Role of Core Lab in Clinical Trial

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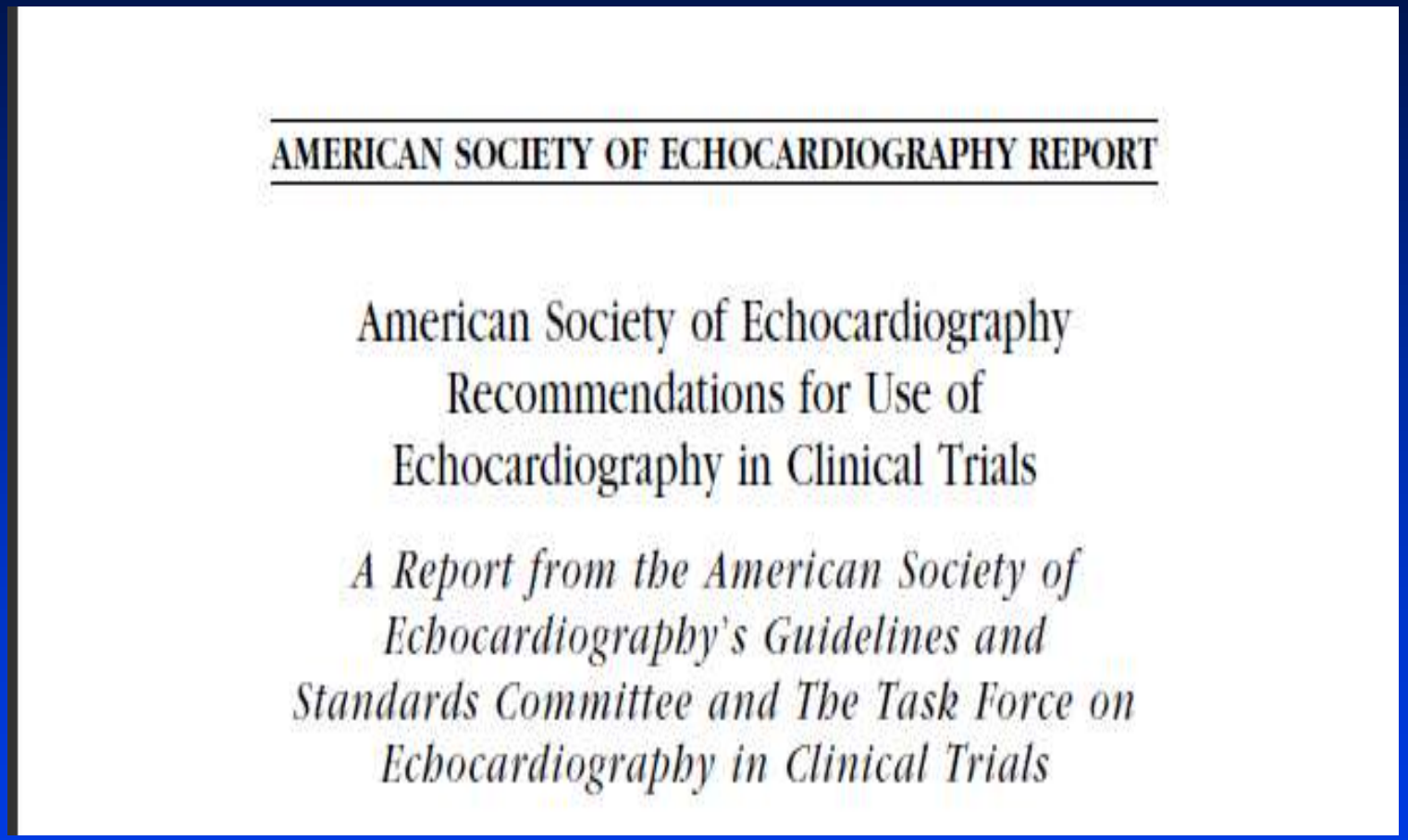
MedStar Health Research Institute

ASE Echo in Clinical Trials


AMERICAN SOCIETY OF ECHOCARDIOGRAPHY REPORT

American Society of Echocardiography
Recommendations for Use of
Echocardiography in Clinical Trials

A Report from the American Society of Echocardiography's Guidelines and Standards Committee and The Task Force on Echocardiography in Clinical Trials

JASE Oct 2004

Why Echo?

