Healthcare Performance Improvement

www.marekssturek.com | @marekssturek | marekssturek.github.io

Marek Šturek

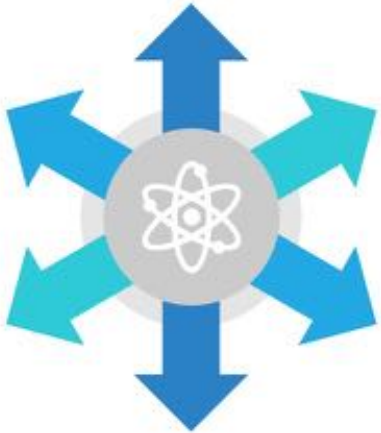
Agenda

- My journey into healthcare
- A brief overview of my healthcare work
- Connection b/w mind & heart, body & soul
- Some practical examples
- What can I do today

Crossroad

Spojená škola Tvrdošín

"Neučíme sa pre školu, ale pre život."



Timeline

YKHC

Bethel, Alaska

HNsP Trstená

Trstená, Slovakia

UPOL

Olomouc, Czechia

2007 — 2014 — 2015 — 2019 — 2020 — 2021

Medtronic

Fort Worth, Texas

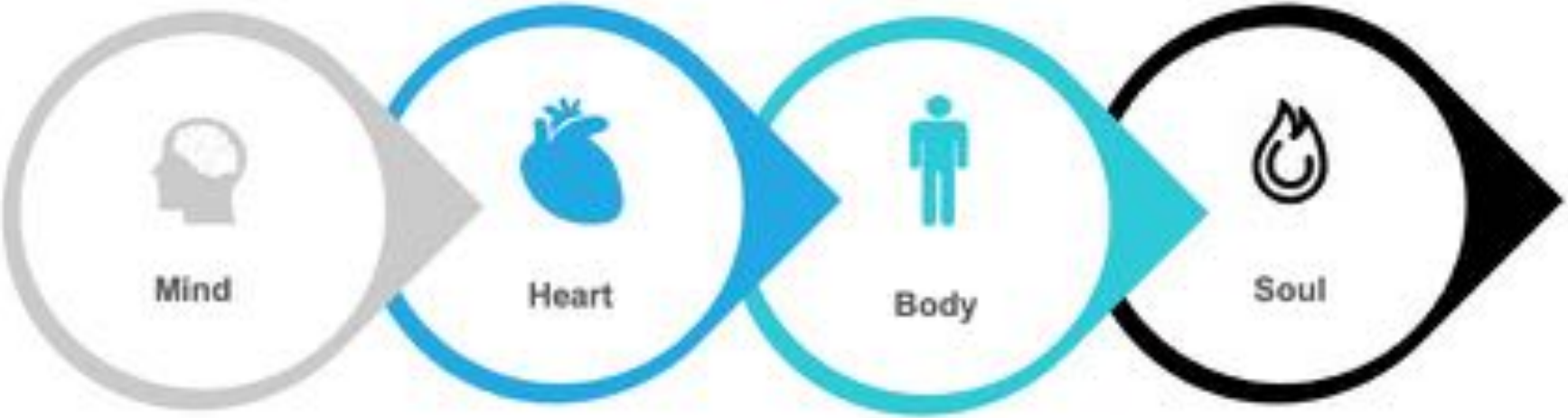
YVFWC

Yakima, Washington

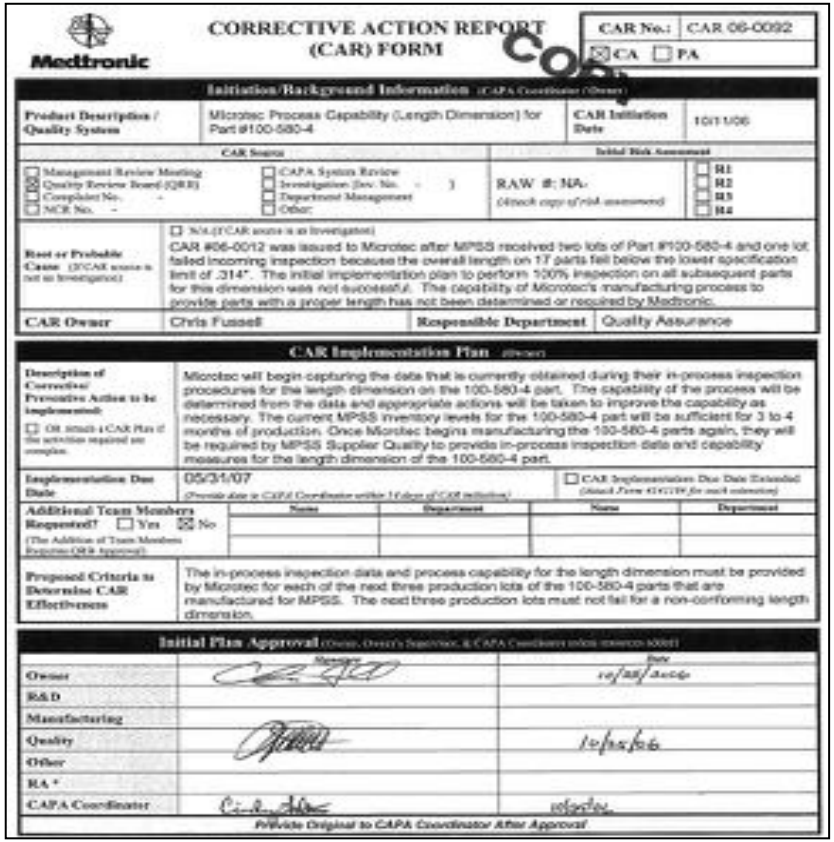
SWHR

Dallas, Texas

Holistic Approach



Reactive work assignments | 1/2



Reactive work assignments | 2/2

Project Charter Date: 31-January-2011 | **Project Name/QTRAK Number:** LSPR00020375

Problem Statement

Diamond coating yields at diamond coater, Di-Coat Corp., are below 96% causing shortages, affecting MPSS' ability to meet customer demands

Project Y

Production yield (PY>97%)

Path Y's (If needed)

Rolled Throughput Yield

Project Goal

Increase diamond coating yields at Di-Coat Corp. to greater than 97 % by August 2011

Scope

Scope includes: Diamond coating process through receiving inspection at Medtronic

Scope excludes: Transit, stem material, Medtronic packaging

Do not harm: Dimension of the product, durability of diamond coating

Resources

Project Team
- Julie Mouzakis
- Richard Castellanos
- Glenn Nolley
- Marek Sturek

Support Team:
- Kristin Hughes (MBB)
- Ross Smith (PO, SSBB)

Stakeholders:
- Tony Knight (CH)
- Dan Robinson (VSM)
- Dan Cleary (F)
- Humacao PR (C.S)
- Di-Coat Corp. (S)

Business Impact and Benefits

Schedule:
- Project start date: January, 2011
- Estimated project completion date: August, 2011
- Estimated date when benefits will begin: June, 2011

Benefits:
Hard savings: Estimated MPSS's scrap cost of $41K, Di-Coat's cost $31K. NCR scrap cost of $5K.
Soft savings: Reduce non-conformances, reduce rework
Other benefits: Strengthen partnership, Documented process controls

LEAN SIGMA SOLUTIONS™ -

