

FMTVDM FRONTIER

Fleming Method for
Tissue and Vascular
Differentiation and
Metabolism



**FMTVDM - Patented
(U.S. Patent No. 9566037B2)**

Whole-Body PET/SPECT with FMTVDM®

A Comprehensive Government Dossier for National Health Transformation

This dossier outlines a strategic pathway for ministries of health to adopt and integrate Whole-Body Positron Emission Tomography (PET) and Whole-Body Single Photon Emission Computed Tomography (SPECT) systems enhanced by the patented Fleming Method for Tissue and Vascular Differentiation and Metabolism (FMTVDM®, U.S. Patent No. 9,566,037 B2). Together, these technologies deliver true quantification of the InflammoThrombotic Immunologic Response (ITIR) Disease paradigm, enabling unprecedented precision in diagnostics, treatment monitoring, and population health initiatives.

Executive Summary

This dossier empowers your nation to:

Prepared by Dr. Richard M. Fleming, PhD, MD, JD | Director, FMTVDM® Consortium

- Lead global molecular imaging through absolute quantification of perfusion and metabolism.
- Achieve whole-body coverage in 10–15 minutes, reducing radiation dose and resource burden.
- Standardize imaging data across centers for national screening, research, and policy.
- Realize cost savings by eliminating repeat scans and optimizing therapy monitoring.
- Secure Select Nation Status (SNS) benefits, including exclusive licensing and research grants.

The Paradigm Shift: ITIRD Theory & FMTVDM®

The ITIR Disease (ITIRD) Theory explains the pathophysiology of inflammation, thrombosis, and immune dysregulation as unified drivers of cancer, cardiovascular, neurological, and infectious diseases. FMTVDM® operationalizes this theory by:

- Measuring regional tissue perfusion and metabolism changes caused by ITIR processes.
- Providing absolute kinetic parameters rather than relative uptake estimates.
- Delivering reproducible diagnostics across equipment, operators, and time.

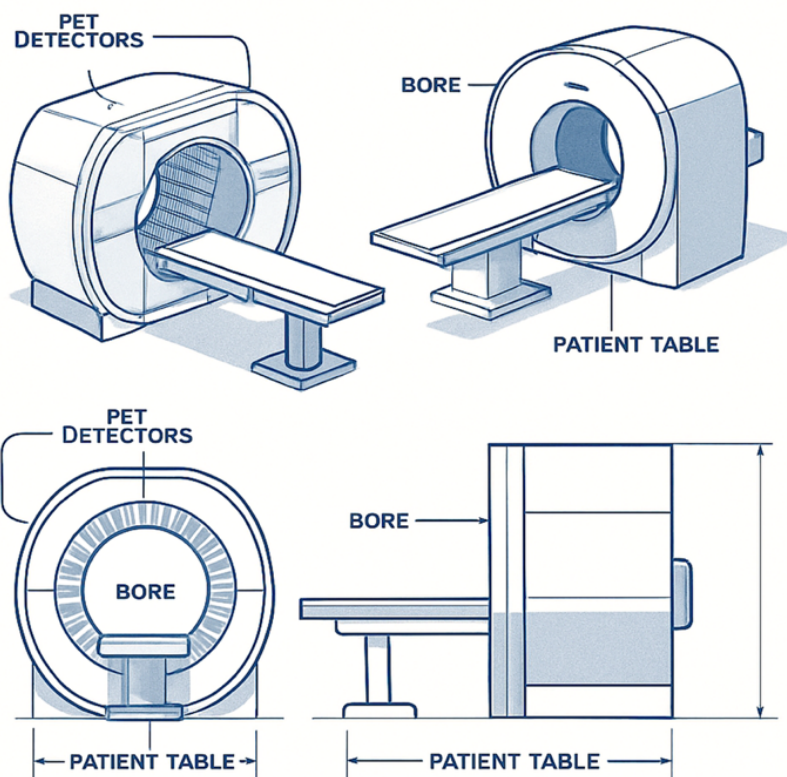
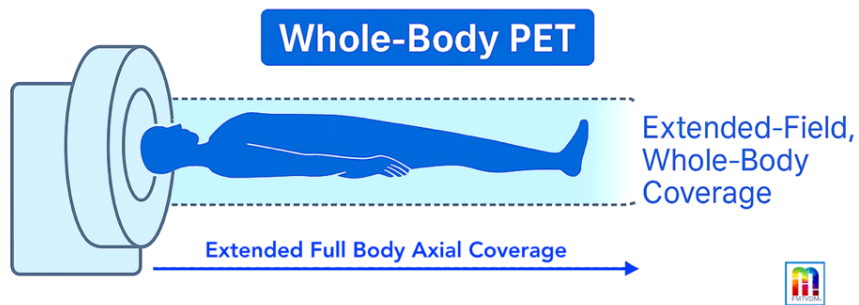
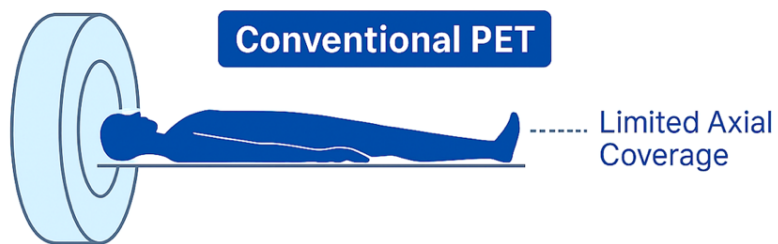
Current Imaging Landscape and Limitations