- non-invasive diagnostic tool
- Assess cardiac structure, function and hemodynamics
- Essential data on safety and efficacy of drugs and devices
- Assess enrollment eligibility

Application of Echo

- Prosthetic valves

  – assess valve hemodynamics

- Myocardial infarction and CAD

  - assess disease impact on LV remodeling and function

- Heart failure

  - Assess LV systolic and diastolic function, LV remodeling; assess treatment effects

- Hypertension

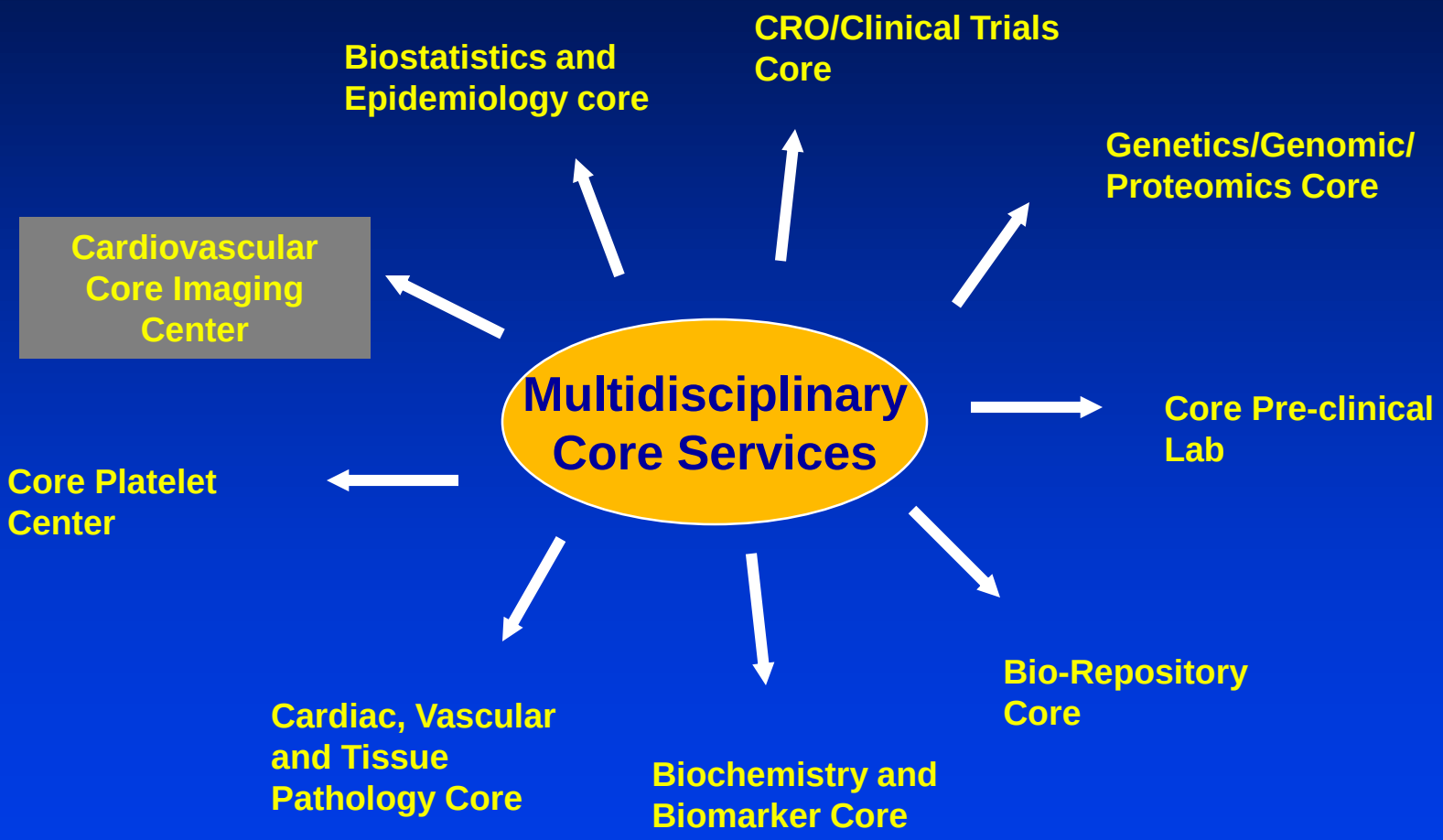
  - assess effects of treatment on cardiac structure and function

Recommendation for use of echo in clinical trial:

