

Clinical Information

AUTHORS	TITLE	REFERENCE	ARTICLE QUICK SUMMARY	KEY WORDS
	Consensus Statement: Guidelines for PSA following radiation therapy. American Society for Therapeutic Radiology and Oncology Consensus Panel	IJROBP; 37: 1035-41; 1997	Summary article reviewing the ASTRO consensus defining PSA failure. The panel determined that three consecutive rises in PSA level following treatment signified biochemical failure.	PSA SUCCESS RATE
Amling CL, Blute ML, et. al. Mayo Clinic Rochester, MN	Long-Term Hazard of Progression After Radical Prostatectomy for Clinically Localized Prostate Cancer: Continued Risk of Biochemical Failure After 5 Years	J. Urol.; 164: 101-105; 2000	BNED progression at 5, 10 years was 76% and 59%, respectively. Includes 2782 men with localized prostate cancer treated in the "PSA era". In men with pathologically confirmed organ confined disease, bNED progression was 82% and 68%, respectively. 6% demonstrated progression after 5 years.	PROSTATECTOMY
Bacon CG et al. Harvard, MA	The impact of cancer treatment on quality of life outcomes for patients with localized prostate cancer	J. Urol, 166: 5, 1804-10, Nov 2001	842 pts were evaluated for quality of life following prostate cancer treatment. Differences go beyond physical symptoms, and require a trade-off when evaluating treatment options.	QUALITY OF LIFE
Beyer DC AZ Oncology	Permanent Brachytherapy as Salvage Treatment for Recurrent Prostate Cancer	Urology; 54: 880-883; 1999	17 pts were treated with implants following radiotherapy failure. Actuarial rate of cancer control was 53% (low risk 83%, high risk 30%). Toxicity was indistinguishable from previously non-radiated patients, 24% risk of incontinence at 5 years.	SALVAGE, QUALITY OF LIFE
Beyer DC, Brachman DG AZ Oncology	Failure free survival following brachytherapy alone for prostate cancer: comparison with external beam radiotherapy	Radiother Oncol; 57: 3, 263-7, Dec 2000	2222 pts were treated with brachytherapy or EBRT. For low and moderate risk patients, no difference in outcome was determined. 69, 71% EBRT and brachytherapy, respectively. For high risk monotherapy was not as effective.	COMPARISON



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Beyer DC, et al. AZ Oncology	Real-Time Optimized Intraoperative Dosimetry for Prostate Brachytherapy: A Pilot Study	IJROBP, 48: 5, 1583-1589, 2000	Suggests that pre-treatment planning can be optimized and performed during the treatment intraoperatively without compromising implant quality or operating time.	DOSIMETRY; TECHNIQUE
Beyer, DC AZ Oncology	The Evolving Role of Brachytherapy	Cancer Control, 8: 2, March/April; 2001	Summary of several long-term studies, with the conclusion, "the rarity of failures after 5 years and the absence of recurrence after 10 years...brachytherapy can provide durable disease control." Also provides an excellent historical review of brachytherapy.	SUMMARY, LONG TERM OUTCOMES
Blasko JC, Grimm PD, et al. Seattle Prostate	Palladium-103 Brachytherapy for Prostate Carcinoma	IJROBP; 46: 839-850. 2000	Nine-year follow-up on Pd-103 implants. Authors report Pd implants attain a high rate of disease control for patients with organ-confined disease. PSA response is gradual, continuing to 48 months post-treatment. Overall biochemical control at 9 years—83.5%.	LONG TERM OUTCOMES (Pd)
Brandeis J et al. UCLA, CA	A nationwide charge comparison of the principal treatments for early stage prostate carcinoma	Cancer 15; 89: 8, 1792-9 Oct 2000	Comparison of HCFA data for 10,107 men treated for CaP. Overall cost for monotherapy was \$19,019, \$15,937, and \$15,301 for surgery, EBRT and brachytherapy, respectively.	COST COMPARISON
Bubolz T, et al. Dartmouth, NH	Treatments for prostate cancer in older men: 1984-1997	Urology; 58:6, 977-982, Dec 2001	An evaluation of Medicare data procedures for prostate cancer (age 65+). Rates of surgery declined 6%, 34%, and 50% for men 65-69, 70-74, and 75+, respectively.	PATIENT SELECTION AGE



