

BrachyNext



Working Together to Shape the Future of
Brachytherapy

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Prostate Cancer Results Study Group 2014 – Results Comparing Treatment of Prostate Cancer

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About This Review Study

- 28,000+ prostate studies were published between 2000 and June 2013
- 1,127 of those studies featured treatment results
- 233 of those met the criteria to be included in this review study (*1st & 2nd group)
- Some treatment methods are under-represented due to failure to meet criteria



Prostate Cancer Results Study Group

- David Bostwick, MD – Bostwick Laboratories
- David Crawford, MD – University of Colorado, Denver, CO
- Brian Davis, MD – Mayo Clinic, Rochester, MN
- Adam Dicker, MD – Thomas Jefferson University, Philadelphia, PA
- Steven Frank, MD – MD Andersen, Houston, TX
- Peter Grimm, DO – Prostate Cancer Center of Seattle, WA
- Jos Immerzeel, MD – De Prostaat Kliniek, the Netherlands
- Stephen Langley, MD – St Luke's Cancer Centre, Guildford, England
- Alvaro Martinez, MD – William Beaumont, Royal Oak, MI
- Mira Keyes, MD – BC Cancer Agency, Vancouver, Canada
- Patrick Kupelian, MD – UCLA Medical Center, Los Angeles, CA
- Robert Lee, MD – Duke University Medical Center, Durham, NC

Prostate Cancer Results Study Group

- Stefan Machtens, MD – University Bergisch, Gladbach, Germany
- Jyoti Mayadev, MD – UC Davis, Davis, CA
- Brian Moran, MD – Chicago Prostate Institute, Chicago, IL
- Gregory Merrick, MD – Schiffler Cancer Center, Wheeling, WV
- Jeremy Millar, MD – Alfred Health and Monash University, Melbourne, Australia
- Mack Roach, MD – University of California - San Francisco, CA
- Richard Stock, MD – Mt. Sinai, New York, NY
- Katsuto Shinohara, MD – University of California - San Francisco, CA
- Mark Scholz, MD – Prostate Cancer Research Institute, Marina del Ray, CA
- Edward Weber, MD – Prostate Cancer Center of Seattle, Seattle, WA
- Anthony Zietman, MD – Harvard Joint Center, Boston, MA
- Michael Zelefsky, MD – Memorial Sloan Kettering, New York, NY
- Jason Wong, MD – University of California - Irvine, CA
- Robyn Vera, DO – Radiant Oncology, Lacey, WA



Prostate Cancer Results Study Group

- **Problem:** Patients, physicians, and carriers need a simple, unbiased means to compare the cancer control rates of modern prostate cancer treatment methods

Prostate Cancer Results Study Group

- **Expert Panel from key treating disciplines:** Surgery, External Radiation, Internal (or Brachytherapy), High Frequency Ultrasound, and Proton Therapy
- **Purpose:** Comprehensive comparative review of the current literature on prostate cancer treatment



Criteria for Inclusion of Article*

1. Patients should be separated into Low, Intermediate, and High Risk
2. Success must be determined by PSA analysis
3. All treatment types considered: seeds (brachy), surgery (standard or robotic), IMRT (intensity-modulated radiation), HIFU (high-frequency ultrasound), CRYO (cryotherapy), protons, HDR (high-dose-rate brachytherapy)
4. Article must be in a peer-reviewed journal

* Expert panel consensus

Criteria for Inclusion of Article (Cont'd)

5. Low-risk articles must have a minimum of 100 patients
6. Intermediate-risk articles must have a minimum of 100 patients
7. High-risk articles, because of fewer patients, need only 50 patients to meet criteria
8. Patients must have been followed for a median of 5 years
9. For additional criteria information, contact lisa@prostatecancertc.com



% Articles Meeting Criteria

RP	EBRT/ IMRT	Cryo	Brachy/ HDR	Robot RP	Proton	HIFU
9%	13%	5.4%	21%	5.3%	24%	8%
28/320	40/302	2/37	64/306	4/76	4/17	3/38

Total of 1,127 treatment articles. Some articles addressed several treatments and were counted as separate articles for each treatment. *A few articles evaluated other/minor treatments and are not listed here. These calculations only include primary accepted articles, and do not include secondary acceptance totals.