Conventional PET/SPECT

- Axial coverage limited to 15–50 cm, requiring multiple bed positions.
- Semi-quantitative outputs (e.g., SUVs) with up to 35% inter-scanner variability.
- Extended scan times (30–60 minutes) lower throughput and increase patient discomfort.
- Sensitivity and specificity errors up to 20%, leading to repeat exams and delayed care.

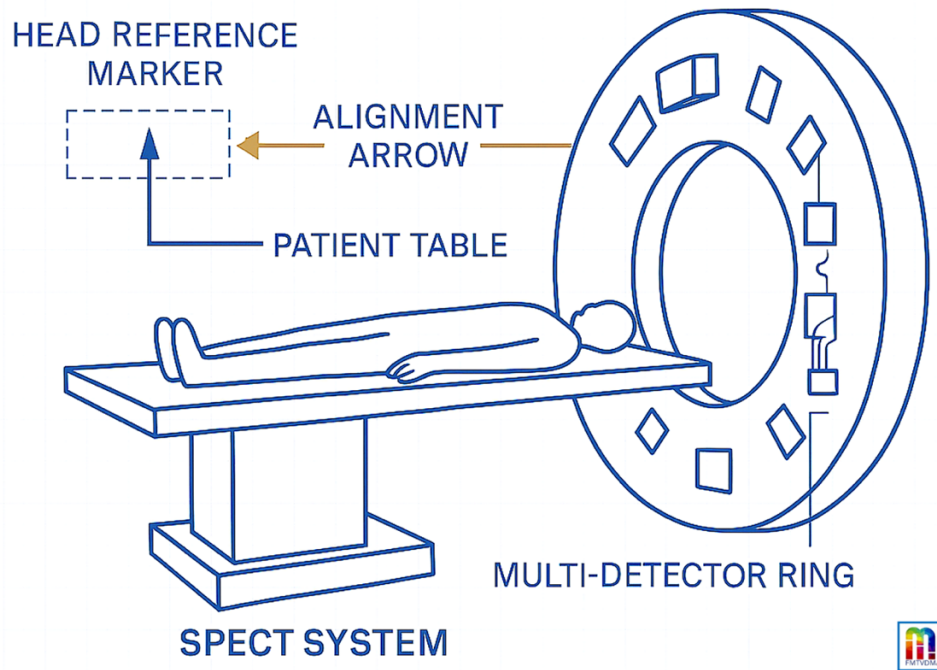
Whole-Body PET/SPECT

- Single-pass imaging of 1–2 m axial FOV in 10–15 minutes.
- Lutetium-Yttrium Oxyorthosilicate) and Cadmium-Zinc-Telluride (CZT) detectors.
- Improved sensitivity but still reliant on relative measures and operator calibration.
- Underutilized research potential due to lack of standardized quantification.



