

QIBA SPECT Task Force
Friday, February 6, 2015, 9 AM (CT)
 Agenda and Additional References

RSNA

In attendance:

Richard Wahl, MD (Moderator)
 Hubert Beaumont, PhD
 Ronald Boellaard, PhD
 Orest Boyko, MD, PhD
 Janice Campbell, PhD
 Ming-Kai Chen, MD, PhD
 Yuni Dewaraja, PhD
 Edward A. Eikman, MD
 Eric Frey, PhD
 Howard Higley, PhD
 John Hoffman, MD
 Brian Hutton, PhD
 Paul Kinahan, PhD, FIEEE

Michael King, PhD, DABR
 Gregory Klein, PhD
 Richard Laforest, PhD
 Adriaan Lammertsma, PhD
 Michael Lassman, PhD
 William C. (Rusty) Lavelly, MD, CMO
 Michael Ljungberg, PhD
 Lawrence (Larry) MacDonald, PhD
 Robert Miyaoka, PhD
 Aaron Nelson, MD
 Nancy Obuchowski, PhD
 Amy Perkins, PhD

Eric Perlman, MD
 John Seibyl, MD, CEO
 Daniel Sullivan, MD
 John Sunderland, PhD
 Zsolt Szabo, MD, PhD
 Pierre Tervé, MS
 Huseyin Toré, MD
 Irene Torres, PhD
 Benjamin Tsui, PhD
 Timothy Turkington, PhD
 Jeffrey Yap, PhD
 Brian Zimmerman, PhD

Fiona Miller
 Joe Koudelik
 Julie Lisiecki

Moderator: Dr. Richard Wahl

Quantitative SPECT Biomarker Exploratory Discussion

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| 1. | Introduction to QIBA efforts | Drs. Sullivan, Kinahan, Wahl |
| 2. | Example of Profile, FDG PET | Drs. Perlman, Wahl |
| 3. | Exploratory Call on SPECT: Review of 10-10/14 call | Dr. Wahl |
| 4. | Review of commercial SPECT products | Dr. Wahl, industry representatives (Siemens / GE / Hermes) |
| 5. | Review of recent documents on Q SPECT/brain: <i>EANM, DAT Scan</i> , etc. | Drs. Seibyl, Cole |
| 6. | Review of recent documents on QSPECT/body/dosimetry: <i>JNM/ MIRD</i> | Dr. Dewaraja |
| 7. | Possible "claims" | Group |
| | a) Measurement of a large organ ABSOLUTE radioactivity concentration (e.g., liver): | |
| | <ul style="list-style-type: none"> • Quantitative uptake of radiotracer, such as TcMAA for dosimetry to liver or tumor/organ dosimetry • (<i>Dr. Frey or Dr. Dewaraja?</i>) | |
| | b) Measurement of relative or ABSOLUTE radioactivity concentration, or ratios in a small structure: e.g., Striatum for DAT scan (<i>Dr. Seibyl?</i>) | |
| | c) Thyroid or thyroid cancer (<i>Dr. Lassmann?</i>) | |
| | d) Other claims: clinical or research? | |
| | e) Do we need a claim? | |
| | <ul style="list-style-type: none"> • i.e., Amyloid claims are still evolving for the Amyloid PET Biomarker Committee | |
| 8. | Is there interest in forming a task force (writing group)? | |
| 9. | Who is willing to join an unpaid, overworked, coalition of the willing to take on this task? | |
| 10. | <i>Next steps?</i> | |
| | <ul style="list-style-type: none"> • Monthly calls • Literature review | |

Recommended References:

- Links to documents for SPECT in general and I-131:
- Dr. Dewaraja is currently working on the Lu-177 document with EANM colleagues.
 - <http://jnm.snmjournals.org/content/53/8/1310.long>
 - <http://jnm.snmjournals.org/content/54/12/2182.long>

Citations:

- Zeintl, et al. **Quantitative Accuracy of Clinical ^{99m}Tc SPECT/ CT Using Ordered-Subset Expectation Maximization with 3-Dimensional Resolution Recovery, Attenuation, and Scatter Correction.** *J Nucl Med* 2010; 51:921–928, DOI: 10.2967/jnumed.109.071571.
- Bailey DL and Willowson KP. **Quantitative SPECT: Its Time has Come: An Evidence-Based Review of Quantitative SPECT Imaging and Potential Clinical Applications.** *J Nucl Med* 2013; 54:83–89; DOI: 10.2967/jnumed.112.111476.
- Willowson KP, Bailey DL, and Baldock C. **Quantitative SPECT Reconstruction Using CT-derived Corrections.** *Phys. Med. Biol.* **53** (2008) 3099–3112; [doi:10.1088/0031-9155/53/12/002](https://doi.org/10.1088/0031-9155/53/12/002)

Doodle Poll Follow Up: Those on today's call will be polled to respond if they would like to join this QIBA SPECT Task Force and participate on regular calls.

Upcoming Nuclear Medicine Calls (Fridays, 9 am CT):

- **February 13:** PET **Amyloid** Biomarker Ctte
- **February 20:** SPECT Task Force
- **February 27:** PET **Amyloid** Biomarker Ctte