



Blood Operations Optimization Training Sessions (BOOTS)

BCA **RED BELT** Training Program

Session Outlines

Session #1: Orientation and Initiation – 5S/6S in the Blood Center

Thank you for Joining Us for BOOTS!

Introductions

Needs and Expectations

The **RED BELT** Training Program

Year One

Session #1 – 5S/6S in the Blood Center™

Session #2 – Tactical LEAN™

Session #3 – LEAN Enterprise™

Year Two

Session #4 – LEAN/Sigma and Strategic Performance Management™

Session #5 – Applied Statistical Methods in Today's Blood Center

Session #6 – Capstone Session/Exam Prep and the Six Sigma Black Belt Exam

The **RED BELT** Training Program's Goals and Objectives

The **RED BELT** Curriculum has been informed by each of the following LEAN and Six Sigma Bodies of Knowledge (BOK)

- The American Society for Quality (ASQ),
- The International Association for Six Sigma Certification (IASSC),
- The Shingo Prize Criteria
- and the Society of Manufacturing Engineers (SME) LEAN Body of Knowledge

Baselining for These Sessions

The Seven Classic Tools of Process Improvement

1. Checksheet
2. Histogram
3. Scatter Diagram
4. Pareto and CuSUM Diagram
5. Flow Chart
6. Cause and Effect Diagram (Fishbone Diagram)
7. Run Chart

The Seven New Tools of Process Improvement

1. Affinity Diagrams – KJ Matrix
2. Interrelationship Digraph
3. Structure Tree Diagram
4. Matrix Diagrams
5. Prioritization Matrices
6. Process Decision Program Chart (PDPC)
7. Affinity Network Diagram – PERT Charts

Our Starting Point™

- What Do We Do?
- How Do We Do It?
- Are We Doing It Right?
- What Needs To Be Improved?
- How Do We Improve It?
- Were We Successful?
- How Do We Sustain It?

Our Anchor Point™

- What is Quality?
- How do we Cause It?
- How Often Should We Expect It?
- How Do We Measure It?
- How Do We Improve It?
- How Do We Sustain It?

What is **MY** Role in All of This?

Understanding The Cost of Quality

- The COQ Worksheet™
- Non Value-Adding (NVA) Activity
- Determining the Cost of Quality in the Blood Center

How Do We Improve It?

- Corrective and Preventive Action (CAPA)
- Global 8D / Toyota A-3 Approach
- LEAN Kaizen Events™
- **PROGUIDE**'s 96-Hour LEAN Kaizen Events
- "RED BELT" Activities
- Process Reengineering (PRIDE™) Engagements
- Supply Chain Optimization and Performance Excellence (SCOPE™) Engagements

Our First Reference Point™ - 5S/6S as a Reference Point for Quality Improvement and Operational Excellence

5S/6S In The Blood Center

The 5S/6S Process

- SORT
- SET IN ORDER
- SHINE
- STANDARDIZE
- SUSTAIN
- SAFELY/SAFETY

An Aside – LEAN's Classic Wastes

The Roles of 5S/6S in Continuous Improvement and Operational Excellence

Putting All of this Together

Setting Up and Conducting a 5S/6S Project in **Your** Blood Center

Your Take Home Project

- Assess the State of 5S/6S in Your Blood Center
- Select an Area to Work In
- Conduct the Initial Assessment
- Record findings pictorially as well as on the assessment
- Develop and Deploy your Action Plan for 5S/6S improvements
- Record the impacts of your efforts
- Prepare to share during our next session together

Before We See Each Other Again

- Complete Your Session Assignment
- Discuss it on the BCA Web Board
- Anticipate A Call from **PROGUIDE**/BCA to Follow Up With You on Your project and Any issues You Are Facing
- Do Some Research
- Talk to Your Leaders About What You've Learned

Session #2: Tactical LEAN (KAIZEN Event Planning and Conduct)

What Do We Mean by “Tactical LEAN”?

