North
Kansas City
Hospital

2800 Clay Edwards Drive
North Kansas City, MO
64116-3281

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www.nkch.org

June 13, 2011

Branch Chief
Nuclear Regulatory Commission Region III
Materials Licensing Branch
2443 Warrenville Road,
Lisle, Illinois 60532-4352

Re: NRC Materials License Number 24-18628-01

Dear Sir or Madam:

Please amend our materials license to authorize Robyn M. Hart, M.D. for medical use of 35.600 material in an Ir-192 high dose rate remote afterloader unit. She is currently authorized for the same on a state of Kansas radioactive materials license #19-B703-01. A copy of this license is enclosed.

If you require additional information or have questions please contact the Radiation Safety Officer using the contact information below.

Sincerely,

Matt Foresman
Vice President, Professional Services
North Kansas City Hospital
2800 Clay Edwards Drive
North Kansas City, Missouri 64116
Tel# 816-691-2096
Fax# 816-346-7087

Martin Richman, M.S.
Radiation Safely Officer
North Kansas City Hospital
Cell 913 706 9200
Hospital 816 691 5343
Fax 816 346 7869

Enclosure: State of Kansas Radioactive Materials License #19-B703-01

# State of Kansas

## Radioactive Materials License

**Pursuant to the Nuclear Development and Radiation Control Act (L. 1963, Ch. 290) and Kansas Annotated Regulations numbers 28-35-133 et. seq., and in reliance on statements and representations made to this agency by the licensee designated below, a license is hereby issued authorizing the licensee to transfer, receive, possess, and use the radioactive material or materials listed below; and to use such materials at the place or places listed below; and to use the material for the purpose or purposes listed below. This license is subject to all applicable rules, regulations, and orders now in effect or placed in effect by the Department of Health and Environment and any conditions specified below.**

Amendment No. 26

| Licensee | 3. License Number | Renewed in its entirety |
|---|---|---|
| 1.Name MIDWEST DIVISION - MMC, LLC<br>d.b.a MENORAH MEDICAL CENTER | 19-B703-01 | |
| 2.Address 5721 W 119TH ST<br>OVERLAND PARK, KS 66209 | 4. Expiration Date<br>December 31, 2015 | |
| | 5. Reference Number | |

| 6. Radioactive Material (Element and Mass Number) | 7. Chemical and/or Physical Form | 8. Maximum Quantity Licensee May Possess at One Time |
|---|---|---|
| A. Any radioactive material permitted by 10 CFR 35.100 as adopted by reference in K.A.R. 28-35-264 | A. Unsealed: Any radioactive material prepared for medical use permitted by 10 CFR 35.100 as adopted by reference in K.A.R. 28-35-264 | A. As necessary for uses authorized in subitem 9(A). |
| B. Any radioactive material permitted by 10 CFR 35.200 as adopted by reference in K.A.R. 28-35-264 | B. Unsealed: Any radioactive material prepared for medical use permitted by 10 CFR 35.200 as adopted by reference in K.A.R. 28-35-264 | B. As necessary for uses authorized in subitem 9(B). |
| C. Any radioactive material permitted by 10 CFR 35.300 as adopted by reference in K.A.R. 28-35-264 | C. Unsealed: Any radioactive material prepared for medical use permitted by 10 CFR 35.300 as adopted by reference in K.A.R. 28-35-264 | C. As necessary for uses authorized in subitem 9(C). 750 millicuries of each radioactive material authorized in Subitem 6.C. |
| D. Any radioactive material permitted by 10 CFR 35.400 as adopted by reference in K.A.R. 28-35-264 | D. Sealed source(s): Any brachytherapy source permitted by 10 CFR 35.400 as adopted by reference in K.A.R. 28-35-264 | D. As necessary for uses authorized in subitem 9(D). 1000 millicuries of gold-198, iodine-125, iridium-192, strontium-90 and palladium-103 |
| E. Iridium-192 | E. Sealed source(s): (Varian VS2000) | E. 20 Curie(s) total. No single source to exceed 13 Curie(s). |