TOTAL BODY PET CAMERA

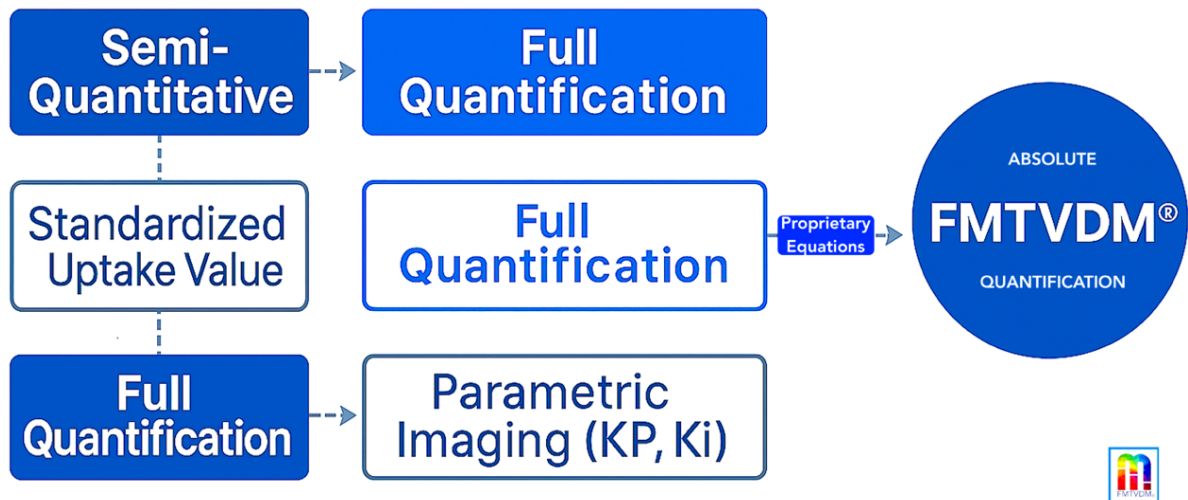
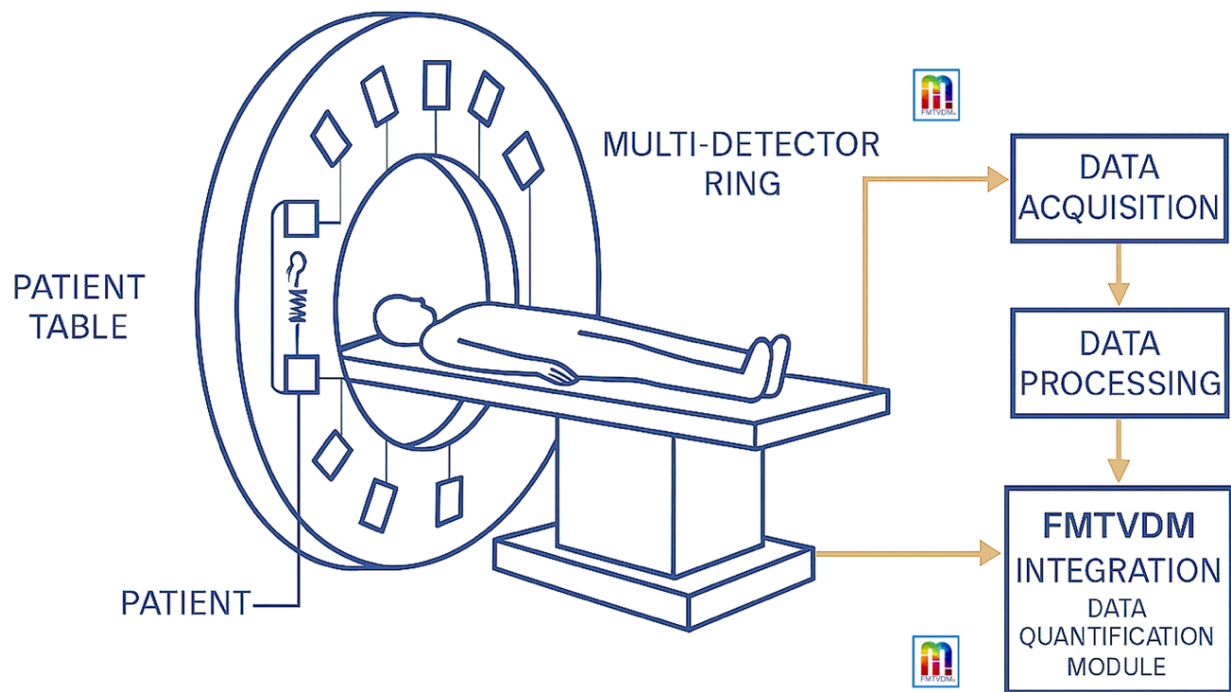