Low-Risk Group Definition

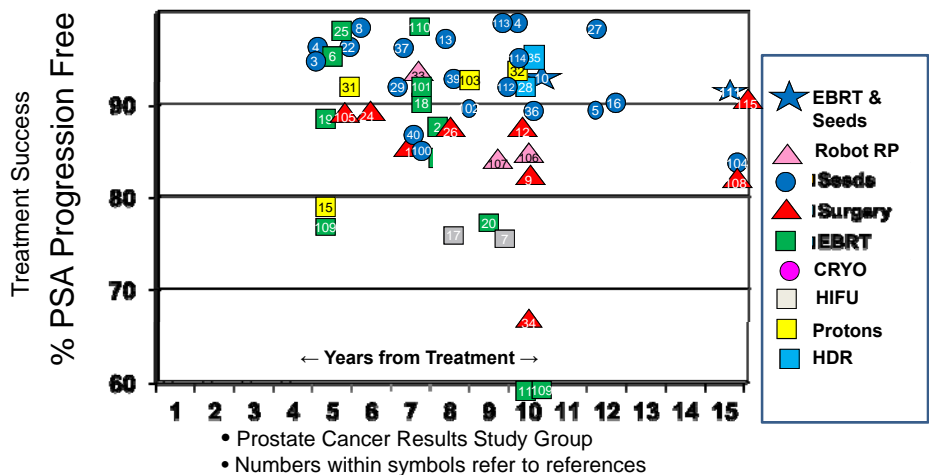
- Clinical stage: T1 or T2a,b
- Gleason score: ≤ 6
- PSA: ≤ 10 ng/mL

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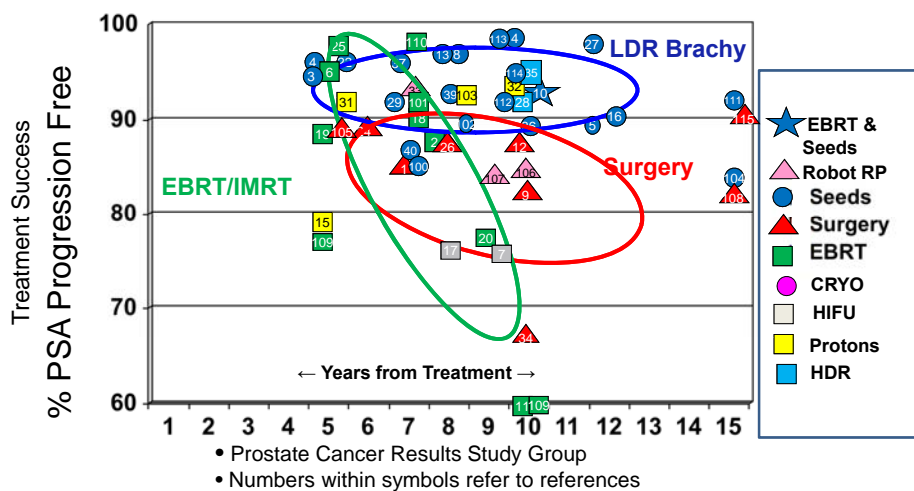
Low-Risk Results