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Butler WM, Merrick GS, et al. Wheeling, WV	Isotope Choice and the Effect of Edema on Prostate Brachytherapy Dosimetry	Med. Phys.; 27: 1067-1075; 2000	Analyzed effect of post-implant edema on dosimetry. Recommends a 10% increase in Pd activity to obtain equal coverage with an I distribution.	DOSIMETRY; TECHNIQUE
Catalona WJ, et al. Wash U, MO	Contemporary Results of Anatomic Radical Prostatectomy	Ca. Cancer J. Clin.; 49: 282-296; 1999	With contemporary prostatectomy, about 70% of men with localized disease will be cured. Continence and potency can be preserved, but more likely at centers of excellence than community-based series. Complications occur in about 10% of cases, higher in older patients.	PROSTATECTOMY LONG TERM OUTCOMES; QUALITY OF LIFE
Cavanagh W, Seattle Prostate	Transient Elevation of Serum PSA Following I125/Pd103 Brachytherapy for Localized Prostate Cancer	Semin. Urol. Oncol.; 18: 160-165. 2000	75% of patients experienced (591 total) a transient spike in PSA at an average of 24.8 months post-treatment. Suggests caution before initiating further therapy in PSA spikes of less than 2-3 ng/ml (mono or combination therapy).	PSA BOUNCE
Cha CM, Potters L, et al. MSKCC-Mercy, NY	Isotope Selection for Patients Undergoing Prostate Brachytherapy	IJROBP; 45: 391-395; 1999	648 patients were treated with I or Pd implants. 222 pts were matched for stage, grade, etc. 5-yr Relapse free survival was 87.1 and 86.5% response for Pd and I, respectively. No observed isotope advantages were apparent.	ISOTOPE SELECTION, LONG TERM OUTCOME
Critz FA, et al. RCOG, GA	Post-Treatment PSA <0.2ng/ml Defines Disease Freedom After Radiotherapy for Prostate Cancer Using Modern Techniques	Urology; 54: 968-971; 1999	Suggested 0.2 ng/ml of PSA as definition of disease freedom. 0.2 was reached by 97%, and 92% of them had non-rising PSA. 0.3-1.0 was reached by 3%, 41% of whom had a non-rising PSA at 10 years. All men with nadir >1.0 experienced recurrence.	LONG TERM OUTCOMES, OUTCOME CRITERIA



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Critz FA, et al. RCOG, GA	PSA Bounce After Radioactive Seed Implantation Following External Beam Radiation for Prostate Cancer	J. Urol.; 163: 1085-1089; 2000	Observed PSA bounce of at least 0.1 ng/ml in 35% of pts. (779 total), at a median time of 18 months. 92% occurred within 36 months (combination therapy).	PSA BOUNCE
Critz FA, et al. RCOG, GA	Simultaneous Irradiation for Prostate Cancer: Intermediate Results with Modern Techniques	J. Urology; 154: 738-743; 2000	Critz reports an overall 88% DFS for patients treated with combination therapy and no hormones. For pre-treatment PSA <10.0, of greater than 93%. Includes 689 pts. With T1/T2 cancer. (1125 followed by EBRT at 3 weeks). Survival determined by undetectable PSA.	LONG TERM OUTCOMES; OUTCOME CRITERIA
D'Amico AV, et al. Harvard, MA	Biochemical Outcome after Radical Prostatectomy, External Beam Therapy, or Interstitial Radiation Therapy for Clinically Localized Prostate Cancer.	JAMA; 280: 969-974; 1998	Low risk patients treated with implant alone, implant with hormonal, EBRT, or surgery had no statistical difference in bNED at 5 yrs. Moderate or high-risk patients responded better to surgery or EBRT.	OUTCOME COMPARISON
Eton DT et al., Northwestern, IL	Early quality of life in patients with localized prostate carcinoma	Cancer; 92: 6, 1451-1459, 2001	256 pts were evaluated 7 weeks following prostate cancer treatment. Men undergoing surgery experienced more sexual, urinary dysfunction and general discomfort that men treated with radiation therapy (EBRT or brachytherapy). Men treated with brachytherapy reported the fewest problems.	QUALITY OF LIFE
Goharderakhshan RZ, et al. UCSF, CA	Additional treatments and reimbursement rates associated with prostate cancer treatment for patients undergoing radical prostatectomy, interstitial brachytherapy, and external beam radiotherapy	Urology 56: 4, 622-6, Oct 2000	291 pts, (36.8% surgery, 32.3% brachytherapy, 30.9% EBRT)	COST COMPARISON



