Abnormal radioisotope concentrations in the skull, thorax or the pelvis have been thus far difficult to interpret properly. PHO/CON, with 12 body section scintigrams it provides, has made it possible to obtain a three-dimensional view of areas of abnormal radioisotope concentration and easily distinguish them from hot areas representing pathological processes and thus has proven of value in enhancing diagnostic efficiency. In conclusion, this PHO/CO tomographic scintiscanner has the following advantages over the conventionally used ones:

1. It permits to delineate multiple lesions distinctly which would otherwise be seen overlapping.  
2. It can be used more efficiently in the localization of lesions in the skull, thorax or pelvis.  
3. It also affords greater effectiveness in the evaluation of therapeutic course.  
4. It is effective in the diagnosis of a pseudarthrosis.

Application of Bone Scintigraphy to Disorders of Spine

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We applied bone scintigraphy to 48 cases of spinal disorders, which were spondylitis (18 cases), bony metastases of malignant tumors (6 cases), spinal tumors (5 cases), anomalies (3 cases) and ossification of spinal ligament (2 cases). It was difficult to distinguish spondylitis tuberculosa from spondylitis purulenta on bone scintigraphy. Several cases of spondylitis demonstrated pathologic conditions in the kidneys such as defective or asymmetric radioactivity at the time of bone scanning.

In spinal tumor, chondroma of C6 vertebra showed heavy radioactivity, but non-secretory solitary myeloma revealed normal radioactivity. In cases of anomalies of spine (synostosis and os odontoideum) and ossification of spinal ligament (posterior longitudinal ligament of cervical spine and yellow ligament of thoracic spine), there were no abnormal bone uptake. Bone scintigraphy is one of the useful methods for diagnosis, treatment and evaluation of prognosis in spinal disorders.

Limb Paralysis and Bone Scintigram (The Second Report)

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We have already reported that, in thirty patients suffering from paralysis of limbs due to cerebrospinal disorder, the more severely osteoporosis advances, the more phosphates are taken up in the bone of osteoporosis. The present report is to find a correlation between the incorporation of phosphates and blood supply in the affected bones.

Either of the posterior paw of a rabbit was fixed with the gyps, which was taken off after three weeks' fixation. Every four days after removal of gyps, we obtained bone scintigrams using 99mTc-phosphate and accumulation curves of intravenously administered 99mTc-albumin on the area of osteoporosis. 99mTc-phosphate as well as 99mTc-albumin was incorporated in the bone of osteoporosis in greater amount than in the unaffected side of bone. (The differences in amount of uptake of phosphate and of albumin between the pair of paws gradually decreased.) We also studied with fourteen patients of osteoporosis due to cerebrospinal disorders. In the patients of over one year's duration of paralysis, the affected side of bone took up less 99mTc-albumin than the unaffected side of bone. On the other hand in the