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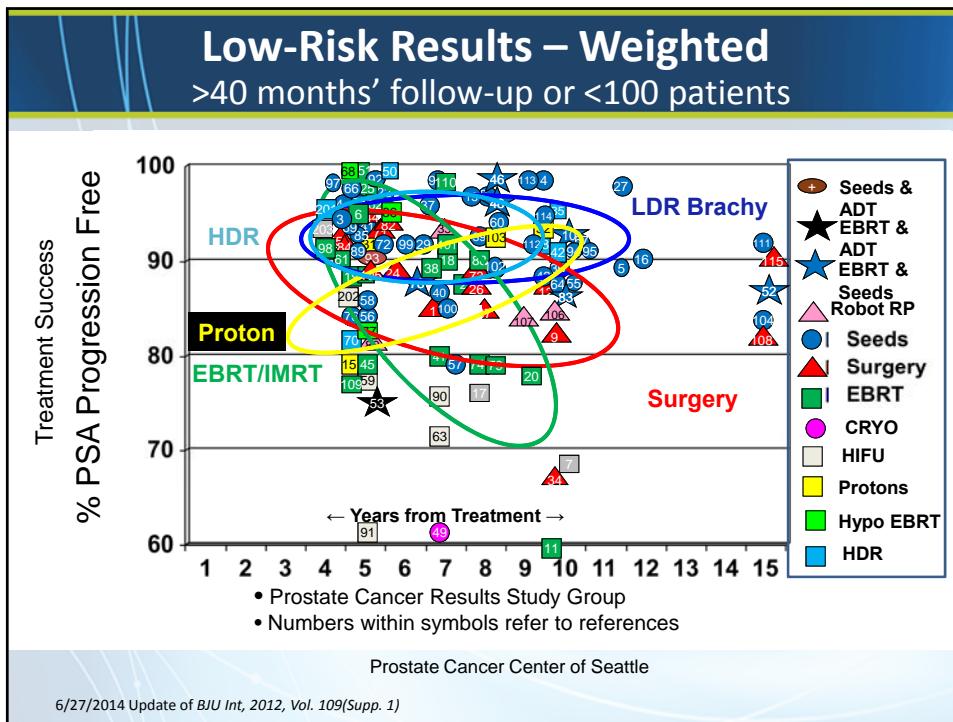
6/27/2014 Update of *BJU Int*, 2012, Vol. 109(Supp. 1)

Low-Risk Results – Weighted



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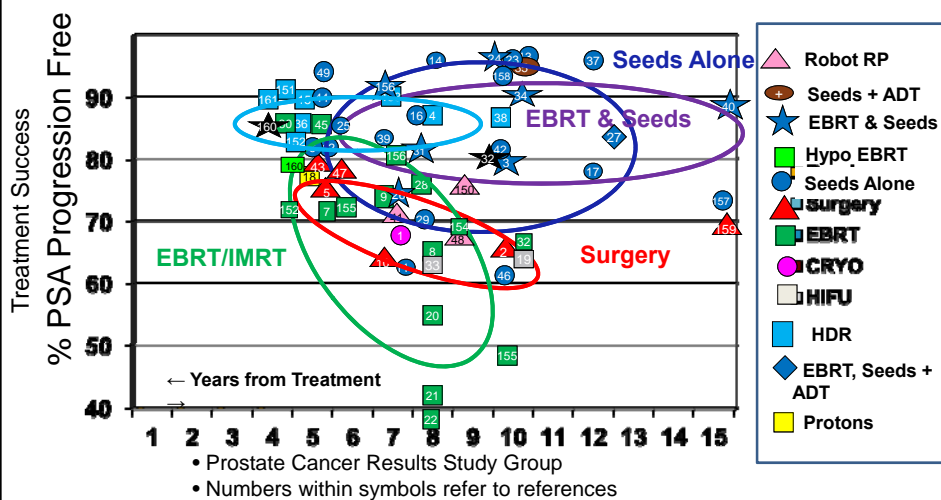


Intermediate-Risk Patient Definition

- Zelefsky definition
 - Only 1 factor
 - Clinical stage: T2c
 - Gleason score: >7
 - PSA: >10 ng/mL
- D'Amico definition
 - PSA 10–20 ng/mL, Gleason score 7, or Stage T2b



Intermediate-Risk Results – Weighted



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Favorable vs Unfavorable* Intermediate Risk