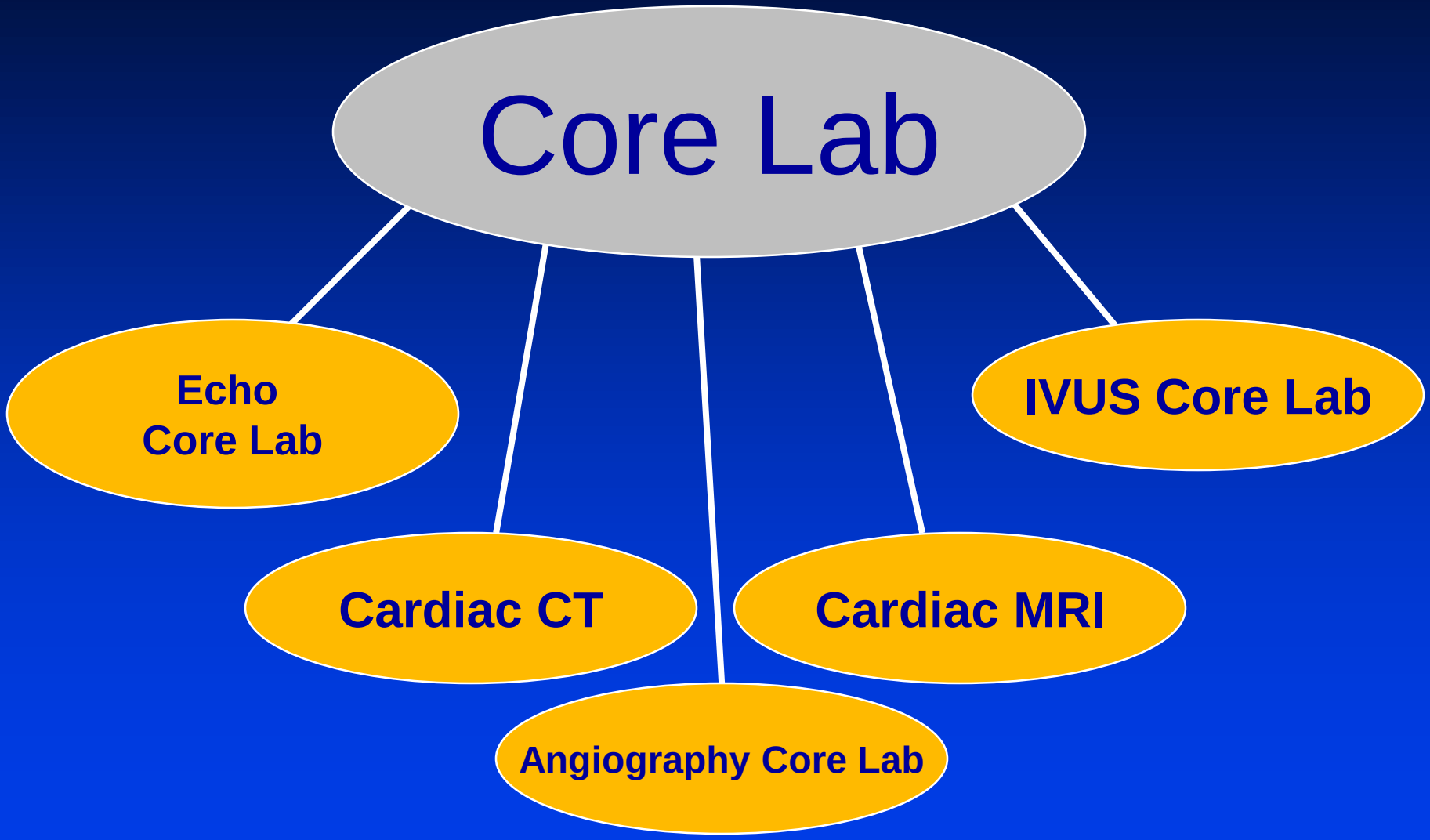
- Use of central reading/core lab

What is a core lab?

Multidisciplinary Core Facility



Cardiovascular Core Laboratories



Why a Core Lab?

- Reduces variability in interpretations
- Use of limited number experienced observers
- Standardization of training and acquisition
- Monitor of image quality

Goals

- To provide central reading/analysis for images generated at enrolling centers
- To standardize variables to be analyzed
- To standardize the way these variables will be analyzed
- To generate a database of high quality that can be integrated to the clinical data.

