



Incremental Improvements Make a Compelling Case

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Lean Six Sigma Lead
&
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Production Manager

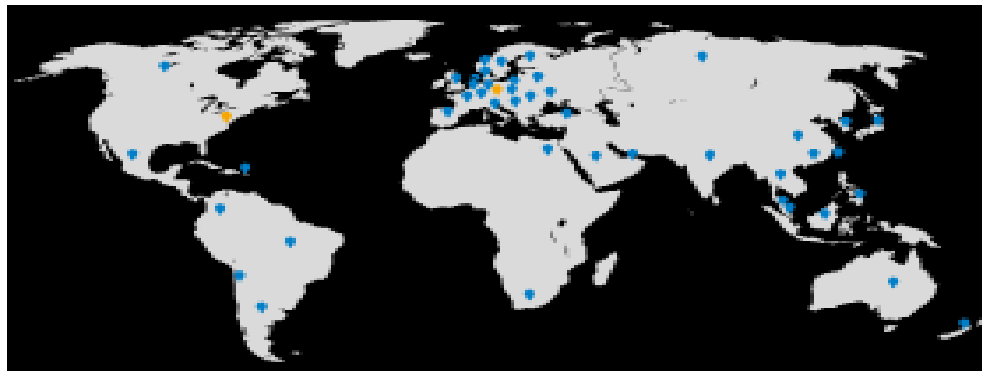
Dentsply Sirona Inc.





History of Dentsply Sirona

- 1877: LD Caulk Company formed
- 1899: Dental Supply Company formed
- 1961: Dental Supply Company renamed Dentsply Ltd.; LD Caulk purchased in 1963
- 2016: Dentsply merged with Sirona to become Dentsply Sirona
- 2018: \$4B in sales; 16,000 employees globally





Our Lean Six Sigma Journey

- 2008: Lean Leadership Training
 - House of Quality and LSS
 - Yellow Belt
 - BSC
- 2010: CI Team established
 - Green Belt training
- 2013: Lean leaders moved to different roles at other facilities
- 2017: Lean Six Sigma revitalized



Learning to Surf

- 2017: 7 attended AME
 - 3 associates enthusiastically embraced Paul Akers' "Lean is simple, lean is fun" symposium





Learning to Surf

The Key Players

- Kyle Brown: Manufacturing Excellence Coordinator
- Jen Mohr: Department Manager





Learning to Surf

- Cross-functional groups trained on 8 Wastes, Single Piece Flow and 2 Second Lean concepts





Learning to Surf

- Two hour training rolled out to operators





Learning to Surf

THE 8 WASTES

DEFFECTS

OVER-PRODUCTION

WAITING

NON-UTILIZED SKILLS

TRANSPORTATION

INVENTORY

MOTION

EXTRA-PROCESSING



DEFECTS

Efforts caused by rework, scrap, poor equipment upkeep and repair



TRANSPORTATION

Unnecessary movements of products and materials



OVER-PRODUCTION

Production that is more than needed or before it is needed.



INVENTORY

Excess products and materials not being processed.



WAITING

Wasted time waiting for the next step in a process



MOTION

Unnecessary movements by people (e.g. Walking)



NON-UTILIZED SKILLS

Underutilizing people's talents, skills and knowledge



EXTRA-PROCESSING

More work or higher quality than is required by the customer



Riding the Wave

- Kyle & Jen spent hours on manufacturing floor
 - Highlighting: “just because it was always done that way doesn’t mean it has to be that way”

....so what happened?



Wipeout.....



Suggestions trickled in by word of mouth
Ideas were difficult to track



Planning for the Next Wave

- Team regrouped to discuss failures
 - A better plan was needed for communicating ideas/suggestions
 - Quick Fix card with tracking sheet developed



Planning for the Next Wave



Quick Fix Card

**(8 Wastes) Circle all
That Apply**

D efects
O ver Production
W aiting
N on Utilized Tallent
T ransportation
I nventory
M otion
E xcess Processing

**(Criteria for Fixes)
Circle all That Apply**

Safety Quality Simplicity Speed

Fix :

Department:

DATE:

Associate:

Shift 1st, 2nd Or 3rd Completed by Associate Y/N

Submit card to your Unit Lead.



Catching the Wave

Month	Shift	Name	Fix Idea	Implemented Y/N/Can't	Defects	Over Production	Waiting	Non Utilized Talent	Transportation	Inventory	Motion	Excess Processing	Safety	Quality	Simplicity	Speed	8 Wastes Eliminated	Criteria Meet	Comments Current status
May	1st	Fentress Fields	Have a red belt print OEE sheets when they are doing the paperwork	Yes			1								1	1	1	2	Agreed Mat handler will do it for side jobs
May	1st	Fentress Fields	Have red belt perform 3rd check before the end of the shift	Yes			1								1	1	1	2	Set up meeting with Brendette, Marilyn
May	1st	Sharon Lord	Computer and Printer needed in filling to print out the OEE sheets	Yes			1								1	1	1	2	See # 1 don't need to do with inline packing off machines
May	1st	Fentress Fields	Create a Container with all the spare parts in it for the digit. (required tools, and materials needed for Change overs)	Yes	1		1				1				1	1	3	2	Complete



Catching the Wave

- Daily meetings held with a focus on eliminating waste
- Visual standard posted in the department
- In the 1st month over **90** Quick Fix entries were submitted