Favorable

- Single feature
- Gleason 3+4=7
- <50% of biopsy cores +

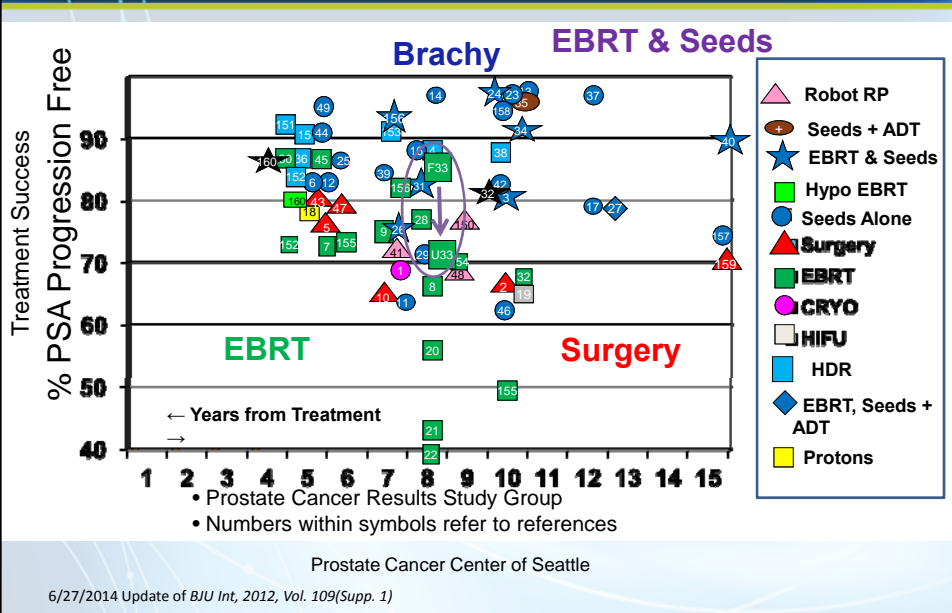
Unfavorable

- All other intermediate

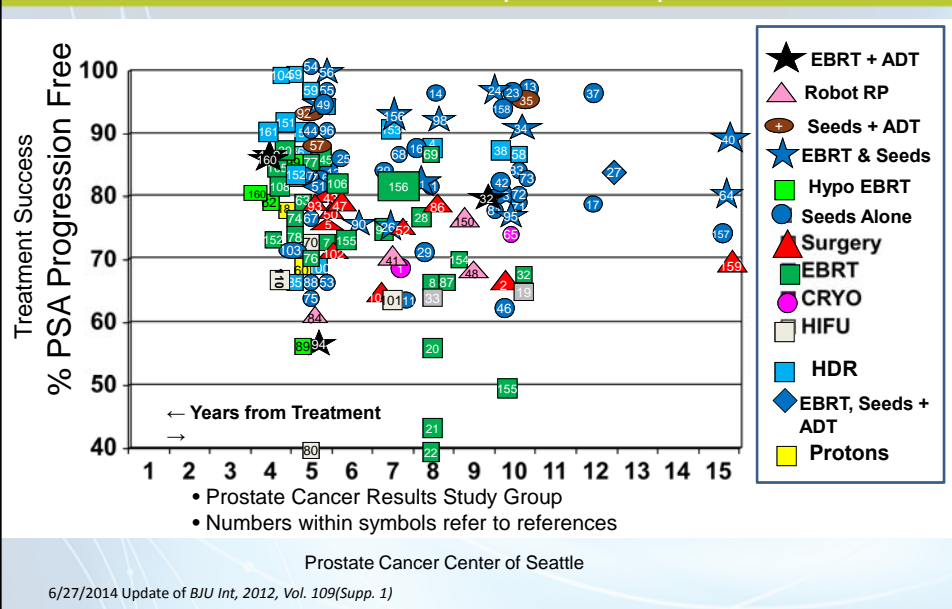
*Zumsteg et al (MSKCC) New Risk Classification system for therapeutic decision making PCA pts undergoing dose escalated EBRT *European Urology* 64 p 895-902 2013 Favorable vs Unfavorable