FMTVDM® Integration: Absolute Quantification

FMTVDM® enhances existing PET/SPECT platforms through an AI-driven calibration and quantification module:

1. Proprietary TFM calibration ensures true measurement of isotope activity.
2. Automated tracer administration protocols standardize input functions.
3. Real-time kinetic modeling yields absolute flow (KP) and metabolic (Ki) parameters.
4. Data mapped onto color-coded parametric images and tabular reports.



Comparative Performance Metrics

Metric	Conventional PET/SPECT	Whole-Body PET/SPECT	+ FMTVDM® Whole-Body PET/SPECT
Axial Field-of-View	15–50 cm	1–2 m	1–2 m
Scan Duration	30–60 min	10–15 min	10–15 min
Quantification	Relative/semi-quant.	Relative	Absolute (KP, Ki)
Inter-Scanner Variability	≥35%	≥20%	None. Cameras are Quantitatively Calibrated
Sensitivity/Sensitivity Gain	Baseline	+10–20%	Quantification Produces Accuracy
False Positives/Negatives	Up to 20%	10–15%	FMTVDM Defines Actual Values, Not Approximations

FMTVDM®: Redefining Molecular Imaging

Moving from “relative” uptake values and visual image “interpretation” to true absolute measurement of anatomy and physiology; enhancing diagnosis, treatment monitoring, and research impact - augmented with proprietary quantitative AI equations.

Clinical Impact Across Specialties

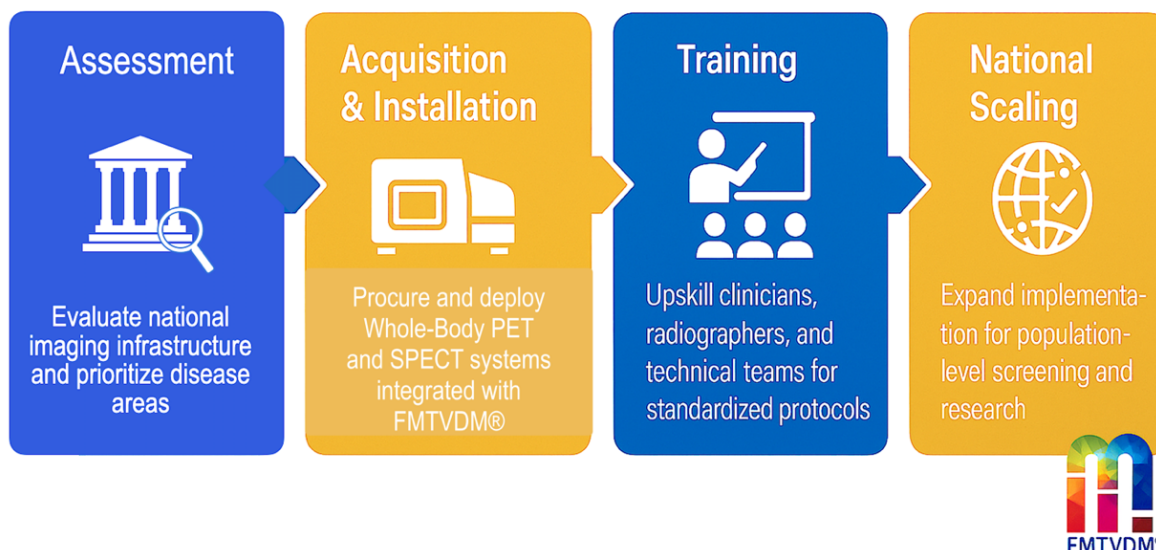
- Oncology: Precise tumor burden and response measurement in one session.
- Cardiology: Quantitative myocardial perfusion and viability with flow reserve.
- Neurology: Whole-brain metabolism mapping for neurodegenerative disorders.
- Infectious/Inflammatory: Serial tracking of systemic ITIR activity and treatment response.

