Industry perspective

Dr Bill Shingleton, GE Healthcare, CT-TRACS Co-Chair, UK
Tools for Cell Therapy Translation.
A Tool-Provider’s Perspective.

Bill Shingleton
GE Healthcare Life Sciences
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GE: A HERITAGE OF INNOVATION

- Founded by Thomas Edison in 1878
- Only company from the original 1896 Dow Jones index still listed today
- Rated AA+ with stable outlook by S&P
- 305,000 employees world-wide operating in more than 160 countries
BROAD SOLUTIONS FOR HEALTHCARE

Diagnostic and Interventional Imaging
Patient Monitoring
Maternal and Infant Care
Anesthesia and Respiratory Care
Diagnostic Cardiology
Healthcare IT
Life Sciences
Healthcare Consulting
Global Services
Single Photon Emission Computed Tomography (SPECT)

Computed Tomography (X-ray)

Positron Emission Tomography (PET)

Magnetic Resonance Imaging

Ultrasound
GE Healthcare, Life Sciences

Accelerating precision medicine with tools for biotechnology R&D, biopharma manufacturing, cell therapy & regenerative medicine, diagnostic imaging, molecular & precision diagnostics

Five product business units • 10 000 people • 100+ countries • Manufacturing, research & development in US, Europe and Asia

Core Imaging
BioProcess
Purification & Analysis
Cell Therapy
Genome & Cellular Research
Core Imaging

Portfolio breadth across three segments

Technologies of interest.

- **Contrast Media**
  - Further application of ultrasound contrast media including therapy delivery & neurology
  - Organ/disease specific MR contrast (e.g. liver)
  - Functional / targeted MR imaging

- **SPECT**
  - Late stage (lead candidate & P1+) SPECT imaging agents in neurodegeneration / general oncology / infection & inflammation areas

- **PET**
  - Late stage (lead candidate & P1+) PET imaging agents in neurodegeneration area

- **Technology enablers**
  - Adjacent in vitro diagnostic products for patient selection / stratification
  - Image analysis software (all modalities)
  - Integrated workflow solutions (e.g. dose management / dose delivery / protocols)
  - Imaging tools related to regenerative medicine (e.g. cell therapy)
GE Healthcare Life Science, Core Imaging
Technology areas
Contrast agent and tracer development and supply for SPECT / PET / US / MR / X-ray CT

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<th>Bio/chem developm’t</th>
<th>Pre-clinical</th>
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Wing-to-wing imaging
Contrast / tracer supply - global footprint
PET tracer synthesizer units (FASTlab®)
Image analysis software
Technical support
Drug/Agent Development Pathway

Idea

Molecule synthesis

Pre-clinical

Manufacture

Clinical Trials

Launch

Safety, DMPK, ADME, MoA, Efficacy

&
Regenerative medicine and stem cell clinical trials:
Tracers to potentially monitor cell therapy efficacy:
Ceretec WBC imaging in infection

Uptake to Secretory glands
e.g. Nasal cavity
Tear ducts
Salivary glands

Courtesy Birmingham City Hospital
Tools from Core Imaging to Support Cell Therapy

Regenerative medicine and stem cell clinical trials: Tracers to potentially monitor cell therapy efficacy:

Cell Tracking
Rat Model of Parkinson’s Disease
Healthcare is evolving to a collaborative care model

Current Hospital-centric Model

- Hospital centric
- Episodic
- Departments
- Proprietary
- Data silos

Fee-for-Service

Collaborative Care Model

- Care Pathways
- Patient Centric
- Open
- Solutions
- Interoperable
- Patient data consolidation

Outcome Driven

Patients

JB35904US | Nov. 2015
Ceretec WBC imaging in inflammation

- Normal
- Spleen
- Lung
- Appendix abscess
- Inflammatory bowel disease

1 h pi
3 h pi
45 min pi

Courtesy Birmingham City Hospital
Talk Skeleton

• Introduction to GE, GE Healthcare and GE’s Cell Therapy business
• Why is GE interested in Cell Therapy
  – Bioprocess legacy
  – What is GE’s product focus
• Why does the work of HESI CT-TRACS matter to tool manufacturers and suppliers.
• Commercialisation of tools and technology for cell therapy translation, aligned of HESI CT-TRACS.
• The continuum of cell characterisation and in-vivo tracking.
• How can technology companies help with tool development?
• GE’s customer’s un-met needs that are aligned to HESI CT-TRACS.
• Summary and Discussion.