Lean Six Sigma Di-Coat Corp. Production Project

		January-May 2011 (Prior Improve Phase)		June - August 2011 (Current State)	
I. NCR Reduction	1	Quantity (No.)	Cost ($)	Quantity (No.)	Cost ($)
		4	3405	0	0
II. Scrap Reduction	2	January-May 2011 (Prior Improve Phase)		June - August 2011 (Current State)	
		Quantity (pcs)	Average Scrap (%)	Quantity (pcs)	Average Scrap (%)
		1868	4.684	1305	2.887%
III. Component Quantity	3	January-May 2011 (Prior Improve Phase)		June - August 2011 (Current State)	
		Quantity (pcs)	Average monthly receipts (pcs)	Quantity (pcs)	Average monthly receipts (pcs)
		49327	9865	61204	20428
IV. Savings	4	Di-Coat Corp. Savings		Medtronic Inc. Saving	
		400 pcs X $6 > $2400 per month		400 pcs X $10 > $4000 per month	
V. Other	5	-		-	
> MPSS Inspection time	5	Receiving inspection for curve burn the same		Receiving inspection for curve burn improved (Ultrasonic cleaning process removed)	
> Di-Coat Corp. Rework process	6	AVG Feb-May 2011 (Overplated, Sparse) 3.08%		AVG June-August 2011 (Overplated, Sparse) 2.47%	
> Inspection method variation	7	No visual methods of inspection established between MPSS & Di-Coat		Visual methods of inspection established & aligned	
> Di-Coat Corp. Operational & process metrics	8	Operational & process metrics the same		Weekly meetings / Data collection / Data analysis established	
What's next?		Complete drawing revisions	Drive excellence to improve Cp, 4Q	Continue focus on XCOMED curve burn	Complete transfer to Plant No. 3

Proactive work assignments | 1/2

Medtronic
MIDAS REX

RISK ANALYSIS WORKSHEET

RISK ANALYSIS TRACKING NO: RAW07-0013 Rev.NEW
NCR / COMPLAINT / OTHER: 07-0178

INITIATOR: JAMES ELLSWORTH 2-22-07 DATE INITIATED: 2/8/07

Primary Event Description: (include how the event was discovered and the facts surrounding the event.)
Operator did not follow work instructions 4093800-13. 1. O-Ring was not coated with Midas Rex Lubricant prior to installation. 2. Also, step 4 of work instruction, inserting collet housing into compression nut was performed in the middle of step 3 before inserting collet carrier into collet housing.