Population Health & National Screening

- Scalable screening for high-risk cohorts based on absolute biomarkers.
- Integration with national registries for precision public health.
- Rapid deployment in outbreak scenarios for epidemiological mapping.

Implementation Roadmap

National Implementation Roadmap for Whole-Body PET with FMTVDM®



1. Strategic Assessment
 - National imaging capacity review
 - Disease priority setting
2. Pilot Deployment (Years 1–2)
 - Single-site installation at a referral center
 - Validation of diagnostic accuracy and workflow
3. Training & Certification
 - Workshops for clinicians, technologists, physicists
 - Standardized protocol manuals and e-learning modules
4. Regional Roll-Out (Years 3–4)
 - Expand to major hospitals with dedicated FMTVDM® units
 - Establish centralized data governance
5. Nationwide Integration (Years 5+)
 - Public-private partnerships for sustainability
 - Continuous performance monitoring and software upgrades

Policy Recommendations

- Allocate targeted budget lines for quantitative molecular imaging.
- Incentivize academic-industry consortiums for joint research and development.
- Embed FMTVDM® in national diagnostic guidelines and reimbursement frameworks.
- Leverage SNS partnerships for technical support, training grants, and research funding.

Return on Investment

Benefit	Impact
Reduced repeat imaging	20–30% cost savings
Increased scanner utilization	+30–40% throughput
Avoided downstream treatment delays	Improved patient outcomes, lower costs
Research grant and collaboration win	Enhanced global reputation

Intellectual Property & Licensing

- U.S. Patent No. 9,566,037 B2 covers absolute quantification methodology through 2037.
- Exclusive SNS licensing for up to three nations through 1 January 2030.
- Joint IP frameworks available for multi-national research consortia.

Peer-Reviewed Evidence

1. Fleming RM. “Quantified Tumor Response...” J Nucl Med Radiat Ther. 2018.
2. Fleming RM et al. “Differentiating Imaging Modalities...” Eur J Nucl Med Mol Imaging. 2019.
3. Fleming RM. “Pathophysiologic Basis in Heart Disease.” J Nucl Med. 2016.
4. Fleming RM. “Quantifying Cardiovascular Inflammation.” J Cardiovasc Imaging. 2020.

Excerpt (from Claims Section):

“A method for measuring absolute changes in tissue perfusion and metabolism... comprising the steps of calibrating image acquisition parameters... and applying a reproducible standard of measurement to obtain quantifiable imaging data independent of device-specific variability.”

Closing Statement

Whole-Body PET and Whole-Body SPECT integrated and enhanced with FMTVDM® represents a paradigm shift in molecular imaging. Coupled with ITIRD understanding, FMTVDM and the ITIRD Theory produces the first paradigm millennial shift in Medical Science in centuries.

FMTVDM delivers faster, accurate, truly quantitative data, enabling earlier diagnosis, improved therapy monitoring, and large-scale public health applications.

By implementing FMTVDM technology integrated with Whole-Body PET and Whole-Body SPECT, your Nation and Health Ministry can:

- Lead in advanced diagnostics and therapeutics.
- Improve national population health outcomes through precise, reproducible, accurate imaging.
- Position your nation as a global innovator in molecular medicine.

We look forward to future communications with you and your health policy advisors.

