What Urologists Want to Know:
Addressing Current Questions and Controversies in the Management of Early and Advanced Prostate Cancer

CME Information

TARGET AUDIENCE

This activity has been designed to meet the educational needs of urologists and other allied healthcare professionals involved in the treatment of prostate cancer.

OVERVIEW OF ACTIVITY

Prostate cancer is the most frequently diagnosed cancer and the third leading cause of cancer death in men. As data have accumulated documenting the efficacy of a number of therapies before the standard introduction of chemotherapy, the needs of the practicing urologist have grown exponentially. Given that patients with prostate cancer could potentially receive multiple lines of therapy before chemotherapy, the urologist and his/her team in many instances may elect to or be called upon to extend their care of patients in the advanced disease setting. Additionally, urologists are often the first physicians to initiate discussions about and/or recommend treatment with cytotoxic therapy. As such, it seems quite clear that additional resources are necessary to assist these clinicians as they contend with the complexity of decision-making throughout the course of prostate cancer treatment.

These video proceedings from a live CME symposium use the perspectives of leading genitourinary cancer experts to explore significant advances in the field of prostate cancer research. This CME activity will help urologists and other allied healthcare professionals with the formulation of up-to-date clinical management strategies for prostate cancer.

LEARNING OBJECTIVES

- Review existing and emerging research data evaluating the use of novel biomarkers and gene signatures to refine the risk of recurrence for patients with localized prostate cancer, and use the results from available molecular assays to guide clinical decision-making.
- Evaluate emerging clinical trial evidence with the use of available and investigational secondary hormonal agents in the management of nonmetastatic prostate cancer, and consider this information in the discussion of protocol and nonresearch treatment options.
- Explore published research information on the use of cytotoxic therapy in the setting of hormone-sensitive advanced prostate cancer, and refer appropriate candidates for consultation with a medical oncologist to discuss the risks and benefits of this approach.
- Compare and contrast the efficacy and safety of denosumab and bisphosphonates in the treatment and/or prevention of prostate cancer skeletal metastases.
- Consider available research data and expert perspectives on the efficacy and safety of radium-223 chloride as monotherapy or in combination with other treatment modalities, and use this information to appropriately integrate this novel radiopharmaceutical agent into current nonresearch treatment algorithms.
- Effectively apply evidence-based research findings in the determination of best-practice sequencing of available immunotherapeutic, chemotherapeutic and secondary hormonal agents for patients with metastatic prostate cancer.
- Counsel appropriately selected patients with prostate cancer about the availability of and participation in ongoing clinical trials.

ACCREDITATION STATEMENT

Research To Practice is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

CREDIT DESIGNATION STATEMENT

Research To Practice designates this enduring material for a maximum of 2.25 *AMA PRA Category 1 Credits™*. Physicians should claim only the credit commensurate with the extent of their participation in the activity.

HOW TO USE THIS CME ACTIVITY

This CME activity consists of a video component. To receive credit, the participant should watch the video, complete the Post-test with a score of 80% or better and fill out the Educational Assessment and Credit Form located at **ResearchToPractice.com/AUAProstate17/CME**.

CONTENT VALIDATION AND DISCLOSURES

Research To Practice (RTP) is committed to providing its participants with high-quality, unbiased and state-of-the-art education. We assess conflicts of interest with faculty, planners and managers of CME activities. Conflicts of interest are identified and resolved through a conflict of interest resolution process. In addition, all activity content is reviewed by both a member of the RTP scientific staff and an external, independent physician reviewer for fair balance, scientific objectivity of studies referenced and patient care recommendations.

FACULTY — The following faculty (and their spouses/partners) reported relevant conflicts of interest, which have been resolved through a conflict of interest resolution process:

Raoul S Concepcion, MD
Director
The Comprehensive Prostate Center
Nashville, Tennessee

Consulting Agreements: AstraZeneca Pharmaceuticals LP, Genomic Health Inc, Integra Connect; **Speakers Bureau:** Amgen Inc, Astellas Pharma Global Development Inc, Bayer HealthCare Pharmaceuticals, Dendreon Pharmaceuticals Inc, Janssen Biotech Inc, Sanofi Genzyme.