Primary Event Source: (select one)
☑ Internal Source ☐ External Source

Failure Effects:	☐ See Attached 1. O-Ring could become damaged during installation. 2. No failure effect is associated to this particular sequence.
Potential Clinical Effects:	☐ See Attached There is no clinical effect in either situation 1 or 2. The risk is completely transparent to the doctor and patient.
Potential Event Cause(s):	☐ See Attached Operator error - not following work instructions.

SEVERITY ☐ 4-Critical ☐ 3-Major ☐ 2-Minor ☑ 1-Negligible	Rationale: 1. The purpose of the O-Ring on the collet carrier is to minimize vibration. Even if the O-Ring is cut, it will still serve its purpose. There is no risk to the doctor or patient. 2. Inserting the collet housing into the compression nut prior to inserting collet carrier into collet housing has NO effect on the collet performance. Neither step is dependent on the other being performed in sequence.
FREQUENCY ☐ 4-Frequent ☑ 3-Occasional ☐ 2-Remote ☐ 1-Impossible	Rationale: Work instructions are provided for operator at every work station, but human error is occasional.
DETECTABILITY ☑ 3-Not Detectable ☐ 2-May be Detectable ☐ 1-Readily Detectable	Rationale: 1. If the O-Ring is cut, it may not be detectable to the operator. 2. Performing assembly steps out of order would not be detectable unless found during an audit.

Calculate RPN

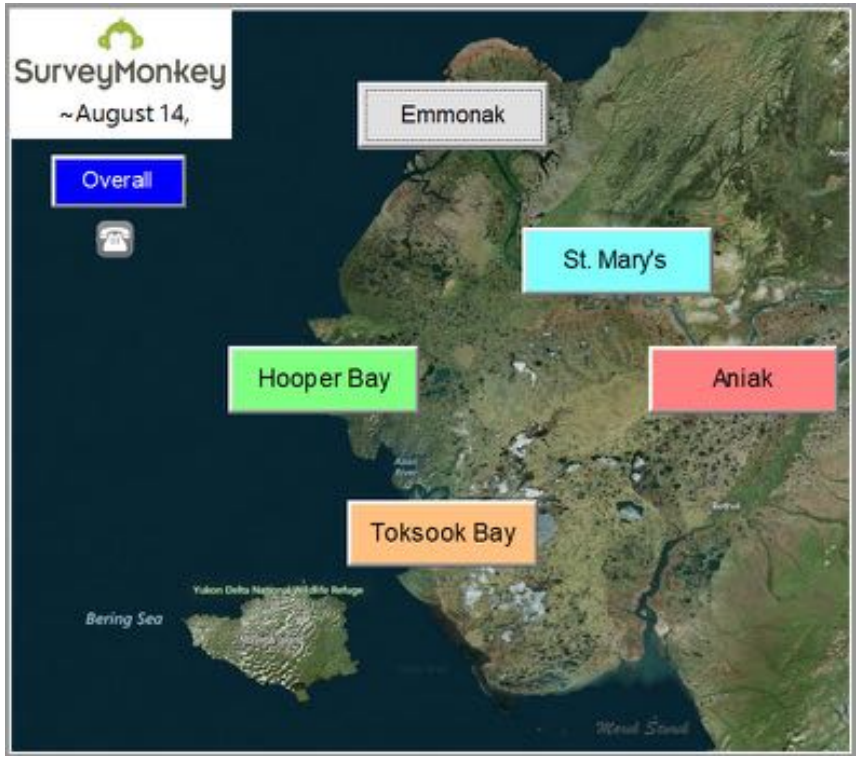
Severity X Frequency X Detectability = RPN
1 X 3 X 3 = 9

☐	≥ 24	R1	Intolerable Risk; must be mitigated
☐	12-23	R2	Unacceptable risk; must be mitigated per Table 4
☑	5-11	R3	Marginally acceptable; may require mitigation
☐	1-4	R4	Acceptable; mitigation not required