LEAN’s History and Mythos

- Pharaoh, Emperor Qin and Large-Scale Project Planning and Management
- Eli Whitney, Henry Ford, and Thomas Edison
- Frederick Taylor, Frank and Lillian Gilbreth
- Chuck Sorenson and the B-24 Bomber
- Eiji Toyoda, Taiichi Ohno, Shigeo Shingo, Genichi Taguchi, and Soichiro Honda
- Ford Manufacturing, Willow Run, and Piggly Wiggly®

LEAN’s Progenitors and Thought Leaders

- Henry Ford – *Yesterday and Tomorrow*
- Taiichi Ohno and Shigeo Shingo – *The Toyota Production System (TPS)*
- Genichi Taguchi - *Design of Experiments*
- Masaaki Imai – *Gemba Kaizen*
- James Womack – *The Machine That Changed The World*
- John Costanza – *Demand Flow Technology*
- Michael George – *LEAN Six Sigma*

Key Concepts and Take-Aways

Going to Gemba

Gemba (Genba) Defined

- “Go – Look – See”
- The Gemba Walk
- Stepping Into The Ohno Circle
- Observations and Insights
- A Note on the Hawthorne Effect

Process Mapping and Analysis

- Direct Observation!
- The Sequence Discussion
- The Process Flow Diagram
- The Process Requirements Definition Worksheet™
- Three Wishes™
- Brown Paper Mapping and White Paper Planning
- A Note on Value Stream Mapping and New Technologies for Process Mapping and Analysis

The Process Requirements Definition Worksheet™

Process Mapping Our Hypothetical Enterprise

Working Through The Starting Point™ Questions

Mapping The Blood Center (Classic Flow Diagram)

Rethinking the Blood Center – SCOR® Modeling

Brown Papers and Dialogue Mapping

Observations and Insights

What Value does our Gemba Walk Generate?

How do we Maximize our Understanding of our Processes?

Revisiting Our Starting Point™ – **RED BELT** Perspectives

The Measurement Identification Worksheet™

Measurements and Measuring in the Blood Center

- Your Blood Center's Balanced Scorecard
- Business Key Performance Indicators
- Process Key and Critical Performance Indicators
- Process Requirements under Investigation
- Benchmarking Indicators

Our Coffee Shoppe Exercise

- What Should We Measure?
- How Should We Measure It?
- COQ Analysis
- Using Cost of Quality to Assess the Economic Consequences of Waste
- Our Coffee Shoppe Exercise and the The COQ Worksheet
- Defining Opportunities for Improvement

Priorities and Decision Making

- Priorities tied to your Balanced Scorecard
- Priorities tied to "Readiness for Change" and The Strategic Change Formula™
- Priorities tied to Return On Investment
- The Importance of Decision Making
- A Simple Decision Matrix
- The Schneiderman Matrix™

Observations and Insights

Just a Pause to Collect our Thoughts

How Do We Improve?

- Corrective and Preventive Action
- Root Cause Analysis and Corrective Action
- Process Re-Design
- Brown Paper Mapping – White Paper Planning
- Faking It Up
- Dry Runs – Wet Runs
- Implementation and Installation

PROGUIDE's 96-Hour LEAN Kaizen Events

'Let's Take a Side Trip'

- Root Cause Analysis and CAPA
- D0 / D1 – Planning and Team Creation
- D2 – Define and Describe the Problem
- D3 – Put in a “Quick Fix” to Contain It
- D4 – Identify and Verify Root Cause(s)
- D5 – Define, Describe and Confirm CAPA activity
- D6 / D7– Implement and Validate the CAPA Actions – Mistake Proof the Changes
- D8 - Celebrate

Planning and Team Creation

- WHY, HOW, WHAT
- Forming Storming Norming and Performing
- The Problem Statement
- The Team Charter
- Using A-3 to Track and Manage Progress

Mistake Proofing – Poka Yoke

Were We Successful?

- Project Measures
- Process Measures
- Key and Critical Performance Indicators
- Cost of Quality
- Morale, Social Improvements
- Other Intangibles

How Do We Sustain It?

