

SELECTED READINGS

IN

ORAL AND

MAXILLOFACIAL SURGERY

**Why the Traditional Method of
Running an Oral & Maxillofacial
Surgery Practice is No Longer
Effective and Competitive When It
Comes to Dental Implant Services**

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Be Different:

The demand for dental implants is increasing but so are the treatment choices available to patients! As new treatment options appear and existing ones continue to evolve, it becomes more important than ever to establish differences that are meaningful; differences that will allow implant surgeons to maintain a competitive advantage over their counterparts.

True competitive advantage is the ability to deliver distinctive benefits that are highly valuable to patients. It is proven that they are willing to pay more for them. These benefits should be difficult to imitate by your competitors. While innovations in implant therapy, practice design and implementing different technologies will always be important, nothing comes close to the quality of the *patient experience* from implementing Operational Excellence methodology. Your competitive strategy should be about being *different*...either choosing to perform routine services *differently* or to offer *different* services in order to differentiate you from your rivals.

Unlike physical assets, service is the product of people, systems and culture. These are dynamic and created over longer periods of time. Service depends on many integrated actions including how practice staffs are chosen, managed and how expectations are created and taught.



Source: Porsche Consulting, AIID

Fig 1- Operational Excellence Culture

Operational Excellence is the willingness and ability of an organization and its employees to consistently deliver superior performance (*Porsche Consulting*). Operational Excellence in service might be the single most powerful weapon in a practice's competitive arsenal because:

- It is so important to patients
- It is so difficult to deliver by surgeons who are using traditional systems
- It can be differentiated in so many ways
- It is in constant evolution thus ensuring a sustainable competitive advantage over time

The patient experience along the entire value chain (clinical and operational activities that bring the most profit) is the key to success!

A New Landscape in Implant Dentistry:

The implant dentistry business environment has changed. Oral surgeons had enjoyed a monopoly over implant dentistry from mid-to-late 1980's. Then, periodontists started performing implant therapies from the early 1990's. For the most part, until the early 2000's, oral surgeons and periodontists performed the majority of implant surgeries in the country without being worried about major competition or shrinkage of the bottom line of their implant practices.

However, major competitors have emerged in past 10 years that threaten the status quo.

- General dentists now compete with surgeons
- Corporate dentistry entities are increasing and expanding across the nation

For decades, oral surgeons who have been involved with implant dentistry have been operating their practices on their own and **ignoring** emerging factors such as:

- Competition from corporate dentistry
- Transition of implant therapy from a conventional work flow to the digital work flow
- Changes in patient demographics
- A significantly higher level of patient awareness about different treatment options
- More choices for patients to receive their dental implant treatments

Unfortunately, as these factors became more prevalent and competition within the industry intensified, many oral surgeons have become increasingly aware of the fact that their traditional business model will not allow them to take their implant practices to the next level. Today, surgeons are working harder to compete but the bottom line has not changed significantly. The quality of professional life has actually decreased.

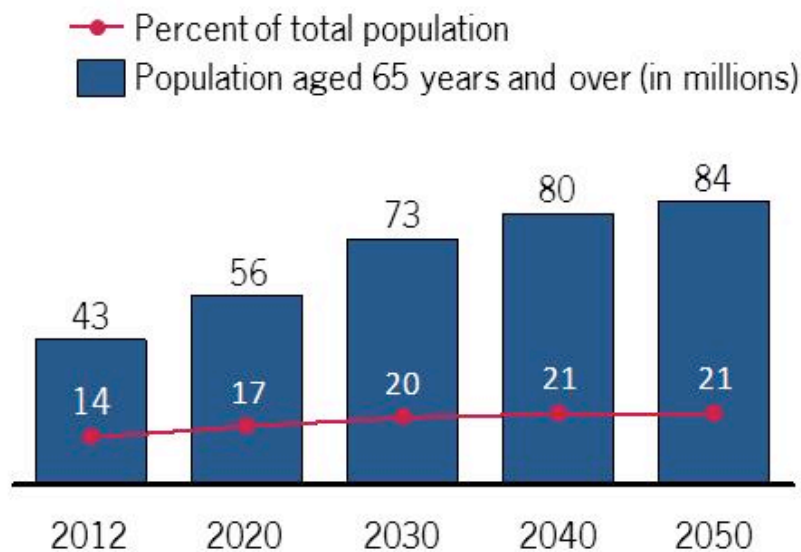
Everyone knows this needs to be fixed but they do not know why or how to fix it. This issue of Selected Readings for Oral and Maxillofacial Surgery presents a new model for running an implant practice by utilizing Operational Excellence. This new methodology will help oral surgeons and their team members to adjust and transition successfully into the new business environment to regain their status in the dental implant arena.