Responsibilities and Organization

Core Lab Requirements for Single Study

- **Clinical study protocol**
- **Echo Core Lab SOP (study specific procedures)**
- **Laboratory QPM**
- **Equipment logs, inventory and maintenance**
- **Personal records (training logs and certifications)**
- **Institutional Policies and Procedures**

What Is an SOP?

Study-specific Manual of Operations

- Responsibilities of the research team
- Site Visit
-Training
    - Image acquisition protocol (Site manual)
- Image Analysis
  - completion of case report form
- Data management
  - tracking of images and forms
  - data checking and data transfer
- -Document control
- Audit

Research Team

- Director
- Associate Director
- Manager
- Project Leader or Technical Manager
- Interpreting sonographers
- Admin support staff

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Site Visit

- Feasibility of conducting the study
- Personnel resources
- Review processes
- Equipment

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Acquisition protocol

- Standardized acquisition protocol
  - ‘menu’ of echo views necessary
  - training – written material, training CD, webex, investigators’ meetings and/or on-site
- limit number of sonographers
- responsible physician must review
- perform validation / qualification echo

Reduction in Echo Variability

Echo quality, Echo quality and Echo quality!!!

- **Modern machine (within approx 5 years)**
- **Experienced sonographer**
- **MOTIVATED echocardiographer**

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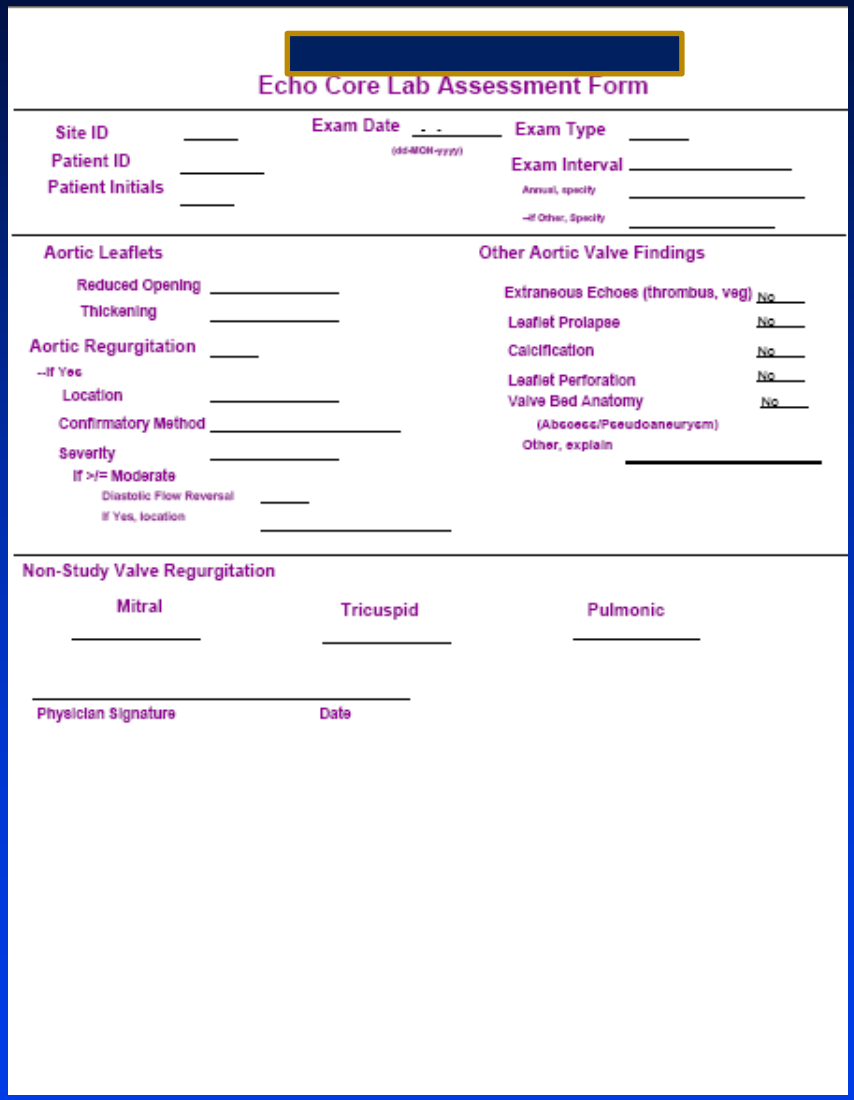
Image Analysis

