VETERANS ADMINISTRATION
HOSPITAL
UNIVERSITY AND WOODLAND AVENUES
PHILADELPHIA, PA. 19104

APR [illegible]

IN REPLY REFER TO: 642 (172)

Mr. John E. Bowyer
U.S. Atomic Energy Commission
Isotopes Branch
Division of Materials Licensing
Washington, D.C. 20545

Dear Mr. Bowyer:

This letter is to serve as a yearly report of use of Technetium-99m polyphosphate as a bone scanning agent as authorized by ammendment 39 and/or 40 of AEC License No. 37-00062-03.

Thirty studies were performed thus far and have been itemized below. In this listing is the clinical diagnosis, amount of technetium-99m polyphosphate administered, the results of the scan as well as quality.

	Initials	Quantity of Tc 99-m	Date	Diagnosis	Scan Interpret	Quality of Scan	Region Examined
1.	J.C.	13.3 mCi	3-15-73	Metastatic CA Lung	Negative	Good, some background	Axial Skeleton
2.	B.D.	12.0 mCi	5-14-73	Low back pain	Negative	Good, some background	Lumbar Spine Pelvis
3.	J.R.	12.0 mCi	5-15-73	Anaplastic Lung CA	Negative	Fair, high background	Axial Skeleton
4.	G.O.	12.0 mCi	4-4-73	Bronchogenic Lung CA	Positive right femur, spine, ribs	Good, some background	Whole Body
5.	W.W.	12.0 mCi	4-27-73	Bronchogenic sternal tenderness	Positive sacrum, ribs vertebrae	Good, some background	Axial Skeleton
6.	J.N.	12.0 mCi	5-4-73	CA Lung	Negative	Good, some background	Thorax
7.	F.P.	12.0 mCi	5-18-73	Bronchogenic	Negative	Fair, high background	Axial Skeleton
8.	F.W.	12.0 mCi	5-25-73	CA Lung	Positive knee, lumbar spine, pelvis	Fair, high background	Pelvis and knees

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Show veteran's full name, VA file number, and social security number on all correspondence.

	Initials	Quantity of Tc 99-m	Date	Diagnosis	Scan Interpret	Quality of Scan	Region Examined
9.	J.T.	12.0 mCi	5-31-73	CA Lung	Positive rib	Fair, high background	Axial Skelet
10.	P.P.	12.0 mCi	6-5-73	Compression fracture L2	Negative	Fair, high background	Lumbar Spine
11.	P.S.	12.0 mCi	6-21-73	CA Prostate	Negative	Poor, increased background	Axial Skelet
12.	C.B.	12.0 mCi	6-28-73	CA Prostate	Negative	Fair, high background	Axial Skelet
13.	A.M.	12.0 mCi	6-29-73	CA Prostate	Negative	Good, some background	Lumbar Spine Pelvis
14.	W.B.	12.0 mCi	7-3-73	CA Prostate	Negative	Poor, increased background	Lumbar Spine Pelvis, Chest
15.	S.O.	12.0 mCi	7-3-73	CA Lung	Negative	Fair, high background	Axial Skelet
16.	S.B.	12.0 mCi	7-12-73	CA, primary unknown (L-3)	Positive L-3 (metastatic ?)	Good, some background	Axial Skelet
17.	C.D.	12.0 mCi	6-19-73	Ca, primary unknown	Negative	Poor, increased background	Lumbar Spine
18.	C.D.	12.0 mCi	7-19-73	CA Prostate	Negative	Fair, high background	Axial Skelet
19.	K.B.	12.0 mCi	7-19-73	Primary, unknown metastatic ?	Negative	Fair, high background	Axial Skelet
20.	E.C.	12.0 mCi	7-31-73	CA Prostate	Negative	Good, some background	Axial Skelet
21.	D.M.	12.0 mCi	7-31-73	CA Prostate	Negative	Poor, increased background	Pelvis

	Initials	Quantity of Tc 99-m	Date	Diagnosis	Scan Interpret	Quality of Scan	Region Examined
22.	A.L.	12.0 mCi	8-8-73	CA Lung	Positive Spine, lumbar, rib	Poor, increased background	Axial Skele
23.	R.S.	12.0 mCi	8-9-73	CA Lung	Negative	Fair, high background	Axial Skele
24.	W.G.	12.0 mCi	8-9-73	CA Prostate	Positive Thoracic and lumbar spine	Poor, increased background	Axial Skele
25.	K.F.	12.0 mCi	8-16-73	Malignant melanoma	Positive suspicious sternal activity	Good, some background	Axial Skel
26.	R.W.	12.0 mCi	8-16-73	Back pain	Negative	Good, some background	Lumbar Spir
27.	F.B.	12.0 mCi	8-16-73	CA Lung	Negative	Poor, increased background	Axial Skele
28.	J.B.	12.0 mCi	2-14-74	Occult Malignant	Negative	Good, some background	Axial Skele
29.	F.L.	12.0 mCi	2-22-74	CA Lung	Positive multiple sites	Good, some background	Axial Skel
30.	R.G.	12.0 mCi	3-7-74	CA Prostate	Negative	Fair, high background	Axial Skel

We have determined the following from our series:

(1.) Thirty cases performed.

(2) Diagnosis

Carcinoma of prostate	9	(31%)
Carcinoma of lung	13	(43%)
Carcinoma, primary unknown	4	(13%)
Malignant melanoma	1	(3%)
Compression fracture	1	(3%)
Back pain, etiology unknown	2	(7%)

(3) Diagnosis by bone scan

	Positive	Negative
Carcinoma prostate	1 (11%)	8 (89%)
Carcinoma lung	6 (46%)	7 (54%)
Carcinoma, primary unknown	1 (25%)	3 (75%)
Malignant melanoma	1 (100%)	0 (0%)
Compression fracture	0 (0%)	1 (100%)
Back pain, etiology unknown	0 (0%)	2 (100%)

(4) Quality of Scan

Good	11 (37%)
Fair	11 (37%)
Poor	8 (26%)

The study reveals to this observer that technetium-99m polyphosphate is not an ideal bone scanning agent. It suffers frequently with increased soft tissue body background making diagnosis difficult.

(5) We have applied for an ammendment to our license to use the technetium-99m diphosphonate and cease using polyphosphate.

Sincerely,

John Eltanell

JOHN R. HANSELL, M.D.
Chief, Nuclear Medicine Service

JAMES J. SMITH, M. D. (112H)
Director, Nuclear Medicine Service
VA Central Office
Washington, D. C. 20420

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