Follow the Learner
The Role of a Leader in Creating a Lean Culture

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Author, Follow the Learner
Founder, Bahri Dental Group
Jacksonville, Florida

A free webinar presented by the Lean Enterprise Institute
Dr. Sami Bahri DDS
Founder, Bahri Dental Group
Jacksonville, Florida

Dr. Sami Bahri DDS, runs a Jacksonville, FL, private dental practice that includes three general dentists, one orthodontist, 10 chairs for general dentistry, and seven chairs for orthodontics.

Dr. Bahri has been exploring and applying lean to his dental practice for over 15 years. In 2007, he presented his work as a keynote speaker at the Shingo Prize Conference where he was recognized as the “World's First Lean Dentist.” He lectures nationally and internationally on implementing lean management in dentistry. Dr. Bahri is the author of the upcoming book, *Follow the Learner: The Role of a Leader in Creating a Lean Culture* (2009), published by the Lean Enterprise Institute, Inc.
Webinar “Housekeeping” Tips

Use the volume controls on your computer to adjust sound.

Enlarge slides with the console button beneath them.

Use the "ask a question" button on the left side to submit questions.
Why Change at All?

The first job of a lean leader: Understand and believe that lean principles directly address core business problems.

• Without this there is no business case for lean.
• Without a business case, there is no compelling reason for a leader (and the organization) to change.
Problems with the Old System

- Uneven work load
- Relying on one front office person
- Excessive load on the front office
- Personal problems halt office work
- Mistakes when passing information
What Type of Change?

The second job of a lean leader: Determine the nature of the change

• Scope
• Direction
Why Change Radically?

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The BIG Question

Is one-piece/patient flow achievable?
How to Change?

The third job of a lean leader: Balance the technical and social dimensions of lean
The Technical Dimension

How did we pursue one-piece/patient flow?
Application in Dentistry

One-Piece Flow

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Application in Dentistry
Application in Dentistry

All in One Visit

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Leveling, Synchronization, One-Piece Flow, Smaller Lot Size

Lead Time

500 Times!

SMED

Treat to Demand

Shingo
Pgs. 37, 101

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Defining Leveling

Balancing Load and Capacity

Distributing Procedures:

• According to Takt time
• Throughout the schedule

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Defining “Flow” in Dentistry

- One appointment - all providers
- Continuous treatment
- No gaps between providers
Defining: One-Piece Flow – One Lot

- Procedure (Root Canal?)
- Tooth = One Piece
- Quadrant?
- Arch?
- Side?
- Mouth = One Lot
Ohno: Shortening Lead Time

First Call

One-visit Treatment

Order

Health

Lead Time

Cash

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Implementing Flow

1. Grouping Activities by Complexity and Predictability
2. Switching to Flow Scheduling
3. Crossing Functional Barriers
Flow: 1 – Grouping Activities

Grouping treatments in separate categories based upon their *degree of difficulty* (simple vs. complex), and their *cycle time* (stable/predictable vs. unstable/unpredictable) allowed us to create a consistent scheduling approach.

1. **Simple and stable**: Treated on the exam day

2. **Complex and stable**: Might need one additional visit

3. **Complex and unstable**: Unpredictable, but we try to condense treatment in as few visits as possible.
### Flow: 2 – Batch Scheduling - Focused on Provider Efficiency

<table>
<thead>
<tr>
<th>Dentist 1</th>
<th>Dentist 1</th>
<th>Dentist 1</th>
<th>Hygienist 1</th>
<th>Hygienist 2</th>
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</thead>
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<tr>
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<td>Chair 3</td>
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</tbody>
</table>

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Flow: 2 – Flow Scheduling - Focused on Patient Need

<table>
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<tr>
<th>Chair 1</th>
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<th>Chair 3</th>
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Flow: 3 – Crossing Functional Boundaries

1. Hygienist treating the dentist’s patients
2. Dentist treating the hygienist’s patients
3. All chairs becoming common to both: “Patient Chairs”
Defining Synchronization

1. Scheduling: Precise and Flexible
2. Pulling JIT Services: No breaks in treatment
Synchronization: 1 – Schedule Control

1. Yearly Template: **Leveling**
   *Takt time from last year’s data*

2. Biweekly Schedule: **Precision**
   *Providers adjust their own schedules*

3. Daily Schedule: **Flexibility**
   *Flow Managers and Providers adjust to short notice changes*
Synchronization: 2 – JIT Service

1. Patient care flow manager
2. Kanban
1 – Patient Care Flow Manager

- Supervises the flow of treatment
- Secures JIT service for the next step through a “Service Kanban”
- Enters the line when needed
- Continually eliminates waste
2 – Kanban

Directing Providers towards

“Value Added Work”

Away from

“Waste”

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Lean Thinking: Results

“In short, lean thinking is lean because it provides a way to do more with less:

• less human effort
• less time
• less equipment
• less space

while coming closer and closer to providing customers with exactly what they want.”

Source: ”Lean Thinking”
Lead Time Reduction

Number of Visits for a Full Mouth Treatment

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of Visits</th>
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<tbody>
<tr>
<td>2004</td>
<td>7</td>
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<tr>
<td>2005</td>
<td>4</td>
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<tr>
<td>2006</td>
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Lead Time Reduction

Number of Days for a Full Mouth Treatment

<table>
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</thead>
<tbody>
<tr>
<td>2004</td>
<td>203</td>
</tr>
<tr>
<td>2005</td>
<td>99</td>
</tr>
<tr>
<td>2006</td>
<td>38</td>
</tr>
</tbody>
</table>

81% reduction in lead time from 2004 to 2006.