- Installation vs. Implementation
- Measurement, Analysis and Improvement
- The Process Control Loop™

- Vigilance
- Recognition and Reward

Designing Self Sustaining Systems

Skills Development and Transfer

- Leadership Skills
- Communication Skills
- Problem Solving Skills
- Process Analysis and Improvement Skills
- Prevention vs. Appraisal
- IDPs and EDPs

Tactical LEAN

- Observations and Insights
- Your Tactical LEAN Project
- KAIZEN Modeling
- Keeping It On The RADAR®
- Help and Support

Session #3: Strategic LEAN

A Quick Review of Sessions #1 and #2

Opening Thoughts - The Difference Between Tactical and Strategic LEAN

Strategic LEAN in Context

Employee Engagement – Maister’s Model and The Merlin Factor

The **RED BELT**’s Role in Strategic LEAN

- Process Consultation
- Process Improvement Leadership
- Process Sustainment (Continuous and Dis-Continuous Improvement)

Revisiting Our Starting Point from a Strategic Perspective

Our Coffee Shoppe Enterprise

Working Through The Starting Point Questions

Mapping The Blood Center Classic Flow Diagram

Rethinking the Blood Center – SCOR® Modeling

The Process Requirements Definition Worksheet™

Prevention is the Focus of Strategic LEAN

- Prevention – Defined
- Prevention Phase One – Mistake Proofing or Poka Yoke (DFSS)
- Prevention Phase Two – Corrective and Preventive Action or CAPA (DMAIC)

An Exercise in CAPA and Strategic LEAN - Dealing with an AABB Observation

The System for CAUSING Quality is PREVENTION (Not Appraisal)

Co-Invention / Co-Creation

Revisiting Our Starting Point™

- DEFINE
- MEASURE
- ANALYSE
- IMPROVE
- IMPROVE / VERIFY
- CONTROL / SUSTAIN

Strategic Processes and Their Management

- Mission, Vision, and Core Values
- The 10 Principles™
- Your Balanced Scorecard and Strategy Maps
- Key, Core, and Critical Metrics
- Measurement, Analysis, and Improvement

Your Mission, Vision, and Core Values

Linking Them to Your KPIs and CPIs

A Modern Representation of Robert McNamara's MOSTAP Diagram

The Ten Principles™ of the Toyota Production System (TPS)

Your Balanced Scorecard and Strategy Map

Key, Core, and Critical Metrics

- Measuring What Matters
- Key and Critical Performance Indicators
- The Measurement Identification Worksheet™

An Exercise in Strategic LEAN - Planning for an Increase in Demand

The Role of Co-Invention/ Co-Creation in Strategic LEAN

Practice

The Strategic LEAN Process

- Define The Outcome of the Strategic LEAN Process
- Describe the AS-IS State and the desired TO-BE State of the Strategic LEAN target process(es)
- Characterize the GAP and Reiterate or Revise the Desired State
- Develop The Change(s) Required to Close the GAP
- Process Prove the Changed Process(es)
- Install The Change(s)
- Continuously Improve

Design For Six Sigma (DFSS)

- DEFINE
- MEASURE
- ANALYZE
- DEFINE / DESIGN / DEVELOP / DEPLOY
- VERIFY
- SUSTAIN

Customer-Based Engineering™ and The Newton Model™

Customer-Based Engineering™ and The Kano Model

Whitepaper Planning Techniques and Tools

Engagement, Co-Invention/Co-Creation and Practice

- Process Demonstrations
- The Law of Unintended Consequences

A Quick Exercise - Adding a New Refrigerator in the Distribution Department

A Summary Discussion of The Strategic LEAN Process™

Cost of Goods Sold / Cost Per Unit Distributed effective (CPUDe)

Cost Per Donor Recruited, Cost Per Unit Collected, Cost Per Unit Produced

Cost Per Unit Distributed, Cost Per Return

Cost of Quality / Economic Consequence Costs

Variation and “Six Sigma”

Shewhart’s Definition of S-P-C

Observations and Insights

Thoughts, Concerns, and Experiences That We Need to Address

Your Strategic LEAN Project

Closing Remarks

LEAN Six Sigma Body of Knowledge - A Discussion

Summary of Year One

You Aren’t in This Alone

Collect the Contact information of your Team Mates

Join the BCA **RED BELT** Web Board

Share What You’ve Done and What You’ve Learned

ASK FOR HELP!