Current Status of Dental Implant Patients:

Implant patient demographics have changed significantly because the fastest growing segment of the US population is the aging population. The demand for more extensive full arch reconstruction utilizing dental implant therapy is increasing as Baby Boomers are aging. Patient expectations from implant therapy have changed as they now require more sophisticated treatments to enhance their quality of life.

It is no secret that society is noting changes with the increase in aging population. Based on the US census, the older population is projected to nearly double, growing from 43 million in 2012 to 84 million in 2050. By 2030, it is estimated that one in five Americans will be aged 65 years or older.

Population aged 65 and over: 2012 to 2050



Source: United States Census Bureau

Fig 2- Patient population and demographic information

With more and more Baby Boomers facing the consequences of aging, the demand for more extensive full mouth reconstruction utilizing dental implant therapy will increase. In fact, 26% of adults over the age of 74 have lost all of their permanent teeth, with that percentage only continuing to increase, as the Baby Boomer generation gets older.

Baby Boomers' Reaction Toward Full Arch Therapies:

One of the biggest questions for oral surgeons is why the number of rejections for full arch implant treatment plan in a traditional oral surgery practice is higher compared to corporate dentistry. In order to find out the answer to this question it is important to understand the patient demographic.

Patients who choose to make an appointment for a large elective procedure such as full arch implant supported prosthesis:

- These patients make informed decisions based on their experience, referrals, and background research
- Potential candidates for full arch therapy go on the internet for information and choose the most qualified surgeon/treatment facility to seek treatment
- The patient acts as the boss and the surgeon is in the “job interview”; the patient makes the decision to “hire the surgeon”
- They realize there are numerous options available to them
 - They can go choose the oral surgeon, periodontist, implantologist (general dentist who performs implant surgery), or a corporate multi-specialty location
 - There are more treatment options available
 - Immediate treatment option vs. traditional delayed option
 - The convenient full service option (corporate model: surgical, prosthetic and lab services under one roof) versus the inconvenient referral based business model where the patient has to travel from the oral surgery practice to the restorative dentist practice

Changes in Implant Service Providers Landscape:

As mentioned earlier, in the past, oral surgeons used to compete with other oral surgeons and periodontists only. However, the new landscape in implant dentistry has involved bigger competitors.

- Significantly larger numbers of restorative dentists who are performing implant surgeries
- Corporate dentistry, which has significantly bigger financial resources, organizational skills, and human resources to grow their business and outcompete oral surgeons

With these evolving changes in implant dentistry, oral surgery practices are continually challenged to be as safe, affordable, thorough, efficient, and cost-effective as possible. Adding to this burden, practices are facing rising costs, declining reimbursements, and more paperwork than ever before with increased regulations. With all of these hurdles, oral surgery practices all over the country are being forced to do more with less. As a clinician, you may be asking yourself how you can possibly meet these demands

while also considering your practice's bottom line and your own standards of clinical excellence for your practice.

Before going further into making recommendations based on Operational Excellence to solve this complex problem, it is important to point out the customary methodology for practice management.

Rarely do dental and surgical practices set forth an ideal way they would like to see workflow happen in every situation that goes on within their offices. Patterns have been established by habit, rather than what works most efficiently for everyone in the office and, *most importantly*, the patients. Traditional and "old school" clinicians are ignoring the need to implement newer business models including efficient process improvements, effective methodologies, and integrated value chains (clinical activities that bring the most profit).

