Best® medical canada

Linear 5ive MOSFET Array Dosimeter

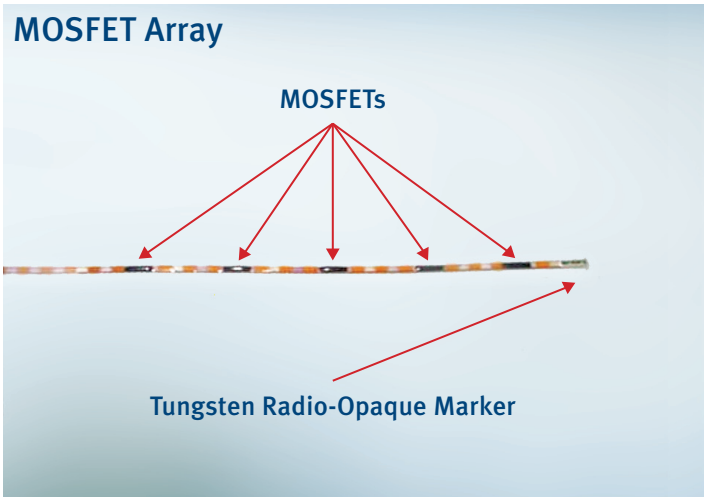
Dynamic Dose Measurements for Brachytherapy Dosimetry

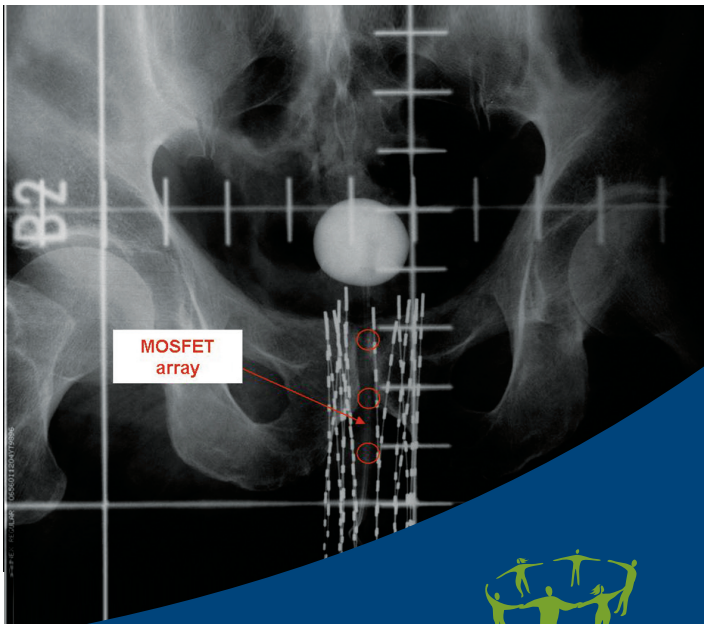
The Linear 5ive MOSFET Array™, when used in combination with the mobileMOSFET™, is the first and only commercially available combination that allows for the real-time quality assurance of all brachytherapy procedures, without a significant investment in extra time.

Real-time dose profiling is provided by the in-vivo use of a mobileMOSFET Wireless Dosimetry System. The Linear Array is used for various HDR applications such as prostate and gynecological Brachytherapy using model TN-252LA5.

When placed on the surface of the breast, the array can also validate MammoSite™ treatments. Implant and LDR dosimetry is performed using the higher sensitivity model TN-502LA5.

When inserted directly into a urethral catheter, the dose results provide immediate assessment of post-implant base and apex dose coverage, as well as the dose to organs at risk such as the urethra, rectum or bladder. This real-time dose feedback allows assessing the quality of the seed implant program in LDR and HDR brachytherapy. Absolute dose measurements or dose rate measurements are obtained in real-time. This will help validate the quality of treatment, and ultimately the quality of life for the patient.





TN #101772.08

413 March Road, Ottawa, ON K2K 0E4 www.mosfet.ca 1-877-668-6636

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Linear 5ive MOSFET Array Dosimeter

Radiation Characteristics:

- 20,000 mV lifetime (~20,000 cGy on standard sensitivity setting)
- Five active detection points (0.04 mm^2 each)
- Suitable for photon and electron modalities
- Isotropic response (± 3% for 360 degrees)
- Visible under CT or Fluoroscopy with a radio-opaque tungsten marker at tip

Dimensions

- 1.5 mm wide
- 46 cm long
- 1.3 mm thick
- 2 cm inter-MOSFET spacing

Compatibility

- mobileMOSFET Dose Verification System (TN-RD-70-W)
- AutoSense Dose Verification System (TN-RD-60) and Dual Bias Supply for Linear 5ive Array (TN-RD-24)

Reimbursement

- Reimbursement under CPT Code 77331 (Special Dosimetry). Typically this is $100 per dose point.
- May require prescription by treating physician.

Additional Applications

- IMRT, IGRT, IORT QA and in vivo
- Rectal Dose Measurements
- Skin Dosimetry
- Beam Profiling
- Fluoroscopy / CT Dose Verification
- External beam radiotherapy / TBI

Thomson Nielsen, a division of Best Medical, offers three linear arrays with different sensitivities to accommodate all clinical and research applications.

Linear 5ive Array	Common Use	Standard Sensitivity Bias	High Sensitivity Bias
TN-252LA5	HDR brachytherapy, MammoSite	0.98 mV/cGy (for ^{192}Ir)	1.38 mV/cGy (for ^{192}Ir)
TN-502LA5	LDR brachytherapy	11.1 mV/cGy (for ^{125}I)	15.2 mV/cGy (for ^{125}I)
TN-1002LA5	LDR brachytherapy, diagnostic x-rays	25.8 mV/cGy (for ^{125}I)	37.2 mV/cGy (for ^{125}I)

Note: sensitivities noted above are under full build-up.

All of these arrays continue to yield dose reproducibility at standard sensitivity bias at 1σ.

Linear 5ive Array	20 cGy	200 cGy
TN-252LA5	< 2%	< 1%
TN-502LA5	< 2%	< 1.5%
TN-1002LA5	< 2%	< 1.5%

Select Publications:

A. Sadeghi, B. Prestidge, J. M. Lee, I. Jurkovic, M. Simms, W. Bice, E. Walker ***"Clinical use of a Linear Array MOSFET for Urethral Dose Verification in Prostate High Dose rate Brachytherapy"*** Poster paper, ABS 27th annual Meeting, May 10-12, 2006.

Radiation response of a new Linear MOSFET Array Dosimeter
A Hallil*1, J Cygler2, M Brown1, I Thomson1, A Saoudi2, J McCaffrey3, (1)Thomson Nielsen, Ottawa, ON, CA, (2) Ottawa Regional Cancer Ctr., Ottawa, ON, CA, (3) National Research Council of Canada, Ottawa, ON, CA *(Abstract, Poster Paper, AAPM 2004, Medical Physics Journal, Vol.31(6), pg 1912-1913, June 2004)*

Contact us for a more extensive list of publications.

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