PROGUIDE Will Be Following Up with You Too

Closing Remarks

END OF YEAR ONE

Session #4: Strategic Performance Management™

Achieving World-Class Performance with the Balanced Scorecard®, Executive Dashboards, and Performance Metrics

Welcome Back!

Strategic Performance Management – Seven Key Factors

- Market Analysis, Business Intent and Strategy
- Creation and Installation of Appropriate Process and Systems Architecture
- Alignment of Principles, Policies, Practices and People
- Effective Management of Assets (Time, Talent, Treasury)
- Open, Honest, Effective Communication
- Caring Not Caretaking
- Absolute Integrity - *Impeccability*

Our Session's Overview

- ✘ Part One – An Introduction to Strategic Performance Management and Its Focal Areas
- ✘ Part Two – Taking Responsibility for Strategic Performance Management ... Through Execution

An Introduction to Strategic Performance Management and Its Focal Areas

Strategic Performance Management - What Does This Have To Do With LEAN / Sigma?

Leading With Vision, Inspiration and Integrity

Why Is Leading So Important?

Engagement, Co-Invention /Co-Creation, Practice, and Strategic Performance Management

Engagement

Metrics and Measures - Assessing The Impact of Leading With Vision, Inspiration and Integrity

Warren Blank's Natural Laws of Leadership™

Observations and Insights

“There are Leaders and then there are ‘People Who Lead’ - Simon Sinek

Start With Why

Leveraging Your Organization's Vision, Mission, and Core Values

Creating Constancy of Purpose

Developing Managerial Maturity

Implementing Care-frontation™

Causing Responsibility and Accountability

Developing Managerial Maturity

Managing By Process, Facts and Information

Key, Core, and Critical Metrics

- Measuring What Matters
- Key and Critical Performance Indicators
- The Measurement Worksheet™

How Do You Measure Today?

The Process Control Loop™

An Exercise in Measuring Performance

- Let's focus our discussion on a specific set of measures – those that make up Cost of Goods Sold – or in Blood Center Parlance “Cost Per Unit Distributed – Effective (CPUDE)”
- Let's do a quick exercise
- “Platelets on the Shelf”
- Exercise Discussion and Take-Aways

Cost Modeling in the Blood Center

- Recruiting
- Collections – Fixed Site
- Collections – Mobile Site
- Processing Lab
- Testing and The Testing Laboratory
- QA / Batch Release / Labeling
- Distribution / Returns
- Inventory Management and Administration
- Imports / Exports
- Hospital Services
- Customer Relationship Management

Other Cost Centers and Costs

- QA/RA and the QCU
- Human Resources and Training
- Marketing and Public Relations
- Accounting
- IT and Communications
- Fleet and Facilities
- Volunteers

Determine the COGS of Each Product

Define Product Profitability and then Define your Profitable Product Mix

Are We Making Any Money?

Pareto Diagrams and Pareto's Law

Decision Making

Using ABC/M and COGS Data in Decision Making

Our Workshop Exercise

PROGUIDE's Evolving COGS Template

A Quick Discussion of CFPR™ and The Blood Industry

The Heart of COGS Reduction and Control

Succeeding Through People

Nurturing Creativity and Innovation

Building Partnerships

The Roles of People and Partnerships in SPM - The **RED BELT's** Role

Taking Responsibility for a Sustainable Future

How can Strategic Performance Management help us create a Sustainable Future?

What are the roles of the **RED BELT** in these efforts?