Leonard G Gomella, MD
The Bernard W Godwin Professor of Prostate Cancer
Chairman, Department of Urology
Associate Director
Jefferson Sidney Kimmel Cancer Center
Clinical Director, Jefferson Sidney Kimmel
Cancer Center Network
Editor-in-Chief, *Canadian Journal of Urology*
Philadelphia, Pennsylvania

Advisory Committee: Abbott Laboratories, AstraZeneca Pharmaceuticals LP, Bayer HealthCare Pharmaceuticals, Janssen Biotech Inc, Merck, Pfizer Inc.

Daniel W Lin, MD
Professor and Chief of Urologic Oncology
Department of Urology
Bridges Endowed Professorship in Prostate Cancer Research
University of Washington
Seattle, Washington

Consulting Agreement: Astellas Pharma Global Development Inc; **Contracted Research:** GenomeDx, Genomic Health Inc, MDxHealth.

David I Quinn, MBBS, PhD
Medical Director
Norris Cancer Hospital and Clinics
Head, GU Cancer Section
Division of Cancer Medicine and Blood Diseases
USC/Norris Comprehensive Cancer Center
Los Angeles, California

Advisory Committee and Consulting Agreements: Astellas Pharma Global Development Inc, AstraZeneca Pharmaceuticals LP, Bayer HealthCare Pharmaceuticals, Bristol-Myers Squibb Company, Dendreon Pharmaceuticals Inc, EMD Serono Inc, Exelixis Inc, Genentech BioOncology, Lilly, Merck, Novartis, Pfizer Inc, Roche Laboratories Inc, Sanofi Genzyme.

A Oliver Sartor, MD
Medical Director, Tulane Cancer Center
Laborde Professor of Cancer Research
Professor of Medicine and Urology
Tulane Medical School
New Orleans, Louisiana

Consulting Agreements: AstraZeneca Pharmaceuticals LP, Bayer HealthCare Pharmaceuticals, Bellicum Pharmaceuticals Inc, Bristol-Myers Squibb Company, Celgene Corporation, Dendreon Pharmaceuticals Inc, EMD Serono Inc, Johnson & Johnson Pharmaceuticals, Medivation Inc, a Pfizer Company, OncoGenex Pharmaceuticals Inc, Sanofi Genzyme, Tokai Pharmaceuticals Inc; **Contracted Research:** Bayer HealthCare Pharmaceuticals, Endocyte Inc, Innocrin, Johnson & Johnson Pharmaceuticals, Sanofi Genzyme.

MODERATOR — **Dr Love** is president and CEO of Research To Practice, which receives funds in the form of educational grants to develop CME activities from the following commercial interests: AbbVie Inc, Acerta Pharma, Adaptive Biotechnologies, Agendia Inc, Agios Pharmaceuticals Inc, Amgen Inc, Ariad Pharmaceuticals Inc, Array BioPharma Inc, Astellas Pharma Global Development Inc, AstraZeneca Pharmaceuticals LP, Baxalta Inc, Bayer HealthCare Pharmaceuticals, Biodesix Inc, bioTheranostics Inc, Boehringer Ingelheim Pharmaceuticals Inc, Boston Biomedical Pharma Inc, Bristol-Myers Squibb Company, Celgene Corporation, Clovis Oncology, CTI BioPharma Corp, Dendreon Pharmaceuticals Inc, Eisai Inc, Exelixis Inc, Foundation Medicine, Genentech BioOncology, Genomic Health Inc, Gilead Sciences Inc, Halozyme Inc, ImmunoGen Inc, Incyte Corporation, Infinity Pharmaceuticals Inc, Ipsen Biopharmaceuticals Inc, Janssen Biotech Inc, Jazz Pharmaceuticals Inc, Kite Pharma Inc, Lexicon Pharmaceuticals Inc, Lilly, Medivation Inc, a Pfizer Company, Merck, Merrimack Pharmaceuticals Inc, Myriad Genetic Laboratories Inc, NanoString Technologies, Natera Inc, Novartis, Novocure, Onyx Pharmaceuticals, an Amgen subsidiary, Pharmacyclics LLC, an AbbVie Company, Prometheus Laboratories Inc, Puma Biotechnology Inc, Regeneron Pharmaceuticals Inc, Sanofi Genzyme, Seattle Genetics, Sigma-Tau Pharmaceuticals Inc, Sirtex Medical Ltd, Spectrum Pharmaceuticals Inc, Taiho Oncology Inc, Takeda Oncology, Tesaro Inc, Teva Oncology and Tokai Pharmaceuticals Inc.