For detailed technical specifications, software demonstrations, and partnership proposals, please contact:

Respectfully,



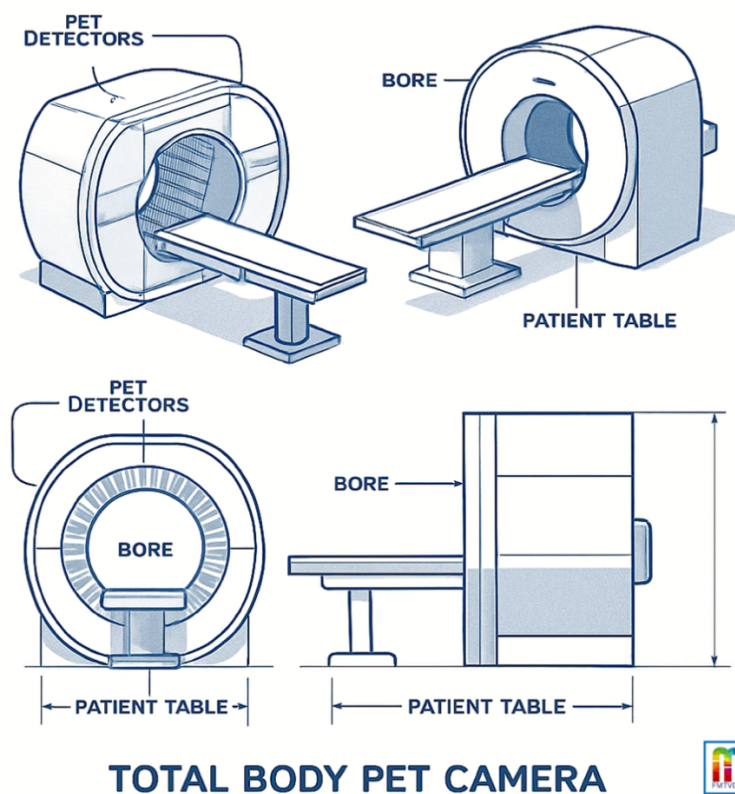
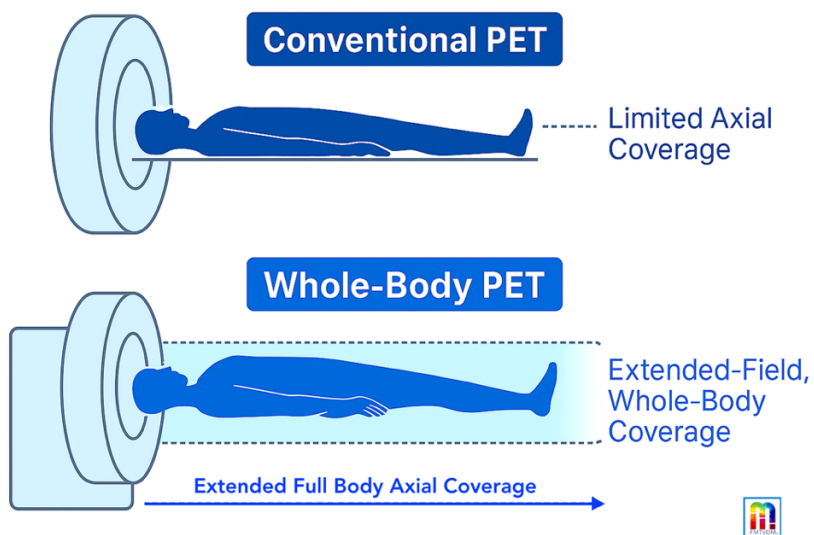
Physicist, Nuclear Cardiologist, Attorney, Patent Owner
Director, FMTVDM Consortium
Email: fmtvdm2025@gmail.com
Website: <https://www.fmtvdm.com>

Transform your nation's healthcare with absolute molecular quantification.