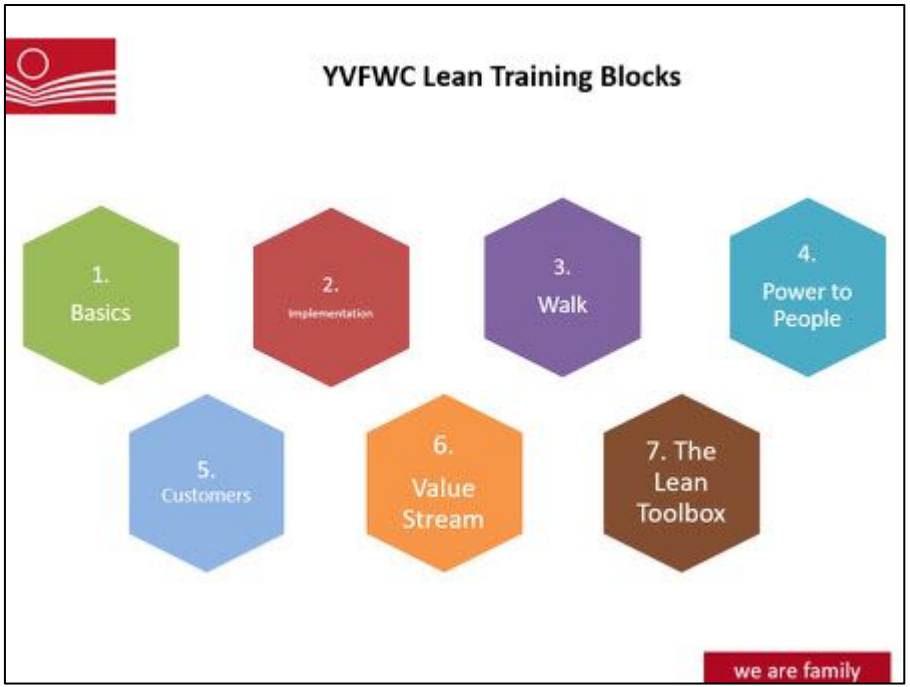
Approved By: (External Sources require Regulatory and Product Engineering Signatures; Internal Sources require Quality Engineering, Manufacturing Engineering, all product labeling and potential field impact requires Regulatory signature)

Department	Signature	Date
☒ Quality Engineering	Jamie Todd	2-22-07
☒ Manufacturing Engineering	James Ellsworth	2-22-07
☐ Regulatory		
☐ Product Engineer (R&D)		

Proactive work assignments | 2/2



Preventive work assignments | 1/2



Preventive work assignments | 2/2

Task	Job	Standard Work	Department	Date
A1	Acute Patient	YMDC Reception	Quality	12/04/2017

Task Elements Owner: Front Office Supervisor

	Description	☒ If Critical	Key Points	Visual Cue(s)
1.	Greet the patient	☒	Ask for D.O.B. First and Last Name. Introduce yourself. Let patient know who they are seeing and what time is appointment.	
2.	Demographics	☒		

HFMEA Subprocess Step Title and Number

HFMEA Step 4 - Hazard Analysis									HFMEA Step 5 - Identify Actions and Outcomes			
Failure Mode: First evaluate failure mode before determining potential causes	Potential Causes		Scoring: Severity	Scoring: Probability	Scoring: Haz Score	Decision Tree Analysis: Single Point Weakness?	Decision Tree Analysis: Existing Control Measure ?	Decision Tree Analysis: Detectability	Decision Tree Analysis: Proceed?	Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Comments
Bed availability (Inpatient 3 beds, ER 2 beds)	→		Major	Frequent	12	N	N	N	Y					
	1	Gender, Age in same room	Moderate	Frequent	8	Y	N	N	Y	N/A	State and Joint Commition regulations			
	2	Hight volume of patient	Moderate	Frequent	8	N	N	N	Y	Control	Review staffing plan for North Wing and ER in order to establish more effective patient service	Effective patient service measured by Patient Satisfaction, Decreased length of stay	[illegible]	Standard Play
	3	Staffing	Moderate	Frequent	8	N	N	N	Y	Control	> Create guidelines for admission > Review staffing plan on North Wing > Training status			
	4	Lack of guards	Minor	Occasional	3	N	N	N	N	Accept				
	5	Intoxication (High acquity)	Major	Frequent	12	N	N	N	Y	Accept				
	6	Insufficient # of room	Major	Frequent	12	N	N	N	Y	Control				
	7	Mechanical issue	Moderate	Uncommon	4	N	N	N	Y	Control				
	8	Standardization	Moderate	Occasional	6	N	N	N	Y	Control				
	9	Waiting Judge, API Response, BH clinical	Moderate	Frequent	8	N	N	N	Y	Accept				

Today not tomorrow

8 steps
according to
JOHN KOTTER

- Urgency of change
- Coalition supporting change
- Clear vision
- Communication of vision
- Stronger employee engagement
- Short wins
- Support of next change
- Hardwiring change

Thank you & Questions