RESEARCH TO PRACTICE STAFF AND EXTERNAL REVIEWERS — The scientific staff and reviewers for Research To Practice have no relevant conflicts of interest to disclose.

This educational activity contains discussion of published and/or investigational uses of agents that are not indicated by the Food and Drug Administration. Research To Practice does not recommend the use of any agent outside of the labeled indications. Please refer to the official prescribing information for each product for discussion of approved indications, contraindications and warnings. The opinions expressed are those of the presenters and are not to be construed as those of the publisher or grantors.

This activity is supported by educational grants from Astellas Pharma Global Development Inc/Medivation Inc, a Pfizer Company, Bayer HealthCare Pharmaceuticals, Dendreon Pharmaceuticals Inc, Genomic Health Inc and Sanofi Genzyme.

Hardware/Software Requirements:
A high-speed Internet connection
A monitor set to 1280 x 1024 pixels or more
Internet Explorer 7 or later, Firefox 3.0 or later, Chrome, Safari 3.0 or later
Adobe Flash Player 10.2 plug-in or later
Adobe Acrobat Reader
(Optional) Sound card and speakers for audio

Last review date: August 2017

Expiration date: August 2018

Select Publications

Raoul S Concepcion, MD

Cullen J et al. **A biopsy-based 17-gene genomic prostate score predicts recurrence after radical prostatectomy and adverse surgical pathology in a racially diverse population of men with clinically low- and intermediate-risk prostate cancer.** *Eur Urol* 2015;68(1):123-31.

Karnes RJ et al. **Validation of a genomic classifier that predicts metastasis following radical prostatectomy in an at risk patient population.** *J Urol* 2013;190(6):2047-53.

Koch MO et al. **Use of the cell cycle progression (CCP) score for predicting systemic disease and response to radiation of biochemical recurrence.** *Cancer Biomark* 2016;17(1):83-8.

Daniel W Lin, MD

Petrylak DP et al. **Docetaxel and estramustine compared with mitoxantrone and prednisone for advanced refractory prostate cancer.** *N Engl J Med* 2004;351(15):1513-20.

Sweeney C et al. **Chemohormonal therapy in metastatic hormone-sensitive prostate cancer.** *N Engl J Med* 2015;373(8):737-46.

Tannock IF, Sternberg CN. **Many men with castrate-sensitive metastatic prostate cancer should not receive chemotherapy.** *Ann Oncol* 2015;27(3):545-6.

Tannock IF et al. **Docetaxel plus prednisone or mitoxantrone plus prednisone for advanced prostate cancer.** *N Engl J Med* 2004;351(15):1502-12.

Vale CL et al. **Addition of docetaxel or bisphosphonates to standard of care in men with localised or metastatic, hormone-sensitive prostate cancer: A systematic review and meta-analyses of aggregate data.** *Lancet Oncol* 2016;17(2):243-56.

David I Quinn, MBBS

Antonarakis ES et al. **AR-V7 and resistance to enzalutamide and abiraterone in prostate cancer.** *N Engl J Med* 2014;371(11):1028-38.

Azad AA et al. **Androgen receptor gene aberrations in circulating cell-free DNA: Biomarkers of therapeutic resistance in castration-resistant prostate cancer.** *Clin Cancer Res* 2015;21(10):2315-24.

Fuerea A et al. **Early PSA response is an independent prognostic factor in patients with metastatic castration-resistant prostate cancer treated with next-generation androgen pathway inhibitors.** *Eur J Cancer* 2016;61:44-51.

Higano CS et al. **Long-term safety and antitumor activity in the phase 1-2 Study of enzalutamide in pre- and post-docetaxel castration-resistant prostate cancer.** *Eur Urol* 2015;68(5):795-801.