Achieving Balanced Results

Part Two

Taking Responsibility for Strategic Performance Management (Through Execution)

The Balanced Scorecard – A Primer

- Art Schneiderman and Analog Devices
- The Purpose of a Balanced Scorecard
- Constructing Your Balanced Scorecard
- Construction Fundamentals
- A Finished Scorecard
- Hoshin Planning and the Importance of “Catchball”
- Hoshin Planning Revisited
- “Catchball” and The Five Questions™
- The Scorecard in Excel® Form
- The Scorecard as a Strategy Map®
- Hoshin Kanri
- The Individual's Scorecard
- The Strategy Map®

Catchball – Engagement, Co-Invention / Co-Creation and Practice

What Value does the Balanced Scorecard Offer to your Strategic Performance Management Efforts?

Plan→Do→Review™

Don't include more than necessary!

Automated alerts for off-schedule situations enhances the experience

Sample Dashboard

Benefits of the BCA Dashboard

A Quick Summary of Our Session Together

Tools and Takeaways

Your Take-Away Exercise

Your 100-Day Action Plan

RADAR™ - Results, Approach, Deployment, Assessment, Review / Response

Session #5: *LEAN / Sigma* **RED BELT**

A Quick Review of The Process

The Fundamentals of Six Sigma® and **RED BELT** LEAN/Sigma

An Introduction to Statistical Methods

Revisiting our Starting Point - “Applied Statistical Methods” in your Blood Center

The BEAD BOX Exercise

Key Concepts and Take-Aways:

Opening Thoughts - “Applied Statistical Methods”

The Function of Six Sigma® in Your **RED BELT** Role

- Process Measurement
- Variance and Variation Identification and Categorization
- Process Improvement (Analysis and Management of Variation)

An Introduction to Six Sigma® And its Role in Bloodbank Process Improvement

Six Sigma® was Originally Envisioned as:

- A practical application of Statistical Tools and Methods to help us measure, analyze, and improve our processes
- A metric that demonstrates conformity levels at 99.9997% performance for products and their associated processes
- A philosophical commitment to offer highest conforming, lowest cost products
- A benchmark of our product and process ‘capability’ for comparison to ‘best in class’

Six Sigma® Was NOT Envisioned As:

- Just being about statistics
- A quality program
- Only for technical people (Green Belts and Black Belts)
- Used when the solution is known
- Used primarily for “firefighting” or strictly reactive problem solving

Six Sigma as a Metric

SPC and The Central Limit Theorem (CLT)

Six Sigma and the CLT – Shewhart’s Observation

The Role of Six Sigma® in Today’s Blood Center

A Comparison of Two Centers

Ours is a “Six Sigma” Center

Revisiting Our Starting Point™

Applied Statistical Methods™

Chart Types and Visual Communication

Construction and Interpretation of Control Charts

- Variables Charts (Typical)
- X and Moving Range (XmR)
- XBar and Range (XBar and R)
- XBar and Sigma or XBar and S

Attribute Charts (Typical)

- p Charts
- c Charts
- np Charts
- u Charts
- Special Use Charts
- Box and Whisker Charts

Control Charts and Data Types

The Chart Decision Flow Diagram - How Do I Choose Which Chart To Use?

Measure, Analyze and Report

- Measurement and Data Collection
- Collecting, Counting and Communicating
- Go Back to the Measurement Identification Worksheet™
- Communicating
 - ✘ Variable or Attribute
 - ✘ Sample Size and Stability
 - ✘ Nonconformances or Nonconformities

The Five Questions™

Measurement, Analysis and Improvement - What Is The Data Telling Us?

Stability, Predictability, Control, and Capability

Interpreting Control Charts - Simple Rules

A Real Example

“Capability”

A Capable Process is one which is Stable, Predictable, In Statistical Control – and demonstrated Capable of delivering on its Requirements - continually

Assessing Process Capability

The Cp and Cpk Process Indices and their Value in Measurement, Analysis and Improvement

Other Indices are used in industry – but let's focus on these for now

Process Cp and Cpk Visualized

So Where Do We Go From Here?

Act on The Information

Closing The Loop™

An open Discussion on the Roles of the **RED BELT** in Today's Blood Centers

Session #6: Black Belt Examination Preparation Week

Study Hard!

END OF RED BELT PROGRAM