Prepared by Dr. Richard M. Fleming, PhD, MD, JD | Director, FMTVDM® Consortium

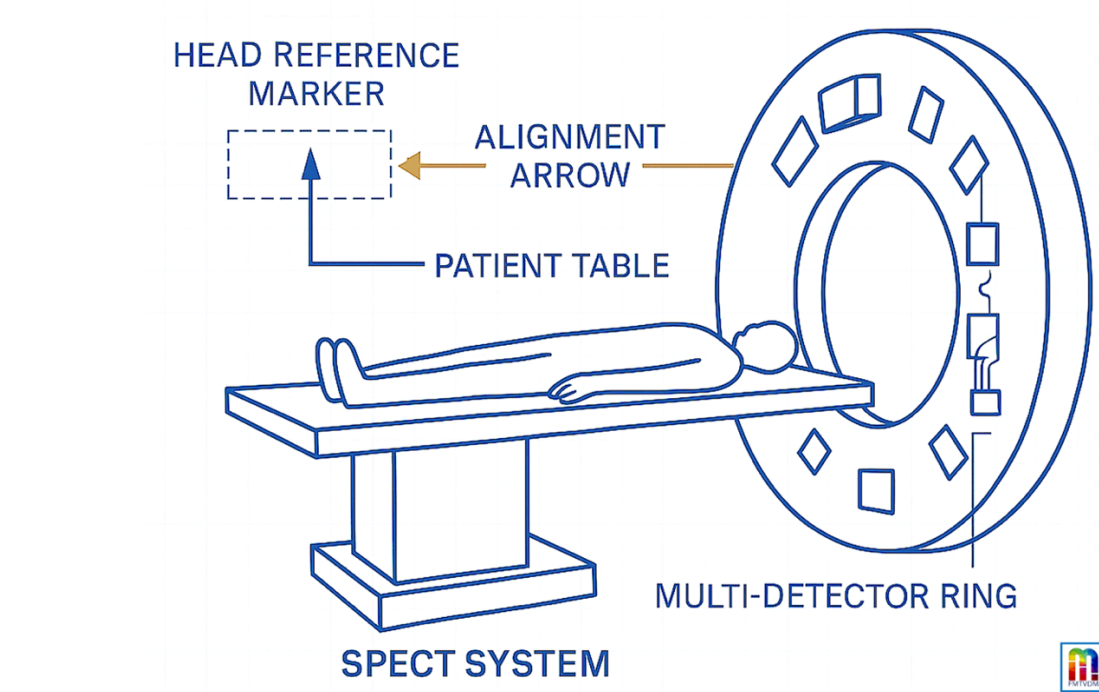
Appendices: Brief Technical Schematics & Diagrams

Appendix A: Whole-Body PET and SPECT System Architectures

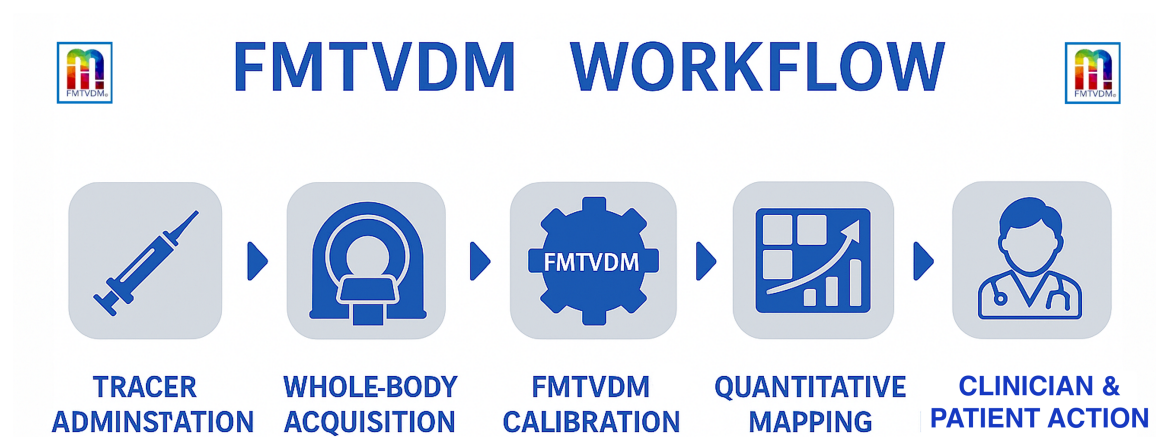


TOTAL BODY PET CAMERA

Appendix A (continued):