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Survey Questions

100% Prompt Scheduling
96% One-Visit Treatment
98% Questions Addressed Completely
98% Would Refer Friends

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Our Service Ratings

- Excellent: 89%
- Good: 11%
- Average: 0%
- Poor: 0%
Doing More (with less): 2006 vs. 2005

Production Per Visit Increase

Dr 1: 18%
Dr 2: 29%
Dr 3: 35%
Less Human Effort

![Bar chart showing the reduction in human effort for Dentists, Hygienists, and Assistants from 2005 to 2006. The chart indicates a decrease in the number of individuals in each category: Dentists from 3 to 2, Hygienists from 3 to 2, and Assistants from 5 to 3.](chart)
Less Time

Number of patient visits for the same amount of work

- 2005: 7,519
- 2006: 5,723
- Difference: 1,796

24% decrease in patient visits from 2005 to 2006.
Saved in One Year

1. Making appointment
2. Confirming appointment
3. Typing notes in computer
4. Receiving patient
5. Preparing the room
6. Walking patient out
7. Cleaning and sterilizing instruments
8. Collecting fees
9. Explaining treatment
10. Double checking treatment plan
11. Writing kanban, etc...

X1,796
Less Equipment and Space

Treatment Rooms

Number of Treatment Rooms

2005: 10
2006: 6

Decrease: 40%
Capacity Improvement

Dentist Hours-Weekly

- 2005: 77 hours
- 2006: 140 hours
- Increase: 82%

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Fundamental Lessons: Technical Dimensions

• Peaks and valleys:
  • View from the valley
  • View from the peak

• Value Stream vs. Operations:
  • Which to improve first?
  • Where to improve first?

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Countermeasure

- Trying One-Visit Treatment
- SMED: Treatment Room Changeover
- Flow: Dentist Part of Treatment
- Leveling / Mixed Treatment
- Flow Manager Position
- Kanban / Synchronization

Barrier

- Too Many Setups
- Extra Capacity
- Hygiene Not Included
- Coordination Problems
- Communication Problems

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Why 13 Years to Implement Lean Management?

Improving Operations instead of Value Streams

Doubt and Hesitation

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Jim Womack on Purpose, Process and People...

• A clear and universally understood purpose dedicated to solving customer problems,
• supported by lean processes that are designed, performed and improved
• by engaged people with fulfilling work.
Bahri Dental’s System of Leadership Principles

Purpose -

1. Define “True North”: One-Piece Flow
Bahri Dental’s System of Leadership Principles - Purpose -

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2. Put the customer first: When they’re not looking
Bahri Dental’s System of Leadership Principles - Purpose -

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1. Define “True North”: One-Piece Flow

2. Put the customer first: When they’re not looking

3. Focus first on reliability and responsiveness: What they want most

4. Pursue quality & productivity with equal passion: Truthfulness in business

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Bahri Dental’s
System of Leadership Principles
- Purpose -

5. Minimize **lead time** and maximize **flow** to increase capacity: *Flexible systems, adaptable to change*
Bahri Dental’s
System of Leadership Principles
- Purpose -

5. Minimize lead time and maximize flow to increase capacity: Flexible systems, adaptable to change

6. Understand and treat the organization as a system: Follow the product, door to door
Bahri Dental’s System of Leadership Principles - Purpose -

5. Minimize lead time and maximize flow to increase capacity: *Flexible systems, adaptable to change*

6. Understand and treat the **organization as a system**: *Follow the product, door to door*

7. Pursue **operational excellence**, growth will follow: *solid solutions, hard to imitate*
Bahri Dental’s
System of Leadership Principles
- Process -

1. Be equal part learner, equal part teacher
Bahri Dental’s System of Leadership Principles - *Process* -

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2. Build a problem solving culture
Bahri Dental’s System of Leadership Principles - *Process* -

1. Be equal part *learner*, equal part *teacher*
2. Build a *problem solving* culture
3. *Train* to meet the needs of the patient
Bahri Dental’s System of Leadership Principles - *Process* -

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4. Create a learning environment safe for experimentation

Follow *the* Learner
Bahri Dental’s
System of Leadership Principles
- Process -

1. Be equal part learner, equal part teacher
2. Build a problem solving culture
3. Train to meet the needs of the patient
4. Create a learning environment safe for experimentation
5. Communicate clearly and honestly with patients

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Bahri Dental’s System of Leadership Principles - *Process* -

6. **Standardize** first, then improve
Bahri Dental’s System of Leadership Principles - *Process* -

6. **Standardize** first, then improve

7. Gather **decision-makers** around the patient
Bahri Dental’s System of Leadership Principles - People -

1. Show respect for people and their personal lives
Bahri Dental’s System of Leadership Principles
- People -

1. Show respect for people and their personal lives

2. Create an open business partnership
Bahri Dental’s System of Leadership Principles - People -

1. Show *respect* for people and their personal lives

2. Create an *open* business partnership

3. Respect *everyone’s* time
Bahri Dental’s
System of Leadership Principles
- People -

1. Show respect for people and their personal lives
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4. **Balance** competing interests
Bahri Dental’s System of Leadership Principles - People -

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6. Build consensus rather than attempt to control

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Bahri Dental’s System of Leadership Principles

- People -

1. Show respect for people and their personal lives
2. Create an open business partnership
3. Respect everyone’s time
4. Balance competing interests
5. Gain trust by providing proof
6. Build consensus rather than attempt to control
7. Decide to become a leader
Summary of Advice

• Improve processes before operations
• Run your value-adding operations in a series, and the support functions in parallel
• Start improvements on a small scale
• Use small scale experiments to provide proof
• Look for flexible people
• Put the decision makers together

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Follow the Learner
The Role of a Leader in Creating Lean Culture
by Dr. Sami Bahri, DDS

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Questions & Answers

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