

## Annotated Bibliography of Related Articles

### Laurane Medical Products/Success Rates:

Cornelis<sup>1</sup> F, Silk M, Schoder H et al. **Performance of intra-procedural 18-fluorodeoxyglucose PET/CT-guided biopsies for lesions suspected of malignancy but poorly visualized with other modalities.** *European Journal of Nuclear Medicine and Molecular Imaging* 2014; 41(12):2265-72.

This retrospective study undertaken at Memorial Sloan-Kettering Cancer Center, New York, evaluates the safety and diagnostic success rate of percutaneous biopsies performed under intra-procedural F-deoxyglucose PET/CT guidance for lesions difficult to see with conventional cross-sectional imaging.

Of the 106 percutaneous biopsies (from 2011-2013), 33 were bone biopsies, all performed using The Madison 11G coaxial Bone Biopsy System (Laurane Medical). The initial diagnostic success rate was 30 of 33 (90.3%). Adequate samples were taken in all cases (100%), with a mean number of 3 needle passes.

<sup>1</sup> Memorial Sloan-Kettering Cancer Center, New York, USA

Tselikas<sup>1</sup> L, Joskin J, Roquet F et al. **Percutaneous Bone Biopsies: Comparison between Flat-Panel Cone-Beam CT and CT-Scan Guidance.** *CardioVascular and Interventional Radiology*, 2015; 38(1): 167-176.

At the Gustave Roussy Institute (I.G.R), Villejuif, France, 68 consecutive patients had percutaneous bone biopsies under either real-time 3D image fusion software (FP-CBCT-guidance) or CT-guidance to compare the accuracy of targeting and the radiation dose. The results concluded that FP-CPCT-guidance for bone biopsy is accurate and reduces patient and operator radiation doses compared with CT-guidance.

All the 68 bone biopsies were performed using the Bedford 11G coaxial Bone Biopsy System (Laurane Medical). The mean puncture time was 31 minutes and all biopsies were technically successful. The pathological diagnostic success rate of all bone biopsies was 88%.

<sup>1</sup> Gustave Roussy Institute (I.G.R), Villejuif, France

Laredo<sup>1</sup> JD, Hamze B, Jerib R. **Percutaneous Biopsy of Osteoid Osteomas Prior to Percutaneous Treatment Using Two Different Biopsy Needles.** *CardioVascular and Interventional Radiology*, 2009; 32(5): 998-1003

At the Lariboisière Hospital, Paris, France, a retrospective study (2000 - 2006) showed 117 patients with a presumed diagnosis of osteoid osteoma biopsied prior to laser photocoagulation with either the 11G Laurane Medical Bone Biopsy Kits (43 lesions) or the 14G AprioMed Bone Biopsy Needles (65 lesions).

Bone samples from the central lucent area were obtained in 100% of lesions biopsied with the Laurane Needle and 87.7% of lesions biopsied with the Bonopty Needle. The Laurane Kit has an optional drill and cutting cannula which was used in 7 of the 43 cases. Positive biopsy results were positive for osteoid osteomas in 43 of 65 lesions in the Bonopty group (66.1%), and in 35 of 43 lesions in the Laurane group (81.4%).

<sup>1</sup> Lariboisière Hospital, Paris, France

**Bone Biopsy Guidance/Examples of factors affecting success:**

Wu<sup>1</sup> J, Goldsmith J, Horwich P, et al **Bone and Soft-Tissue Lesions: What Factors Affect Diagnostic Yield of Image-guided Core-Needle Biopsy?** *Radiology*, 2008;248(3): 962-970

Prospective study performed at the Beth Israel Deaconess Medical Centre, Boston, with the purpose of assessing lesion-related and technical factors affecting diagnostic yield in image-guided core-needle biopsy (CNB) of bone and soft-tissue lesions.

Of 88 bone CNB taken, the diagnostic yield was calculated to seek the minimum number of specimens required to obtain a diagnosis. In the 88 bone biopsies (taking typically 3-5 samples coaxially), the findings concluded that diagnostic yield reached a plateau after 3 specimens. These results suggest that during image-guided CNB, obtaining a minimum of 3 specimens in bone lesions, when clinically feasible, optimizes diagnostic yield for an accurate histopathological evaluation.

<sup>1</sup> Beth Israel Deaconess Medical Centre, Boston, USA

Laredo<sup>1</sup> JD, Hamze B, Champsaur P, **Percutaneous Biopsy of Musculoskeletal Lesions**– in *New Techniques in Interventional Musculoskeletal Radiology*, 2007, Edited by Schweitzer M, Laredo JD, Informa Healthcare

Book chapter on a range of biopsy needles and various approaches for bone biopsies in specific locations.

<sup>1</sup> Lariboisière Hospital, Paris, France

K. Cooper<sup>1</sup>, A. Rabe, K. Nichol, et al. **Comparative pathologic review of manually acquired bone biopsy samples versus those obtained with an electric drill in a pig model**, *Journal of Vascular and Interventional Radiology*, 2015, Volume 26, Issue 2, Supplement, Page S42

Comparative pathologic review of 30 bone biopsy cores taken from a pig model to determine if there is any histologic benefit in obtaining samples with an electric drill over a manual needle set.

15 Bone Biopsies were taken each with the 11G OnControl powered bone access drill (Vidacare) and an 11G manual bone biopsy needle, with an average of 3 fragment samples taken of each. After blind comparison for both gross fragment/cores and microscopic characterization, it was found that tissue architecture and histologic characteristics were preserved in both groups, with no significant microscopic/pathologic differences.

<sup>1</sup> Ohio State University, Columbus, USA

Rose<sup>1</sup> J, Petrover D, Laredo JD. **Infiltrations et techniques interventionnelles ostéo-articulaires radioguidées : infiltrations, biopsies, cimentoplasties**, *Sauramps Medical*, 2011.

Ouvrage pratique, détaillé et incontournable destiné à tous ceux qui sont confrontés aux techniques d'infiltrations interventionnelles ostéo-articulaires radioguidées.

<sup>1</sup> Hôpital Lariboisière, Paris, France