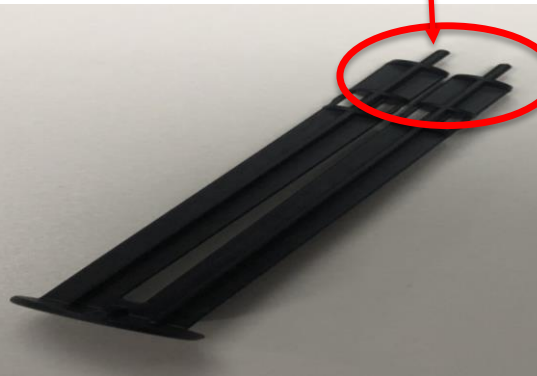


Catching the Wave

Quick fix Identified

- Manual, non-ergonomic means of breaking tips off plungers
- 350,000 syringes per year

Department	Month	Shift	Name	Fix Idea	Defects	Over Production	Waiting	Non Utilized Talent	Transportation	Inventory	Motion	Excess Processing	Safety	Quality	Simplicity	Speed
Rest Filling	April	1st	Dan Wheeler	Need Sasfac parts (pistons in syr/tips broken off plungers) made before we receive them. To reduce labor hours and downtime.				1		1	1	1		1	1	1





Catching the Wave

Old Process





Catching the Wave

Quick fix brainstorming ideas

- Purchase plunger without tips
 - Would have increased overall cost by **90K** per year
- Build semi-automated equipment to break the tips off; asked associates to assist in the design.
 - Final cost: \$400





Catching the Wave

New Process

The process is SAFER, MORE efficient and the associates love the “Chopper” as they affectionately named it.







Going for a New Wave

- Trained 4 additional departments
 - Packaging
 - Filling
 - Quality/Regulatory
 - Quality Control
- To date, over 140 associates have gone through the training



Riding the Wave of Excellence

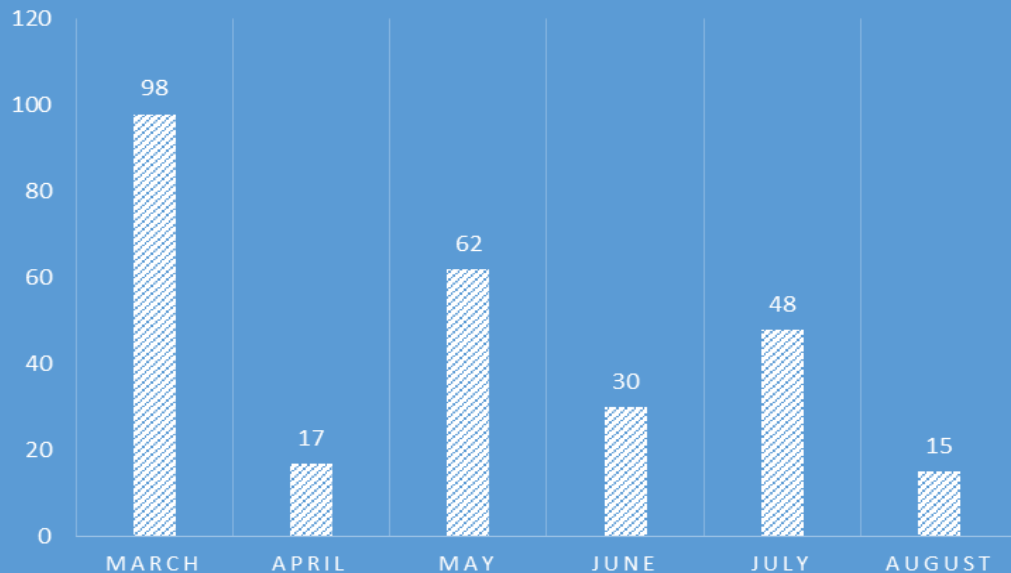
8 Wastes Eliminated	Column 					Total
		No	Yes	Pending Action	Can't	
Rest Filling		186	104	0	2	292
Polyvinyl Fill/Pack		5	46	45	0	96
Rest Packing		2	16	22	0	40
West Lab/On-line		17	5	0	0	22
Quality/Regulatory		5	4	1	0	10
Main Labs		0	8	0	0	8
Main On-line		0	1	0	0	1
Total		215	184	68	2	469





Riding the Wave of Excellence

QUICK FIX ENTRIES BY MONTH





Riding the Wave of Excellence

Quick Fix Savings

- >275 miles
- >210 hours
- >\$6K





Riding the Wave of Excellence

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Creating the Wave of Excellence

Key Takeaways

- Choose your most enthusiastic and open-minded associates to lead the project
- Go for incremental improvements
- Keep it simple, start small, run a pilot
 - Don't be afraid of a wipeout; regroup and figure out how to improve
- Empower and encourage your associates; provide feedback on suggestions



Creating the Wave of Excellence

Future Steps

Training	Basic Lean	Yellow Belt	Green Belt/Project Management	Product/Process
Who	Operations	QA/RA/QC; operations	Engineering, R&D	Operators/Unit Leads/Area Managers
Project Type	Simple, informal (just do it)	Lean oriented, formal project, use “soft” tools	Project follows DMAIC format	Dental training by clinician; DMAIC for products/processes; videotape of key operations to be used as training
Prerequisites	Engaged	Engaged, complete Basic Lean	Engaged, understand basic statistics	Engaged, Green Belt



Thank You!

Your opinion is important to us!

Please take a moment to complete the survey using the conference mobile app.

Session No: TS/10

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a compelling case**

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