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| | | |
|---|---|---|
| F. Any radioactive material | F. Sealed source(s): Any sealed source authorized by 10 CFR 35.65 or equivalent agreement state regulation. | F. 50 millicurie(s) total. No single source to exceed 30 millicurie(s). Limited to 50 millicuries of each radionuclide. |
| G. Gadolinium-153 | G. Sealed source(s): (DuPont Models NES-8424; Isotope Products Model 301B) | G. 1000 millicurie(s) total. no single source to exceed 400 millicuries |
| H. Yttrium-90 | H. Sealed source(s): Sirtex SIR-Spheres resin microspheres | H. 250 millicurie(s) total. |
| I. Iodine-131 | I. Radiopharmaceutical: Sodium Iodide | I. 500 millicurie(s) total. |
| J. Yttrium-90 | J. Radiopharmaceutical: Yttrium chloride | J. 200 millicurie(s) total. |
| K. Strontium-89 | K. Radiopharmaceutical: Strontium chloride | K. 15 millicurie(s) total. |
| L. Samarium-153 | L. Radiopharmaceutical: Lexidronam pentasodium | L. 200 millicurie(s) total. |

CONDITIONS

9. Authorized use.

   A. Any uptake, dilution and excretion study permitted by 10 CFR 35.100 as adopted by reference in K.A.R. 28-35-264.

   B. Any imaging and localization study permitted by 10 CFR 35.200 as adopted by reference in K.A.R. 28-35-264.

   C. Any diagnostic study or therapy procedure permitted by 10 CFR 35.300 as adopted by reference in K.A.R. 28-35-264.

   D. Any manual brachytherapy procedure permitted by 10 CFR 35.400 as adopted by reference in K.A.R. 28-35-264.

   E. To be used in a Varian Medical Systems VariSource High Dose Rate (HDR) remote afterloader for the treatment of cancer using a high dose rate. An authorized medical physicist and an authorized user shall be physically present during patient treatment.

   F. To be used for calibration, transmission, reference and quality control.

   G. To be used for bone mineral analysis

   H. To be used for the therapeutic treatment of unresectable metastatic liver tumors.

   I. To be used for the BEXXAR therapeutic regime involving the use of Tositumomab for the treatment of malignant human B lymphocytes.

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J. To be used as Zevalin (ibritumomab tiuxetan) for radioimmunotherapy of non-Hodgkin's lymphoma.

K. To be used as Metastron for bone pain palliation.

L. To be used as Quadramet for bone pain palliation.

10. Radioactive materials shall only be used at the following location(s):
MIDWEST DIVISION - MMC, LLC, 5721 W 119TH ST
OVERLAND PARK, KS 66209

11. The following shall be responsible for the licensee's radiation protection program

| | |
|---|---|
| Scott Sorensen M.S. | Radiation Safety Officer |
| William M. Chase M.D. | Assistant Radiation Safety Officer |

12. Radioactive material listed in Item 6 above is authorized for use by individuals for the materials and uses described as follows:

Radioactive materials shall be used by or under the supervision of an individual listed below:

| | |
|---|---|
| William Brooks M.D. | Subitem(s) A, B, C, F |
| Craig M. Bruner M.D. | Subitem(s) A, B, C, F |
| Matthew D. Callister M.D. | Subitem(s) D |
| William M. Chase M.D. | Subitem(s) A (except xenon-133), B, C, F, G |
| Susan Chow M.D. | Subitem(s) A, B, C, F |
| Jeffrey R. Conaway M.D. | Subitem(s) A, B, C, F, G |
| John Eurich M.D. | Subitem(s) A, B, C, F, G |
| Shalina Gupta-Burt M.D. | Subitem(s) I, J, K, L |
| Vandana Halder M.D. | Subitem(s) A, B, C, F, G |
| Kelly Hart M.D. | Subitem(s) A, B, C, F |
| Robyn M. Hart M.D. | Subitem(s) C, D, E |
| Jason E. Himmel M.D. | Subitem(s) A, B, C (iodine-131 only for which patient can be released pursuant to 10CFR35.75), F |
| Michael A. Hughes M.D. | Subitem(s) D, E |
| Nathaniel Jewell M.D. | Subitem(s) A, B, C (iodine-131 only) |
| Brad H. Koffman M.D. | Subitem(s) D, E, H |
| Bradley J. McIlany M.D. | Subitem(s) A, B, C, F |
| Rick Moritz M.D. | Subitem(s) A, B, C, F |
| Richard Morrison M.D. | Subitem(s) D |
| Douglas W. Nemmers M.D. | Subitem(s) A, B, C (except phosphours-32), F |