Rathkopf D et al. **Updated interim efficacy analysis and long-term safety of abiraterone acetate in metastatic castration-resistant prostate cancer patients without prior chemotherapy (COU-AA-302).** *Eur* Urol 2014;66(5):815-25.

Romanel A et al. **Plasma AR and abiraterone-resistant prostate cancer.** *Sci Transl Med* 2015;7(312):312re10.

Schellhammer P et al. **Lower baseline prostate-specific antigen is associated with a greater overall survival benefit from Sipuleucel-T in the Immunotherapy for Prostate Adenocarcinoma Treatment (IMPACT) trial.** *Urology* 2013;81(6):1297-302.

Scher HI et al. **Association of AR-V7 on circulating tumor cells as a treatment-specific biomarker with outcomes and survival in castration-resistant prostate cancer.** *JAMA Oncol* 2016;2(11):1441-9.

Silberstein J et al. **Clinical significance of AR mRNA quantification from circulating tumor cells (CTCs) in men with metastatic castration-resistant prostate cancer (mCRPC) treated with abiraterone (Abi) or enzalutamide (Enza).** Proc ASCO 2017; **Abstract 132**.

Oliver Sartor, MD

Berger MF et al. **The genomic complexity of primary human prostate cancer.** *Nature* 2011;470(7333):214-20.

Bruland ØS et al. **High-linear energy transfer irradiation targeted to skeletal metastases by the alpha-emitter 223Ra: Adjuvant or alternative to conventional modalities?** *Clin Cancer Res* 2006;12(20):6250s-57s.

Henriksen G et al. **Targeting of osseous sites with alpha-emitting 223Ra: Comparison with the beta-emitter 89Sr in mice.** *J Nucl Med* 2003;44(2):252-9.

Kratochwil C et al. **225Ac-PSMA-617 for PSMA-targeted α-radiation therapy of metastatic castration-resistant prostate cancer.** *J Nucl Med* 2016;57(12):1941-4.

Select Publications

O'Connor MJ. **Targeting the DNA damage response in cancer.** *Mol Cell* 2015;60(5):547-60.

Robinson D et al. **Integrative clinical genomics of advanced prostate cancer.** *Cell* 2015;161(5):1215-28.

Saad F et al. **Radium-223 and concomitant therapies in patients with metastatic castration-resistant prostate cancer: An international, early access, open-label, single-arm phase 3b trial.** *Lancet Oncol* 2016;17(9):1306-16.

Sartor O et al. **An exploratory analysis of alkaline phosphatase, lactate dehydrogenase, and prostate-specific antigen dynamics in the phase 3 ALSYMPCA trial with radium-223.** *Ann Oncol* 2017;28(5):1090-7.

Sartor AO et al. **Ra-223 experience in pretreated patients: EAP setting.** *Proc ASCO* 2015;**Abstract 5063**.

Leonard G Gomella, MD

Antonarakis ES et al. **Sequencing of sipuleucel-T and androgen deprivation therapy in men with hormone-sensitive biochemically recurrent prostate cancer: A phase II randomized trial.** *Clin Cancer Res* 2017;23(10):2451-9.

Montgomery B et al. **Neoadjuvant enzalutamide prior to prostatectomy.** *Clin Cancer Res* 2017;23(9):2169-76.

Penson DF et al. **Enzalutamide versus bicalutamide in castration-resistant prostate cancer: The STRIVE trial.** *J Clin Oncol* 2016;34(18):2098-106.

Ryan CJ et al. **Trial of rucaparib in prostate indications 3 (TRITON3): An international, multicenter, randomized, open-label phase 3 study of rucaparib vs physician's choice of therapy for patients (Pts) with metastatic castration-resistant prostate cancer (mCRPC) associated with homologous recombination deficiency (HRD).** *Proc ASCO* 2016;**Abstract TPS5087**.

A multicenter phase 2, randomized, double-blind, efficacy and safety study of enzalutamide versus bicalutamide in men with prostate cancer who have failed primary androgen deprivation therapy. NCT01664923