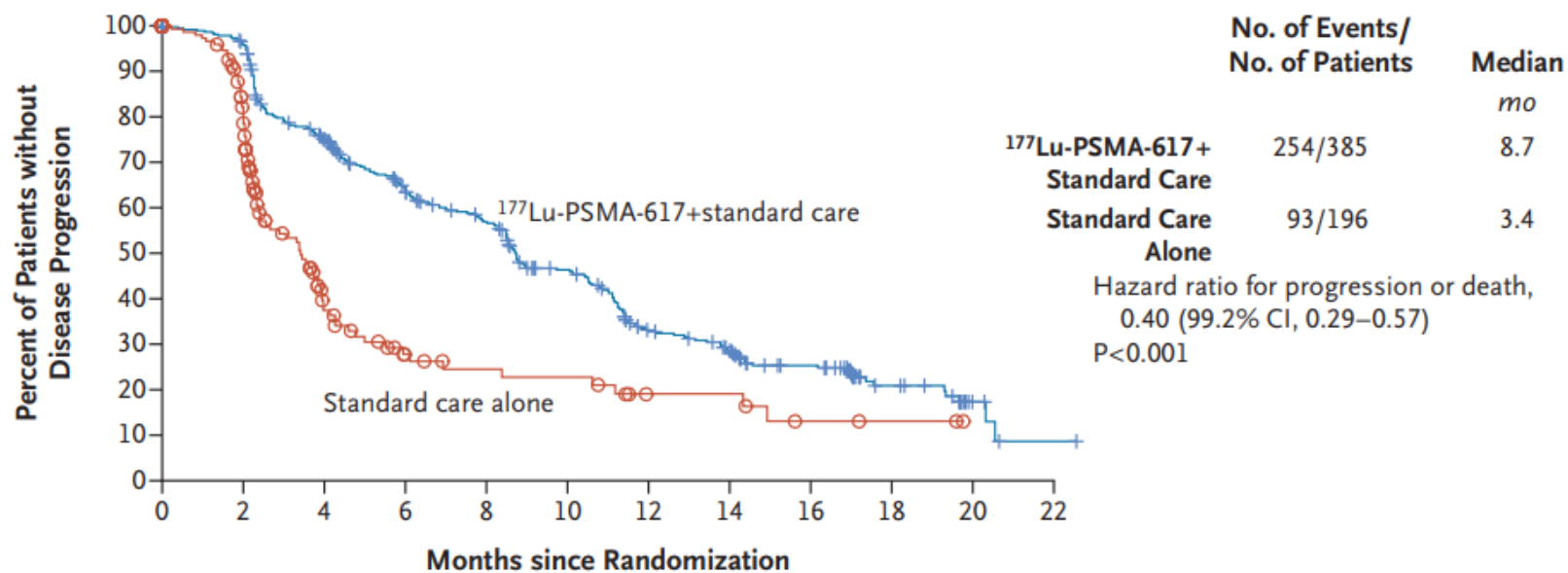


# VISION: Study Design

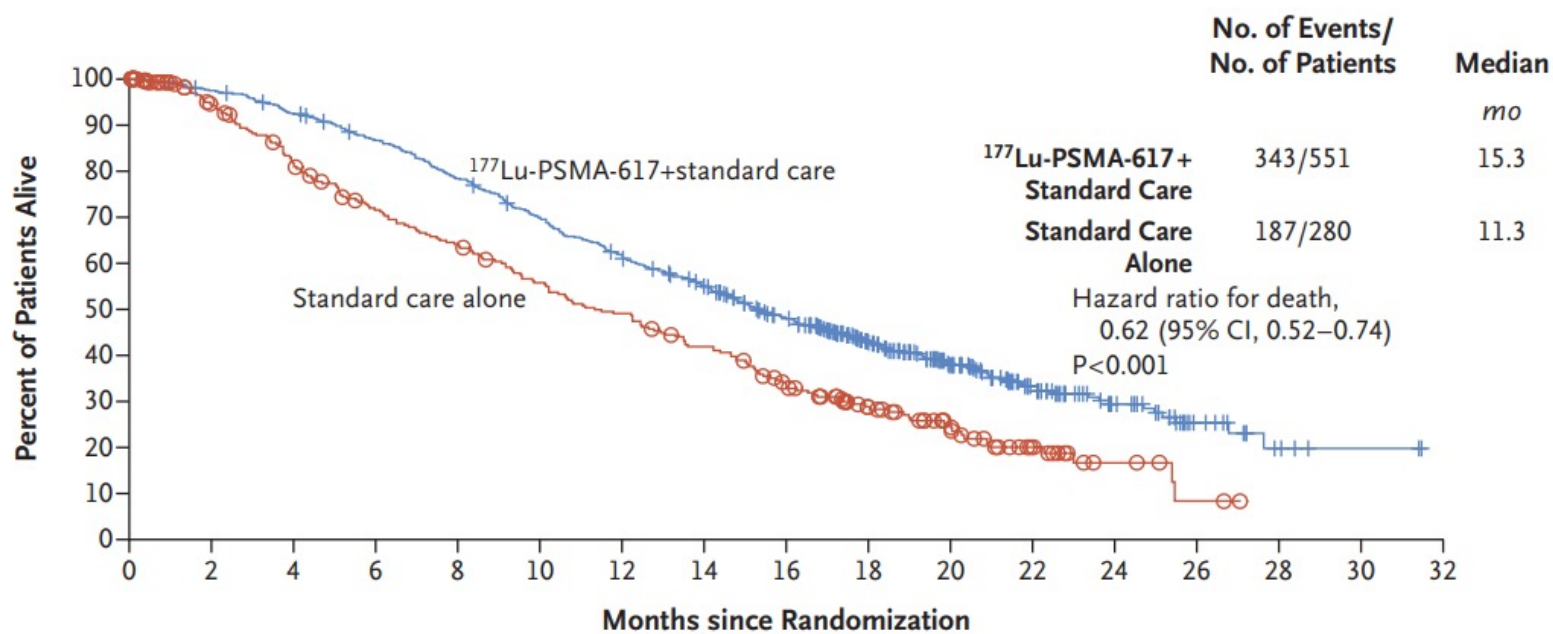


Eligibility included  $^{68}\text{Ga}$  PSMA-11 uptake  $>$  liver parenchyma in 1 or more metastatic lesion and no PSMA-negative metastatic sites.

# VISION: Progression-Free Survival



# VISION: Overall Survival



Sartor O, et al. *N Engl J Med.* 2021;385(12):1091-1103.

## Conclusions

- PSMA PET CT has transformed imaging for prostate cancer
- Genetic and tumor genetic testing are recommended for patients with metastatic prostate cancer
- Intensification of systemic treatment improves OS in mCSPC
  - Most/all patients with mCSPC should receive an ARPi
- There are new options for the treatment of mCRPC
  - PARPi (monotherapy and combination with ARPi)
  - <sup>177</sup>Lu-PSMA-617

# Role of APPs in Prostate Cancer Care

**Mary W. Dunn, MSN, RN, OCN, NP-C**  
Adult Oncology Nurse Practitioner  
University of North Carolina at Chapel Hill  
Chapel Hill, North Carolina

# Highlights

- Treatment decision-making
- Management of adverse events
- Collaboration



**APP = advanced practice provider.**



# Treatment Decision-Making

- Shared decision-making
- Education throughout the trajectory of their cancer experience
  - Diagnosis
  - Treatment
  - Side effects
  - Adherence
  - Barriers
  - End of life care
- Quality of life
- Goals of care

# Adverse Events: Hot Flashes

## Pharmacologic

- Paroxetine
- Clonidine
- ? Sertraline, escitalopram, duloxetine
- No supplement

## Non-pharmacologic

- Exercise programs
- Yoga
- Loose/cotton/layers
- Avoid triggers
- Fans



## Adverse Events: Fatigue

### **Pharmacologic**

- Methylphenidate
- Sleep aids

### **Non-pharmacologic**

- Physical activity
- Massage
- Acupuncture
- Cognitive behavioral therapy
- Sleep hygiene
- Assess for other causes
- Prioritizing/asking for and accepting help