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|---|---|
| Jorge C. Paradelo M.D. | Subitem(s) D, E |
| Michael B. Robertson M.D. | Subitem(s) A, B, C (iodine-131 only), F |
| Alan M. Schneider M.D. | Subitem(s) A, B, C (for which the patient can be released pursuant to 10 CFR 35.75), F, G |
| Robert G. Schwegler M.D. | Subitem(s) A (except xenon-133), B, C, F, G |
| John E. Scott M.D. | Subitem(s) A (except xenon-133), B, C, F, G |
| Sarah L. Sherard M.D. | Subitem(s) A, B, C, F |
| Michael S. Sokol M.D. | Subitem(s) C |
| Leo J. Spittler M.D. | Subitem(s) A, B, C, F |
| Donald Stallard M.D. | Subitem(s) A, B, C (for which the patient can be released pursuant to 10 CFR 35.75), F |
| Tom Zinn M.D. | Subitem(s) A, B, C, F |

The individuals listed below may use radioactive materials in the capacity of an authorized medical physicist:

| | |
|---|---|
| Marc Edwards M.S. | Subitem(s) A, B, C, D, E, F, G |
| Scott A. Sorensen M.S. | Subitem(s) A, B, C, D, E, F, G |

13. The licensee shall perform testing for leakage or contamination of sealed sources in accordance with K.A.R. 28-35-216a.

14. The use of radioactive material in or on humans shall be by a physician.

15. Sealed sources containing radioactive material shall not be opened.

16. The licensee shall conduct a physical inventory every three (3) months to account for all sealed sources received and possessed under the license. The records of the inventories shall be maintained for two years from the date of the inventory for inspection by the Radiation Control Program, Bureau of Environmental Health, Kansas Department of Health and Environment, and shall include the quantities and kinds of radioactive material, location of sealed sources and the date of the inventory.

17. A. Radiopharmaceuticals dispensed and/or distributed for human use shall be either:

(1) Repackaged from prepared radiopharmaceuticals that are the subject of an FDA-approved "New Drug Application" (NDA) or for which FDA has accepted a "Notice of Claimed Investigational Exemption for a New Drug" (IND), or

(2) Prepared from generators and reagent kits that are the subject of an FDA-approved NDA or for which FDA has accepted an IND.

B. Prepared radiopharmaceuticals for which FDA has accepted an IND and radiopharmaceuticals prepared from generators or reagent kits for which FDA has accepted an IND shall be dispensed and/or distributed:

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(1) In accordance with the directions provided by the sponsor of the IND, and

(2) Only to physicians who have been accepted by the sponsor of the IND to participate in clinical evaluation of the drug.

The licensee shall inform, in writing, each physician who participates in an IND evaluation, that the physician is responsible to the sponsor of the IND for use of the drug in accordance with protocols established by the sponsor and for reporting to the sponsor the clinical information obtained through use of the drug.

18. Patients containing temporary interstitial or brachytherapy implants shall remain hospitalized until surveys made with an appropriate radiation detection instrument indicate all implants have been removed. The results of these surveys shall be recorded and maintained for inspection by the Radiation Control Program, Bureau of Environmental Health, Kansas Department of Health and Environment.

19. The licensee is not authorized to use weighting equations for the purpose of modifying the effective dose equivalent for whole body exposure to radiation or radioactive material under this license.

20. The licensee may transport radioactive material or deliver radioactive material to a carrier for transport, in accordance with the provisions of K.A.R. 28-35-196a, "Preparation of Radioactive Material for Transport".

21. The licensee shall comply with the provisions of Kansas Radiation Protection Regulations, Part 4, "Standards for Protection Against Radiation" and Part 10, "Notices, Instructions and Reports to Workers; Inspections."

22. The licensee shall possess and use radioactive material described in Items 6, 7 and 8 of this license according to the most restrictive of; the Kansas Radiation Protection Regulations, this license or statements, representations, and procedures contained in the following documents.

    a. The application dated May 26, 2010, signed by Steven D. Wilkinson, with attachments.

    b. The letter dated October 4, 2010, signed by Scott A. Sorensen, with attachments.

FOR THE STATE DEPARTMENT OF HEALTH AND ENVIRONMENT

Date October 18, 2010

By: _____

Thomas A. Conley, CHP
Radiation Control Program

North Kansas City Hospital

2800 Clay Edwards Drive
North Kansas City, MO
64116-3220

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Branch Chief
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