arplay medical

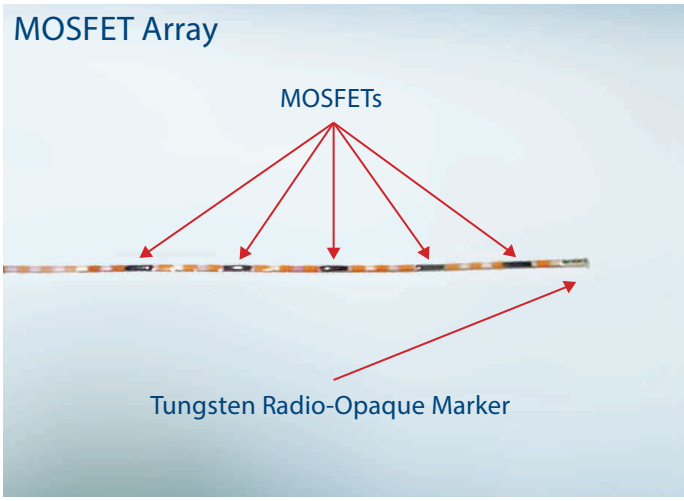
Dynamic Dose Measurements for Brachytherapy Dosimetry

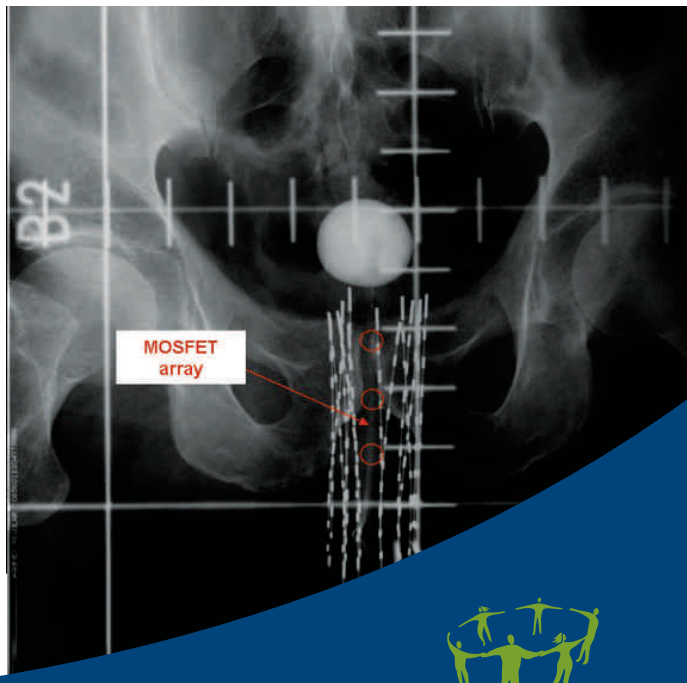
The Linear 5ive MOSFET Array™, when used in combination with the mobileMOSFET™, is the first and only commercially available combination that allows for the real-time quality assurance of all brachytherapy procedures, without a significant investment in extra time.

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.





Best®
healthcare for everyone

Manufactured by Best Medical Canada • Distributed by Arplay Medical

Arplay Medical SAS 1 route de Cîteaux, 21110 Izeure, France
tél +33 3 80 29 74 01 fax +33 3 80 29 76 22 www.arplay.com www.teambest.com

arplay medical

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%

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

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.

Manufactured by Best Medical Canada • Distributed by Arplay Medical

Arplay Medical SAS 1 route de Cîteaux, 21110 Izeure, France
tél +33 3 80 29 74 01 fax +33 3 80 29 76 22 www.arplay.com www.teambest.com

Best®
healthcare for everyone