# Adverse Events: Sexual Dysfunction

## Pharmacologic

- Phosphodiesterase type 5 inhibitors
- Intraurethral suppository
- Intracavernosal injections

## Non-pharmacologic

- Vacuum erection device
- Penile prosthesis implants
- Mental health therapy

# Adverse Events: Special Considerations

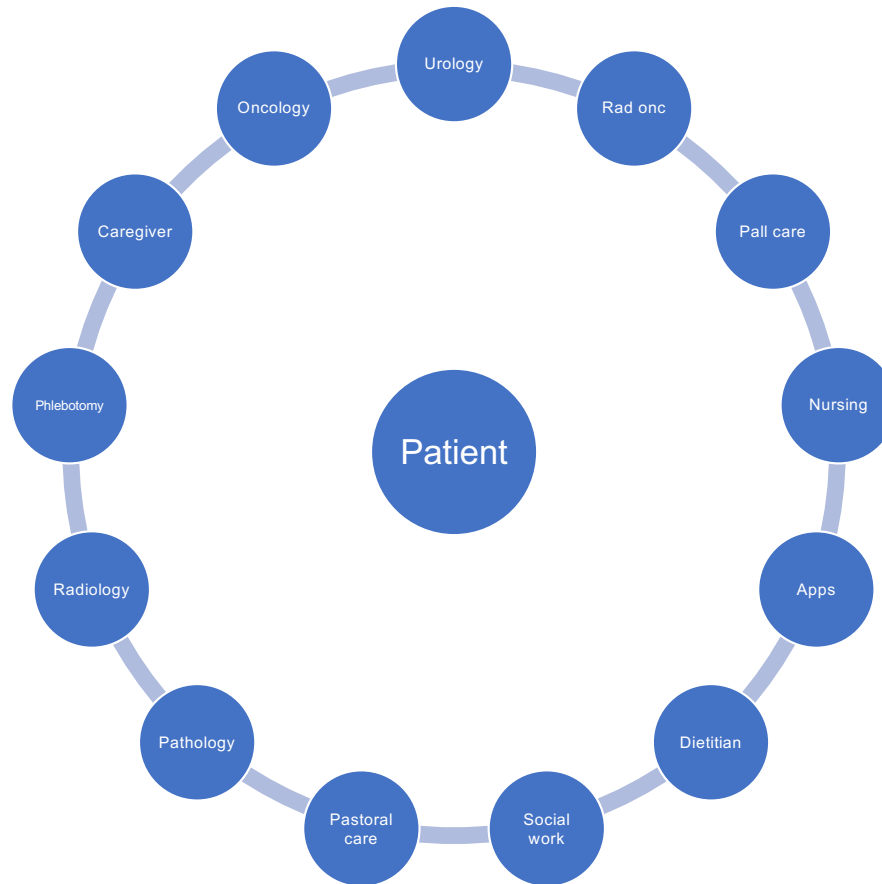


- Abiraterone acetate
  - Hypertension, hypokalemia, transaminitis, LE edema
- Enzalutamide
  - Seizure precaution, fatigue, arthralgias
- Docetaxel
  - Myelosuppression, peripheral neuropathy
- PARP inhibitors
  - Nausea, anemia
- Lutetium Lu-177
  - Fatigue, xerostomia, anemia, nausea
- Bone health
  - Calcium + vitamin D
  - Weight-bearing exercise
  - Osteoporosis: denosumab 60 mg q 6 months or zoledronic acid q 12 weeks

LE = lower extremity; q = every.

Fizazi K, et al. *N Engl J Med.* 2017;377(4):352-360. Fizazi K, et al. *N Engl J Med.* 2017;377(4):352-360. Clarke NW, et al. *NEJM Evid.* 2022;1(9). Sartor O, et al. *N Engl J Med.* 2021;385(12):1091-1103.

# Collaboration



# Q&A

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