Status Quo:

Oral surgeon is the leader:

- a) Trains the staff
- b) "Knows it all" (including the numbers)
- c) Entire team and system revolve around the surgeon

Challenges with this system:

- a) Has many limitations
- b) It depends heavily on the practice owner
- c) System can fail because of personality, motivation level, and longevity of office staff

The status quo in practice management and operation is rarely challenged in dental and oral surgery offices. Things stay the same in many cases even though technology, education, and other areas have significantly advanced. The reasoning many give for the lack of innovation is, ***"That's the way we've always done it."*** This can be one of the most debilitating excuses made for mediocre practices.

Consequences of the Status Quo:

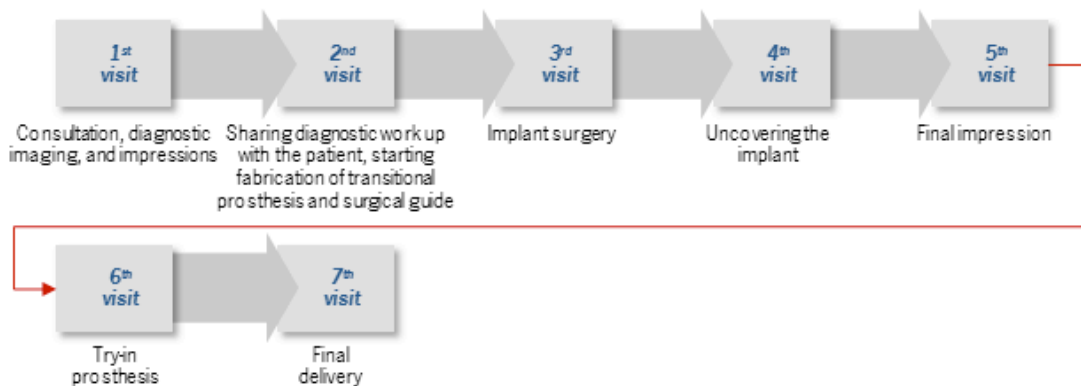
- Inconsistency in care
- Limited access to necessary resources for daily operations
- Continual interruptions
- Long wait time for patients
- Increased potential for error among the staff contributing to less than optimum treatment outcome

- Worker frustration, which makes for a toxic workplace

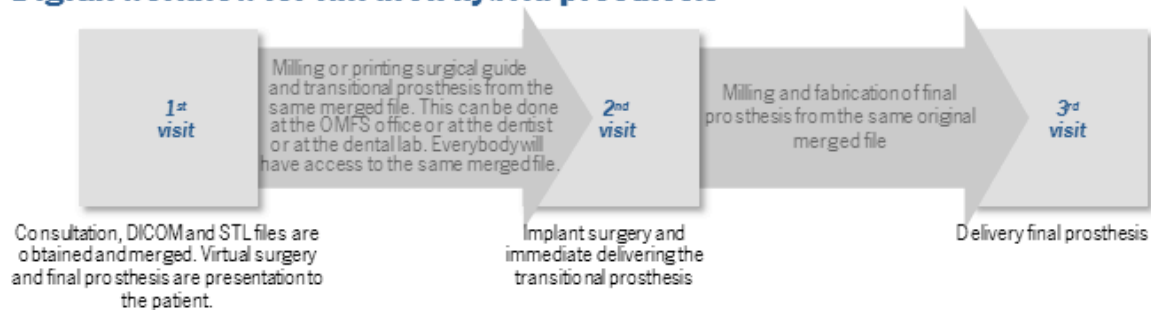
Utilizing Digital Workflow vs. Traditional Work Flow:

A perfect example of an implant practice utilizing Operational Excellence vs. a traditional oral surgery practice is incorporating digital workflow for implant therapy vs. conventional workflow. While surgeons are not fully aware of digital workflow implementation many general practitioners and corporations who have become heavily involved with implant dentistry are utilizing digital workflow to enjoy a significant competitive advantage.