- Steps for performing measurements
- Qualitative
  - categorical assessment
- Quantitative
  - method, formula

Electronic CRF

- Commercially available software
- Used to design CRF and maintain data
- Data exported in Microsoft Access format
- Fully CFR21 Part 11 compliant
- Audit trail reports available upon request



Echo Core Lab Assessment Form

Site ID _____
Patient ID _____
Patient Initials _____

Exam Date _____ (dd-MON-yyyy)
Exam Type _____
Exam Interval _____
Annual, specify _____
--If Other, Specify _____

Aortic Leaflets
Reduced Opening _____
Thickening _____
Aortic Regurgitation _____
--If Yes
Location _____
Confirmatory Method _____
Severity _____
If >/= Moderate
Diastolic Flow Reversal _____
If Yes, location _____

Other Aortic Valve Findings
Extraneous Echoes (thrombus, veg) No
Leaflet Prolapse No
Calcification No
Leaflet Perforation No
Valve Bed Anatomy No
(Abscess/Pseudoaneurysm)
Other, explain _____

Non-Study Valve Regurgitation
Mitral _____
Tricuspid _____
Pulmonic _____

_____
Physician Signature Date

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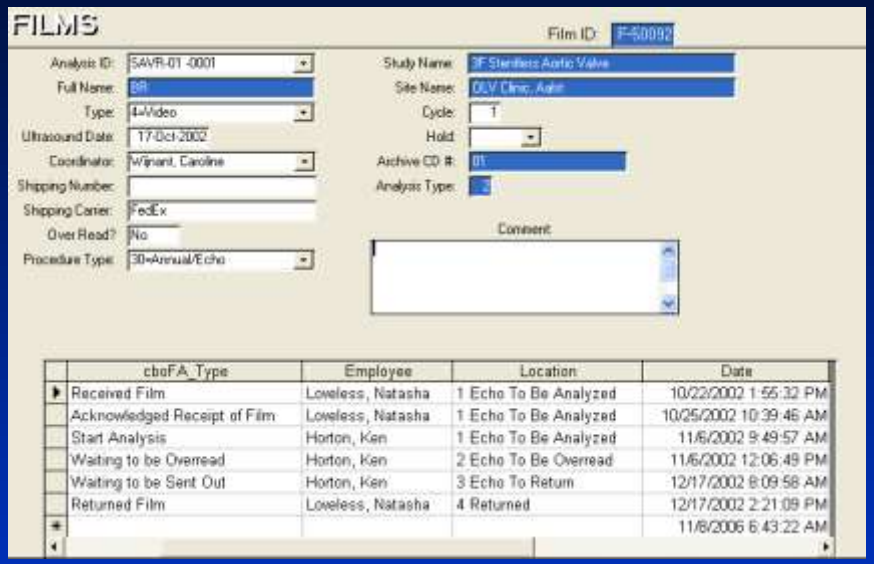
Data Management

- Verification of data entered
- Validation of formula
- Data transfer
- Record retention and archiving

Document Control



- **Core Lab Film Tracking Program**
  - **Microsoft Access database**
  - **Each step in workflow is scanned**
  - **Full query and reporting functionality**