Intermediate-Risk Results – Weighted Favorable vs Unfavorable*

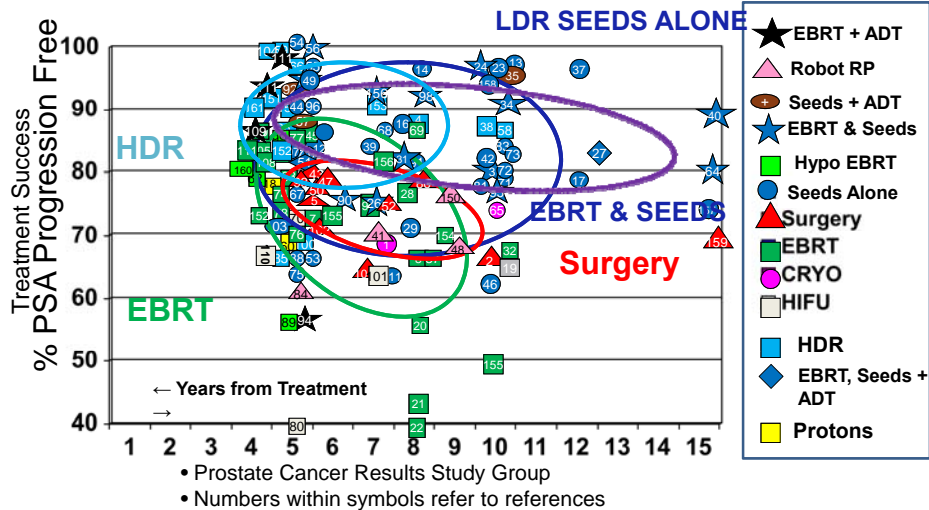


Intermediate-Risk Results >40 months' follow-up or <100 patients





Intermediate-Risk Results – Weighted >40 months' follow-up or <100 patients



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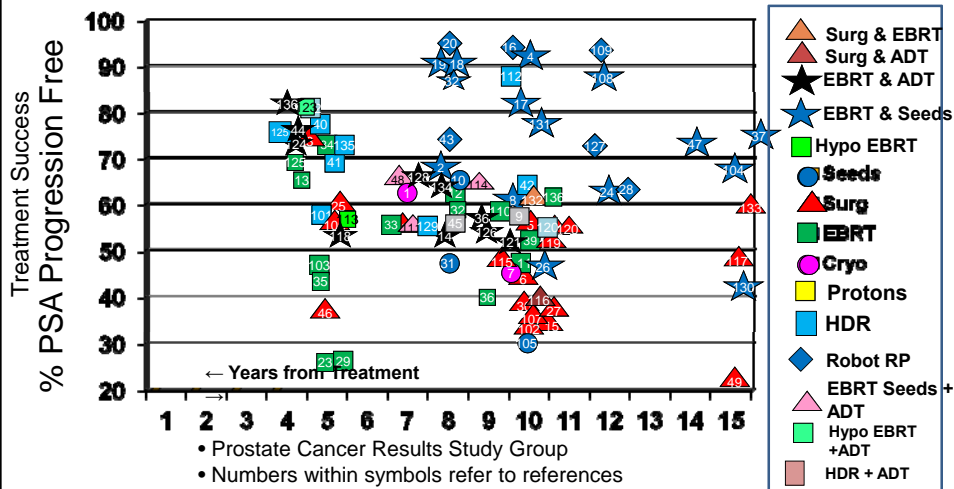
6/27/2014 Update of *BJU Int*, 2012, Vol. 109(Supp. 1)

High-Risk Patient Definition

- Zelefsky definition
 - 2 or more factors
 - Gleason score: >7
 - PSA: 10–20 ng/mL
 - Clinical stage: T1c–2b
- D'Amico
 - Gleason score: 8–10
 - PSA: >20 ng/mL