Conventional full arch workflow



Digital workflow for full arch hybrid prosthesis



Source: Porsche Consulting, AIID

Fig 3- Traditional workflow vs. Digital Workflow

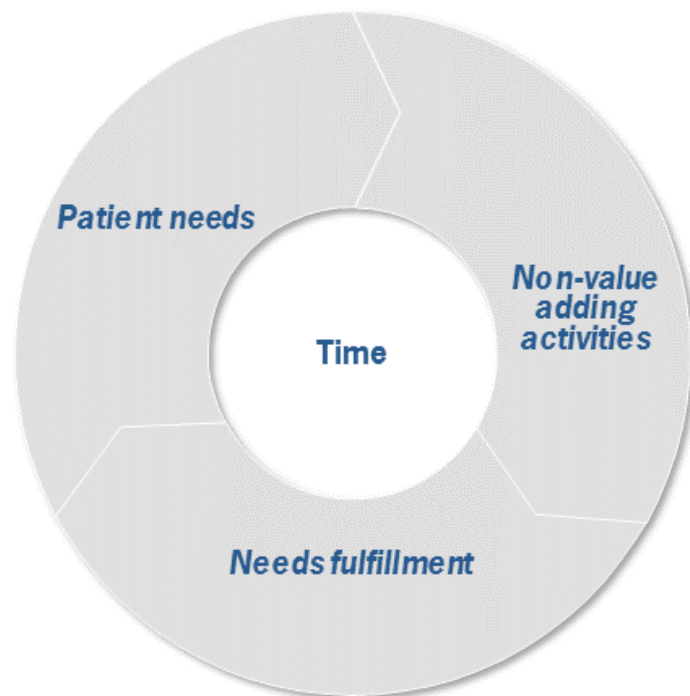
Digital workflow does require different sets of operational methods and the need for implementation requires proper training from experts on the subject matter. But, by eliminating multiple visits, significantly reducing treatment time, and allowing real time communication with patient and

restorative dentists about final design through digitization an oral surgeon could save thousands of dollars in overhead. In addition, the patient would be delighted to get prompt, “just-in-time” implant services as soon as they enter the office. This is just one example of the hundreds of solutions Operational Excellence brings to implant dentistry.

Benefits of Digital Solutions:

- Diagnostic accuracy
- Virtual surgical and prosthetic planning
- More effective communication method with patient which results in higher case acceptance
- More effective communication between the multidisciplinary team
- Surgical and prosthetic workflow off of the same file
- Cases can be saved and reviewed

Operational Excellence eliminates non-value adding items from processes, allowing efficiency by reducing cycle time



Source: Porsche Consulting, AIID

Fig 4- Reducing steps and saving time while achieving the final result

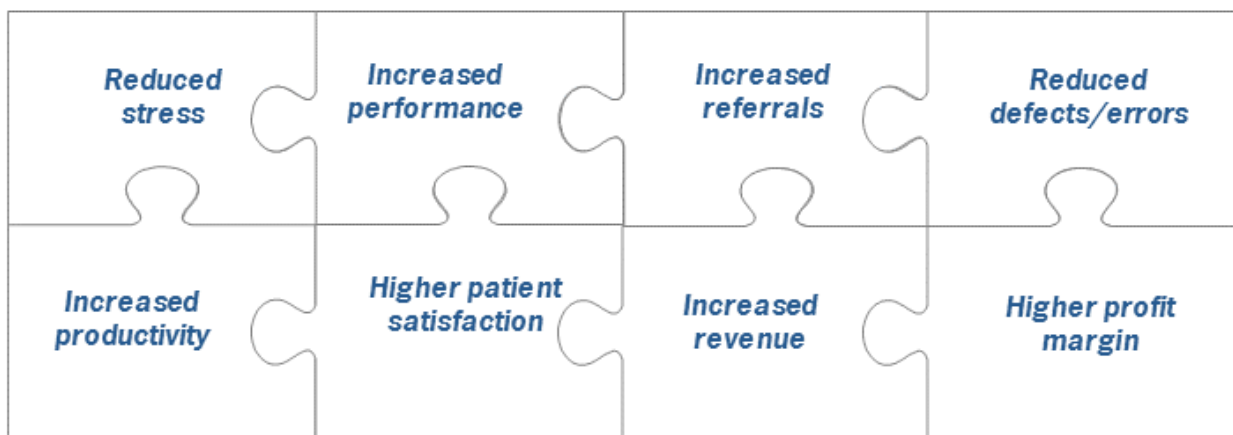
Operational Excellence is the Key to Success in Today's Implant Dentistry:

It is important to note that the biggest overhead in implant dentistry is the clinician's chair-side time; the surgeons have to increase their efficiency by knowing how to provide the highest quality of care in minimum number of sessions. In other words, they should be able to perform the maximum number of procedures in the minimum number of visits.