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Grado GL, et al. Mayo Clinic- Scottsdale, AZ	Actuarial Disease Free Survival after Prostate Cancer Brachytherapy using Interactive Techniques with Biplane Ultrasound and Fluoroscopic Guidance	IJROBP; 42: 289-98; 1998	Include mono and combination therapy, 5-yr DFS was 79%, with disease control at 98%. Includes 490 pts, and I and Pd implants.	LONG TERM OUTCOMES
Grado GL, et al. Mayo Clinic- Scottsdale, AZ	Salvage Brachytherapy for Localized Prostate Cancer after Radiotherapy Failure	Urology; 53: 2-10; 1999	49 pts (age 52.9 to 86.9) were treated with implants following radiotherapy failure. Actuarial rate of cancer control 98%, Disease specific at 3, 5 years was 89 and 79%, respectively; bNED was 48 and 34%, respectively. The incidence of serious complications (incontinence, rectal, etc.) was less than reported after other salvage therapies.	SALVAGE, QUALITY OF LIFE
Grado GL Mayo Clinic- Scottsdale, AZ	Techniques to Achieve Optimal Seed Placement in Salvage and Primary Brachytherapy for Prostate Cancer	Tech. Urol.; 6: 157-165; 2000	Grado reviews the techniques for performing an implant (using intraoperative ultrasound and fluoroscopy). He reports 79% DFS at 5 years, in 543 pts, with low morbidity. He includes 49 radiation failure patients treated with brachytherapy.	TECHNIQUE; LONG TERM OUTCOMES
Grado, GL Mayo Clinic- Scottsdale, AZ	Benefits of Brachytherapy as Salvage Treatment for Radiorecurrent Localized Prostate Cancer	Urology; 54: 204-207; 1999	Grado reviews the outcomes for various salvage therapies including brachytherapy, prostatectomy and cryotherapy. Actuarial rate of cancer control 98%, Disease specific at 3, 5 years was 89 and 79%, respectively; major complications following prostatectomy: incontinence 63-67%; following cryotherapy: incontinence 73%, impotence 72%; brachytherapy: TURP 14%.	SALVAGE SUMMARY, COMPARISON OF OUTCOMES



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Grimm, PD et al. Seattle Prostate	10-year biochemical (prostate-specific antigen) control of prostate cancer with (125)I brachytherapy	IJROBP, 51: 1, 31-40, Sep 2001	125 pts. Low risk patients, 87% bNED at 10 yrs. Patients continued to reach PSA <0.2 until 7-8 years post-treatment. Patients were treated in 1988-90, and demonstrated an improved bNED compared to earlier treatments (1986-7).	LONG TERM OUTCOMES
Hull, G, Scardino, P, et al. Baylor Univ, TX	Cancer Control with Radical Prostatectomy Alone in 1,000 Consecutive Patients	J Urology, 167, 528-534, Feb 2002	1,000 consecutive patients, of all risk groups. At 10 year follow-up, in organ confined disease bNED was 92.2%; for non-confined, 52.8%. All patients were T1-T2, pathologically, however, pathologically, only 593 had organ-confined disease.	RADICAL PROSTATECTOMY
Incrocci, L, Levendag, PC Netherlands Korb LJ	Sexual (Dys)function After Radiotherapy for Prostate Cancer: A Review "Age at the Time of Brachytherapy Appears to Have no Effect on Outcome"	IJROBP, 52: 3, 681-693, Mar 2002 J Brachy Int, 17:2, 49-PR, 2001	A meta-analysis of sexual function following EBRT and brachytherapy. ED varied from 6-84% after EBRT, and from 0-51% after brachytherapy. 872 pts, range in age from 43 to 92 years old. DFS did not vary when analyzed by patient age. Conclusion: "prostate seeding appears to be a good treatment for younger men."	QUALITY OF LIFE, COMPARISON PATIENT AGE
Lederman GS et al. Staten Isl, NY	Retrospective stratification of a consecutive cohort of prostate cancer patients treated with a combined regimen of external-beam radiotherapy and brachytherapy	IJROBP, 49: 5, 1297-303 Apr 2001	348 pts treated with brachytherapy followed by EBRT. Patients had bNED of 88%, 75%, and 51% for none, one, and two risk factors, respectively, at 5 years.	MODERATE, HIGH RISK PATIENTS, COMBINATION THERAPY