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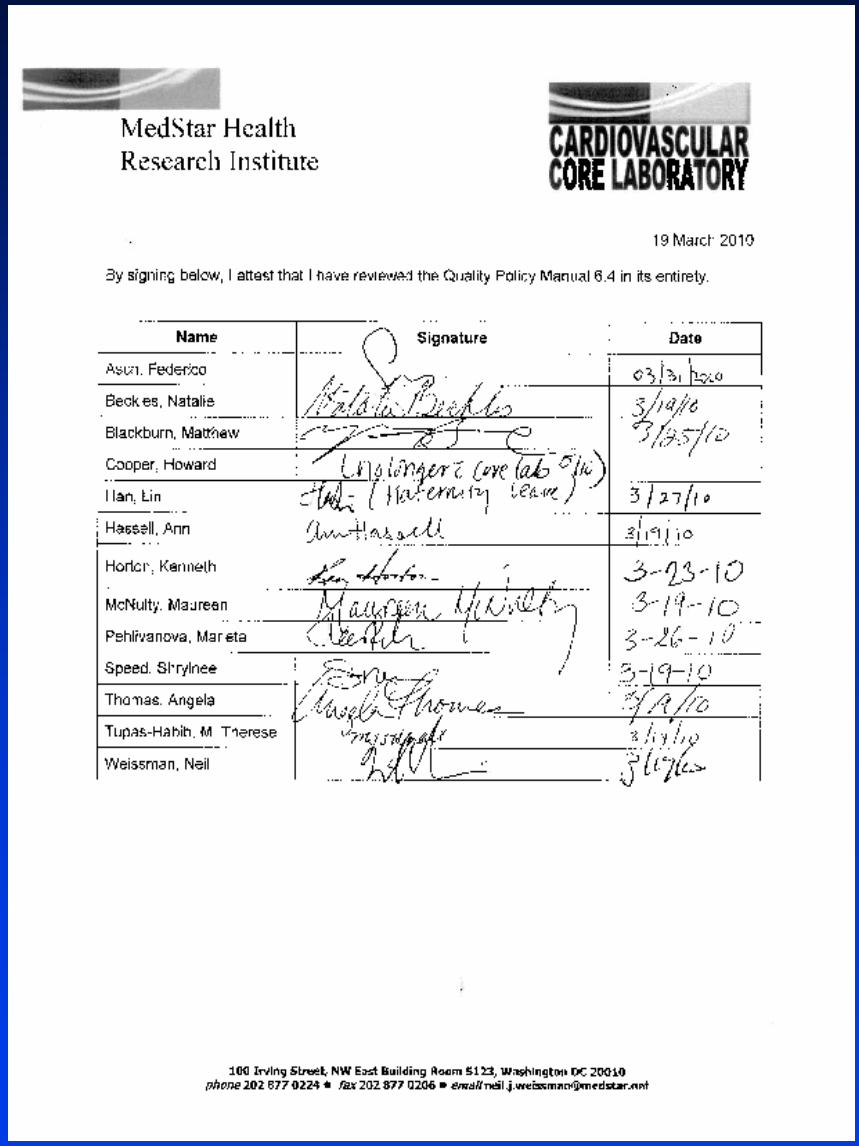
Quality Assurance

Core Lab Quality Assurance Program

- QA Program is outlined in the lab Quality Policy Manual
- Reviewed annually



MedStar Health
Research Institute

CARDIOVASCULAR CORE LABORATORY

19 March 2010

By signing below, I attest that I have reviewed the Quality Policy Manual 6.4 in its entirety.

Name	Signature	Date
Asch, Federico		03/31/2010
Beckes, Natalie	Natalie Beckes	3/19/10
Blackburn, Matthew		3/25/10
Cooper, Howard	No longer a core lab employee	
Han, Lin	(Maternity leave)	3/27/10
Hassell, Ann	Ann Hassell	3/19/10
Horton, Kenneth	Ken Horton	3-23-10
McNulty, Maureen	Maureen McNulty	3-19-10
Pehlivanova, Marieta		3-26-10
Speed, Shrylnee		3-19-10
Thomas, Angela	Angela Thomas	3/19/10
Tupas-Habib, M. Therese		3/19/10
Weissman, Neil		3/19/10

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Internal Auditing Procedures

- Procedures outlined in the Quality Policy Manual
- Each study is audited annually
  - Documentation
- Action Plan is developed for corrective and preventive actions (CAPA)
- Final report is sent to Core Lab Manager and Core Lab Directors
- Deficiencies addressed at weekly department meetings

Training
and
Continuing Medical Education

Staff Training

- Outlined in the Quality Policy Manual
- Completed by Core Lab Manager
- Covers all computers, Measurement & Analysis systems
- Requires Inter-observer Variability Studies
- Ongoing training requirements annually

American Society of Echocardiography

Heart and Circulation Ultrasound Specialists

Certificate of Attendance

The American Society of Echocardiography is accredited by the Accreditation Council for Continuing Medical Education to provide continuing medical education for physicians.

The American Society of Echocardiography certifies that

Kenneth D. Horton, RCS, RDCS, FASE

has participated in the educational activity titled

16th Annual ASE Scientific Sessions

at the Hynes Convention Center in Boston, Massachusetts on June 15-18, 2005. The activity was designated for 32 *AMA PRA Category 1 Credits™*.

Number of Hours Attended: 25.00

Andrea M. Van Hoever
CME Director

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Close out of trial

Data cleaning, analysis

Transfer to sponsor

Data interpretation

Results dissemination

Regulatory submission support

THANK YOU.