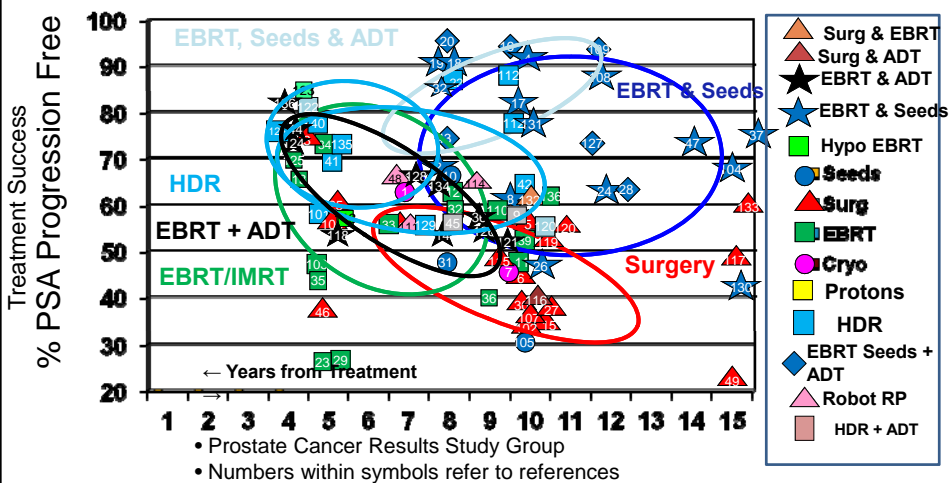
High-Risk Results



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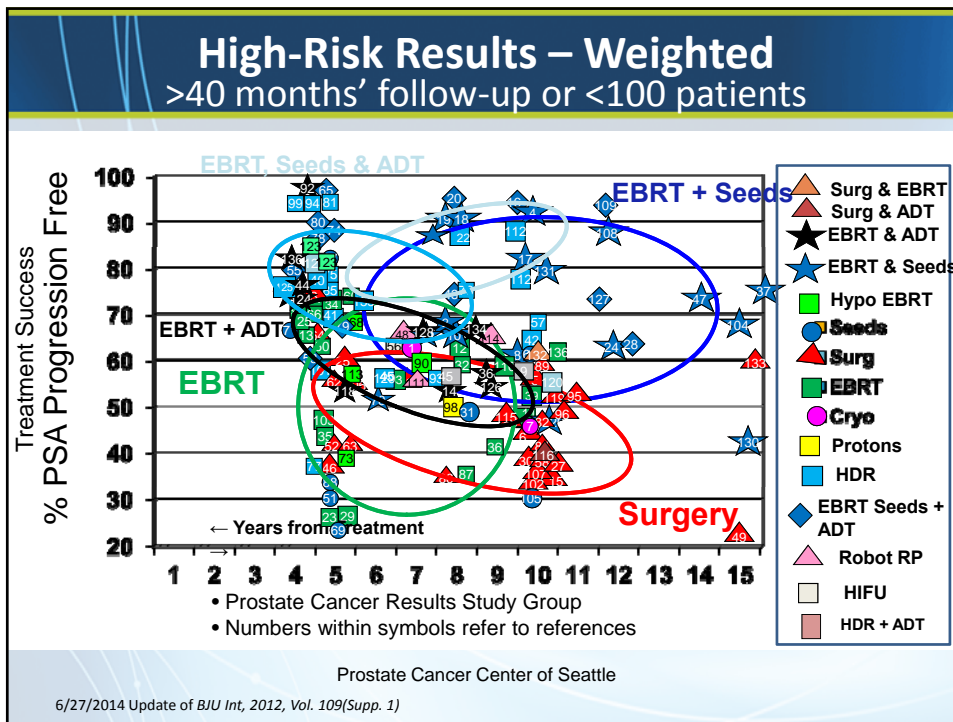
6/27/2014 Update of *BJU Int*, 2012, Vol. 109(Supp. 1)

High-Risk Results – Weighted



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- ## Observations
- For most low-risk patients, most therapies will be successful
 - There appears to be a higher cancer control success rate for brachytherapy over EBRT and surgery for all groups. Patients are encouraged to look at graphs and determine for themselves
 - Serious side-effect rates must be considered for any treatment



For More Information/Slides

Peter Grimm, DO

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Or contact PCRSG member

Prostate Cancer Center of Seattle website

www.Prostatecancertreatmentcenter.com