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Lee EK Emory, GA	On the Determination of an Effective Planning Volume for Permanent Prostate Implants	IJROBP, 49: 4, 1197-1206, 2001	Studies changes to the prostate volume at different times. Recommends that a planning method that accounts for seed displacement and movement be used. Suggests a six-period model studied provides the best coverage and conformity.	DOSIMETRY
Lee WR et al. Wake Forest, NC	A prospective quality-of-life study in men with clinically localized prostate carcinoma treated with radical prostatectomy, external beam radiotherapy, or interstitial brachytherapy.	IJROBP, 51: 3, 614-23, Nov 2001	90 pts with T1-T2 CaP, brachytherapy. QoL at 1 year was not statistically different from baseline in any group.	QUALITY OF LIFE
Loblaw DA Wallner, U Wash	Brachytherapy in patients with small prostate glands	Tech Urol; 6: 2, 64-9, Jun 2000	30 pts with prostate glands <20 cc, had acceptable morbidity and gland coverage, this suggests that small prostate volumes should be used as a patient selection criteria.	SMALL PROSTATES
Merrick GS Wheeling, WV	Effect of prostate size and isotope selection on dosimetric quality following permanent seed implantation	Tech Urol; 7: 3, 233-40, Sep 2001	248 pts were treated with brachytherapy, and their implants were evaluated by pre-treatment gland volume. No statistically significant volume dependencies in D90, V100 or urethral doses were observed.	LARGE PROSTATES
Merrick GS et al. Wheeling, WV	Is Brachytherapy Comparable with Radical Prostatectomy and External Beam Radiation for Clinically Localized Prostate Cancer	Tech Urology, 7: 1, 12-19, Mar 2001	For low risk patients, brachytherapy results are as favorable as the most favorable surgical and EBRT series. Serious complications following brachytherapy were rare.	SUMMARY, MORBIDITY, COMPARISON OUTCOMES



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Merrick GS, Butler WM, Grimm PD.	PSA Levels After Radical Prostatectomy Versus Brachytherapy	Urology; 53: 865-866; 1999	An editorial of two studies (brachytherapy and prostatectomy), and the interpretation of PSA values following treatment, including pre-treatment age and cancer grade.	PROSTATECTOMY COMPARISON
Merrick GS, Butler WM. Wheeling, WV	Modified Uniform Seed Loading for Prostate Brachytherapy: Rationale, Design, and Evaluation	Tech Urol.; 6: 78-84. 2000	The authors present the merits of a modified uniform loading approach. Reviews the philosophy of pre-planning a implant.	TECHNIQUE
Merrick GS, et al. Wheeling, WV	Five-Year Biochemical Outcome after Prostate Brachytherapy for Hormone-naïve Men \leq 62 Years of Age	IJROBP; 50: 1253-1257; 2001	Authors report on 76 pts under the age of 62 treated with implants. Demonstrated 98.7% bNED. Average age 58 (range 48-62). BNED determined as defined by ASTRO.	PATIENT AGE
Merrick GS, et al. Wheeling, WV	A Comparison of Radiation Dose to the Bulb of the Penis in Men with and without Prostate Brachytherapy Induced Erectile Dysfunction	IJROBP, Vol. 50: 2, pp. 597-604; 2001	23 pts with ED following brachytherapy were compared to unaffected patients. Dose to bulb of the penis was predictive of ED post-treatment. Recommend maintaining dose to bulb to 50Gy at Day 0 dosimetric evaluation; 88% of patients with ED responded to Sildenafil.	POTENCY; QUALITY OF LIFE;
Merrick GS, et al. Wheeling, WV	Rectal Dosimetric Analysis Following Prostate Brachytherapy	IJROBP, Vol. 43, pp. 1021-1027; 1999	In a study of 45 pts, 4 cases of mild, self-limited proctitis were noted. With limited rectal exposure on post-implant dosimetry (9 days), incidence of proctitis was 9%, with no incidence of rectal ulceration and/or fistula formation.	RECTAL MORBIDITY; QUALITY OF LIFE