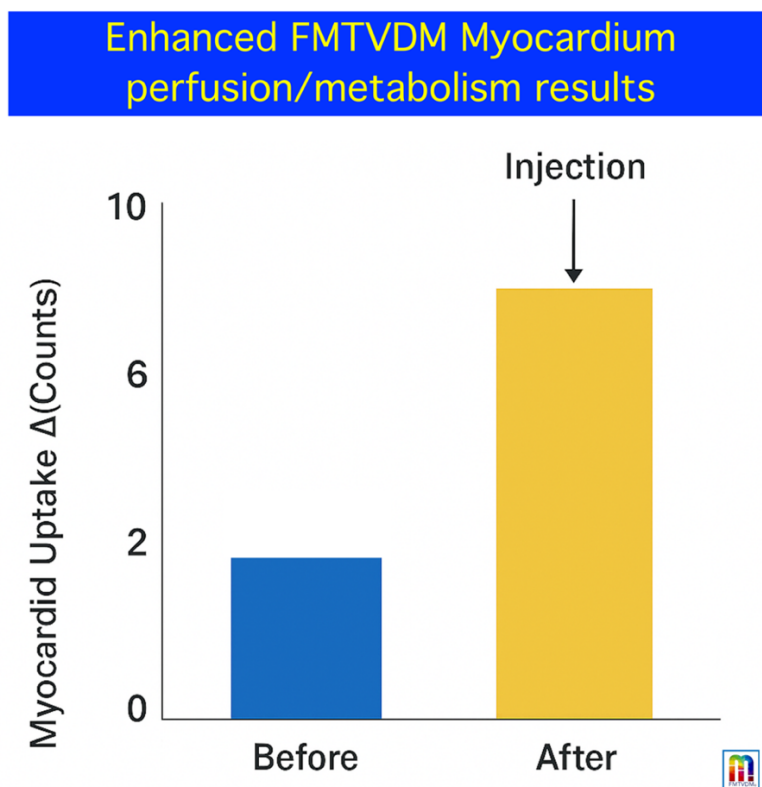


Appendix B: FMTVDM® Quantification Workflow – Begins with FMTVDM enhancing protocol followed by tracer administration.

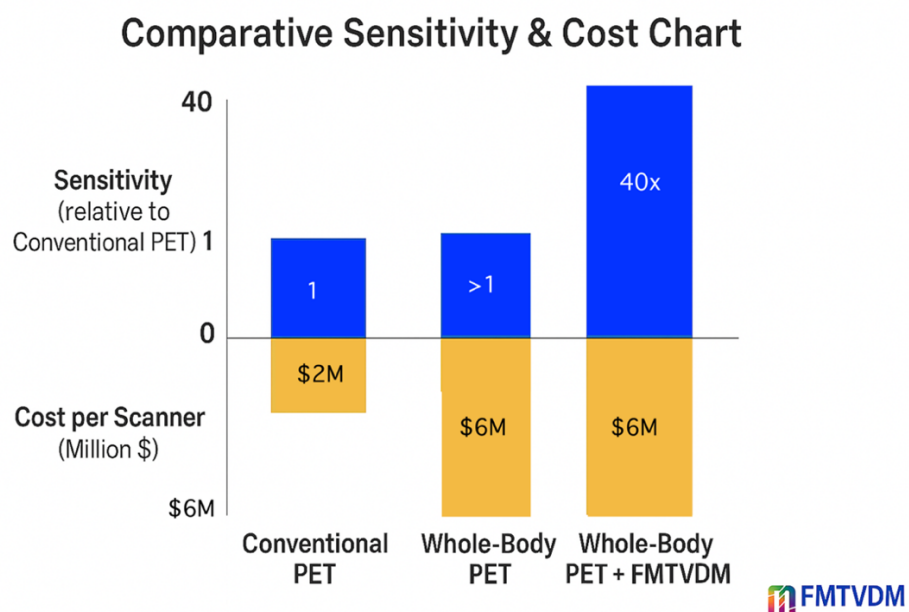


Prepared by Dr. Richard M. Fleming, PhD, MD, JD | Director, FMTVDM® Consortium

Appendix B (continued):



Appendix C: Comparative Sensitivity Chart Showing Whole-Body PET Only.



Prepared by Dr. Richard M. Fleming, PhD, MD, JD | Director, FMTVDM® Consortium