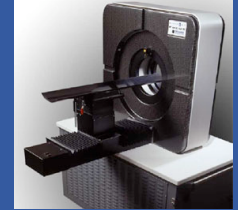
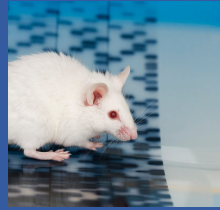


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# microPET

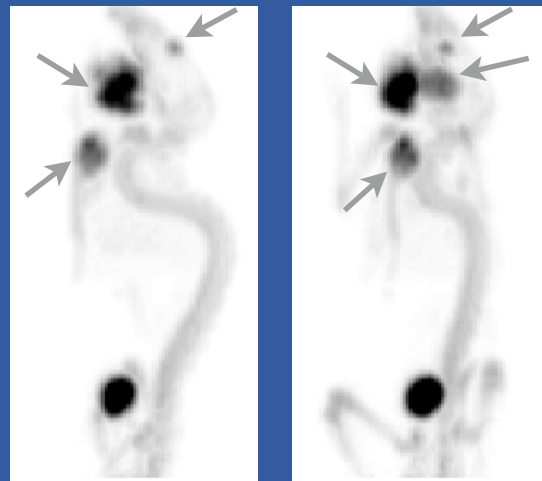
## Image of the Month

### Background

Carl Walkley and Stuart Orkin have developed a mouse model of metastatic osteosarcoma. They sought a method to detect and localize metastases within the skeleton that would allow them to more accurately focus their necropsy and histological analyses. This mouse was administered 200  $\mu\text{Ci}$  of  $^{18}\text{F}$  sodium fluoride (NaF), a tracer that distributes to metabolically active bone, IV via the tail vein. The image was acquired for 15 min. beginning 30 min. after injection while the mouse was under iso-fluorane anesthesia.

### Results

Normal uptake of  $^{18}\text{F}$  NaF involves accumulation in the normal skeleton and clearance by the bladder. Four tumors were identified (arrows): one on each side of the mandible, one in the mediastinum and a small tumor on the top of the skull. All four tumors were confirmed on histology. The three larger tumors were known *a priori*, but the small skull tumor was only identified on the microPET scan and would not have otherwise been analyzed.



Two projection views (lateral on left and 45° oblique on right) of  $^{18}\text{F}$  NaF microPET study of mouse with metastatic osteosarcoma. Four tumors including a very small tumor in the skull ( $< 1\text{mm}$ ) are identified with arrows. Used with permission from Carl Walkley and Stuart Orkin.



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