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Merrick GS, et al. Wheeling, WV	Five-year biochemical outcome following permanent interstitial brachytherapy for clinical T1-T3 prostate cancer	IJROBP, 51: 1, 41-8 Sep 2001	425 pts with T1-T3 prostate cancer. For the entire cohort, bNED was 94% at 5 years. For low, moderate, and high-risk patients, bNED was 97.1, 97.5, and 84.4%, respectively.	LONG TERM OUTCOMES, MODERATE, HIGH RISK
Mettlin	Brachytherapy for Prostate Cancer in the United States	Amer Cancer Soc, 86: 9, pp 1877-81; 1999	From 1992-1995 Brachytherapy represented a small, but substantially increasing, number of treatments for prostate cancer, especially among well and moderately differentiated tumors.	PREVELENCE OF BRACHYTHERAPY DOSIMETRY; TECHNIQUE
Nag S, et al ABS Guidelines	The American Brachytherapy Society Recommendations for Permanent Prostate Brachytherapy Post Implant Dosimetric Analysis	IJROBP, 46, 221-230, 2000	Committee determined that it is essential that post-implant dosimetry should be performed on all patients having implants. Presents guidelines for the performance and analysis of such dosimetry.	
Nag S, et al. ABS Guidelines	American Brachytherapy Society (ABS) Recommendations for Transperineal Permant Brachytherapy of Prostate Cancer	IJROBP; 44: 789-799; 1999	Presented patient selection guidelines and recommended doses for implant therapy: Monotherapy, I-145 Gy, Pd-115-120 Gy; Combination therapy, I-100-110 Gy, Pd-80-90 Gy. Recommends post-implant dosimetry and evaluation of D90, D100 and V100.	SUMMARY; TECHNIQUE; PATIENT SELECTION
Potters L MSKCC-Mercy, NY	Permanent Prostate Brachytherapy: Lessons learned, Lessons to Learn	Oncology; 14: 981-992; 2000	Current data confirms 5-10 yr results are comparable to EBRT and surgery. Discussion of techniques and role of neoadjuvant androgren therapy.	SUMMARY
Potters L et al. MSKCC-Mercy, NY	A comprehensive review of CT-based dosimetry parameters and biochemical control in patients treated with permanent prostate brachytherapy	IJROBP, 50: 3, 605-14, Jul 2001	719 pts. 48-month bNED of 89.5%. A D90>90%had a 92.4% bNED, pts with a D90<90% had a 80.4% bNED.	DOSIMETRY, LONG TERM OUTCOME

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Potters, et al. MSKCC-Mercy, NY	Potency after Permanent Prostate Brachytherapy for Localized Prostate Cancer	IJROBP, 50: 1235-1242; 2001	Report on 482 pts (of 1166) who were potent pre-brachytherapy treatment. 5-yr Actuarial potency rate of 52.7%. For pts treated with brachytherapy alone, 76%. Average age 68 yrs.	POTENCY; QUALITY OF LIFE
Pound CR, Partin AW, et al. Johns Hopkins, MD	Prostate Specific Antigen after Anatomic Retropubic Prostatectomy: Patterns of Recurrence and Cancer Control	Urol. Clin. North Am.; 24: 395-404; 1997	A series of 1623 pts, overall actuarial progression-free rate was 68% at 10 years. Men treated with RRP for clinically localized disease had a 16% actuarial rate of developing metastatic disease at 10 years.	PROSTATECTOMY LONG TERM OUTCOMES
Ragde H, Korb LJ, et al. Seattle Prostate	Modern Prostate Brachytherapy: PSA Results in 219 Patients with up to 12 Years of Observed Follow-up	Cancer; 89: 135-141. 2000	The longest term results to date. Patients were not selected, and dosimetry was not reported. Results are likely conservative to results obtained from current implants with prescribed D90 coverage. Authors report excellent long-term disease control, and no failures after year 10. Overall DFS—70%.	LONG TERM OUTCOMES
Roach M, et al. UCSF, CA	Predicting Long-Term Survival and the need for Hormonal Therapy: A Meta-analysis of RTOG Prostate Cancer Trials	IJROBP; 47: 617-627; 2000	Patients with “bulky” or T3 disease appear to have a survival benefit with the addition of 4 months of hormonal therapy. High-risk patients were noted to have approximately 20% higher survival at 8 years with long-term hormonal therapy.	COMBINATION
Sharkey J, et al. Urology Health, FL	Minimally invasive treatment for localized adenocarcinoma of the prostate: review of 1048 patients treated with ultrasound-guided palladium-103 brachytherapy	J Endourology; 14: 4, 343-50, May 2000	Of 780 pts reviewed retrospectively, at 1 and 5 years 86% had stable PSA levels; 92% of patients had negative biopsies at 2 years. Of patients with prior TURP, 15% of patients reported impotence, and 5% incontinence.	LONG TERM OUTCOMES, QUALITY OF LIFE, PRIOR TURP



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Sherertz T et al. Wallner, U Wash	Long-term urinary function after transperineal brachytherapy for patients with large prostate glands	IJROBP, 51: 5, 1241-5, Dec 2001	33 Pts with prostate glands >50 cc; pts had moderate morbidity and satisfactory outcomes, suggests that prostate volume should not be used as a patient selection criteria.	LARGE PROSTATES
Singh A MSKCC, NY	Combined 3-dimensional conformal radiotherapy and transperineal Pd-103 permanent implantation for patients with intermediate and unfavorable risk prostate cancer	Int J Cancer, 90: 5, 275-80 Oct 2000	65 pts were treated with 3D-CRT and brachytherapy. bNED was 90% and 80% for patients with PSA <10 and PSA >10, respectively, at 3 years. 42% experienced urinary symptoms, 5% noted rare stress incontinence, and 26% developed erectile dysfunction.	MODERATE, HIGH RISK PATIENTS, COMBINATION THERAPY, QUALITY OF LIFE
Stokes SH. Dothan, AL	Comparison of Biochemical Disease-Free Survival of Patients with Localized Carcinoma of the Prostate Undergoing Radical Prostatectomy, Transperineal Ultrasound-Guided Radioactive Seed Implantation, or Definitive External Beam Irradiation	IJROBP; 47: 129-136; 2000	A cohort of 540 pts was treated with prostatectomy, implant or EBRT (monotherapy). For low and moderate risk patients, the outcomes were comparable. For high-risk monotherapy, surgery provided an advantage to bNED.	COMPARISON LONG TERM OUTCOMES
Stone NN, Ratnow ER, Stock RG ProSeed, Mt. Sinai, NY	Prior transurethral resection does not increase morbidity following real-time ultrasound-guided prostate seed implantation	Tech Urol 2000 Jun; 6(2): 123-7	419 pts, 43 with a prior TURP. At 4 years, 84% of patients with prior TURP had no evidence of urethral necrosis, Actuarial potency of 78% at 2 years. No patients in either group experienced radiation proctitis or cystitis.	PRIOR TURP, QUALITY OF LIFE.



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Stone NN, Stock RG ProSeed, Mt. Sinai, NY	Neoadjuvant Hormonal Therapy Improves the Outcomes of Patients Undergoing Radioactive Seed Implantation for Localized Prostate Cancer	Mol. Urol.; 3: 239-244; 1999	Neoadjuvant Hormonal Therapy can reduce prostate volume by 35%, with the greatest reduction in larger prostates, >40cc (41%). HT also improves bNED and local control in high-risk patients, providing bNED similar to low risk patients (83% v. 96%).	COMBINATION
Stone NN, Stock RG ProSeed, Mt. Sinai, NY	Prostate brachytherapy in patients with prostate volumes >50 cm ³ : dosimetric analysis of implant quality	IJROBP; 46: 5, 1199-204, Mar 2000	331 pts, 66 with prostate volumes >50cc (range 50-93), 98.5% of implants had a D90>140 Gy. Using the Real Time method, urethral and rectal doses can be kept to acceptable levels.	LARGE PROSTATES
Stone NN, Stock RG, et al. ProSeed, Mt. Sinai, NY	The effect of disease and treatment-related factors on biopsy results after prostate brachytherapy: implications for treatment optimization	Cancer, 89: 8, 1829-34, Oct 2000	268 pts were biopsied 2 years after brachytherapy monotherapy. Overall 89% of pts had negative biopsies. Patients with D90>90% had a 95% negative biopsy vs. 77% for patients with D90<90%.	BIOPSY RESULTS, LONG TERM OUTCOMES,
Stone NN, Stock RG. ProSeed, Mt. Sinai, NY	Prostate Brachytherapy: Treatment Strategies	J. Urology; 162: 421-426; 1999	Authors determined brachytherapy to offer comparable results to EBRT, when patients are stratified by extent of disease. Introduces strategy of implant alone, implant with hormonal, implant with hormonal and EBRT. At 4 years, low risk 91% bNED, moderate risk 85%, high risk, 71% (3 yrs).	DOSIMETRY LONG TERM OUTCOMES, TX STRATEGY,
Sylvester J, Blasko JC et al. Seattle Prostate	Short Course Androgen Ablation Combined with External-Beam Radiation Therapy and Low Dose Rate Permanent Brachytherapy in early Stage Prostate Cancer: A Matched Subset Analysis	Mol. Urology; 4: 155-160; 2000	Overall bNED was 77% in moderate to high-risk patients who received triple combination therapy, 58% in the combination (EBRT / implant) cohort. The difference was not statistically significant.	COMBINATION



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Uchida, T, Baba, S, et al. Japan	Transrectal High-Intensity Focused Ultrasound for Treatment of Patients with Stage T1b-2N0M0 Localized Prostate Cancer: A Preliminary Report	Urology; 59: 3, 394-399 Mar 2002	Initial report on 20 patients treated with HIFU for prostate cancer. HIFU is a non-invasive treatment, with a device from Focal Surgery. (Not Approved in US) 65% have a PSA<0.5 at 6 months, with 1 fistula. Treatment is a long way from US market.	HIFU, ALTERNATE TREATMENTS
Vicini FA, Kini VR, et al.	A Comprehensive Review of Prostate Cancer Brachytherapy: Defining an Optimal Technique	IJROBP; 44: 483-491; 1999	Demonstrated no technique to consistently produce superior results. Several studies showed an improvement in outcomes with total dose delivered or implant quality. Suggested protocols were presented which should improve the reporting of treatment data and the efficacy of brachytherapy.	TECHNIQUE
Zelevsky MJ, et al. MSKCC, NY	Post-implantation dosimetric analysis of permanent transperineal prostate implantation: Improved dose distributions with an intraoperative computer-optimized conformal planning technique	IJROBP, 48: 2, 601-608, 2000	3D Intraoperative computer optimized implants consistently provided superior target coverage and significantly lower urethral doses. (D90 of 116%, 88%, and 94% for 3D I-O, pre-plan CT, I-O ultrasound, respectively.)	DOSIMETRY; TECHNIQUE
Zelevsky, MJ, et al. MSKCC, NY	Dose Escalation with Three-Dimensional Conformal Radiation Therapy Affects the Outcome in Prostate Cancer	IJROBP; 41: 3, 491-500; 1998	Report on 743 pts treated with 3D-CRT. 5-yr bNED was 85% for low risk, 65% for moderate risk, and 35% for high-risk groups. Doses of 81.0 Gy resulted in significantly better outcomes than pts receiving 75.6 or 70.2 Gy.	3D CRT OUTCOMES, HIGH RISK PATIENTS