The minimum number of visits is not only beneficial for the patients but also will increase their treatment acceptance level.

- For successful Baby Boomers time is money, especially for those who can pay for implant treatments such as full arch cases.
- The total cost of ownership is one of the most important factors in decision-making process for big implant treatments. Successful patients do not look at treatment costs as one item. They always factor in the total cost of the time they have to spend at the practice as well.
 - Paying higher fees for an immediate implant treatment at the end will be more cost effective for them compared to a two stage treatment protocol which can take 6 months or more to finish.
 - Patients prefer to go to a full-service implant center instead of commuting back and forth between different offices

Benefits of an Operational Excellence practice



Source: Porsche Consulting, AIID

Fig 5- Benefits of Operational Excellence

Example:

Patients are more receptive to immediate load treatment protocols such as All-on-4® or TeethXpress™ than traditional two stage protocol.

Knowing this, it is critical to optimize the surgeons time by putting operations in an ideal order so that they are not wasting time finalizing surgical and prosthetic treatment plan or searching for a relevant patient files. Incorporating Digital workflow for a shorter, more predictable and “just-in-time” implant therapy has become a necessity. There are so many ways to fix the problems associated with traditional workflow in oral surgery practices, but before even thinking about finding solutions, all value-added and non-value added activities need to be clearly identified.

Improving Implant Practice Bottom Line by Eliminating Non-value Added

Activities:

The traditional value chain is full of non-value adding activities, which translates to a reduced bottom line.

Surgeons need to eliminate 7 types of non-value adding activities that are main contributing factors to inefficiencies in an implant practice:

1. Duplicate work
2. Inventory (patients, equipment, product)
3. Transport (inefficient floor plan for patients)
4. Wait times
5. Space (constant search for supplies and equipment)
6. Communication and Interfaces (human interaction, touchpoints, visits)
7. Errors (failure, poor quality treatment, unsatisfied patients)

Inefficiencies are also created when doctors are micromanaging by controlling every move made in the office. The bottom line net profit with application of Operational Excellence is significantly higher than with traditional methodologies. Less non-value adding activities and fewer interruptions associated with it means more patients per day and an increase in the bottom line. Striving for Operational Excellence along the entire value chain is key to a thriving implant practice.

Operational Excellence has been achieved in many industries, starting with the automotive industry and currently implemented in the healthcare industry. Lean healthcare is a process driven strategy focused on removing inefficiencies and thereby allowing more time for patient care activities.

Examples of Operational Excellence in Healthcare:

Porsche Consulting implemented Operational Excellence methodologies within the Department of Cardiovascular Surgery at Freiburg University Hospital in Germany to identify weak points and, not only, eliminate waste but implement processes to safeguard against future inefficiencies. This resulted in the average patient stay time decreasing from 11.2 to 9.6 days and productivity increasing by 30 % (Source: Porsche Consulting – The Magazine, 2009).

At Virginia Mason Medical Center, the hospital reported increased profit margins, decrease in deaths, decrease in medication errors, 85% reduction in patient wait time for lab results, 93% increase in productivity, and inventory costs lowered by \$1 million (Source: Going Lean in Health Care, a white paper by the Institute for Healthcare Improvement, 2005).

As an institution that integrates academia with patient care, Case Western Reserve University School of Dental Medicine located in Cleveland Ohio, implemented Operational Excellence by identifying their “primary customers” who were patients and students as well as their “secondary customers” who were faculty and staff. This effectively flipped the traditional hierarchy upside-down. The upper management of the school then prioritized resources towards the needs of their customers accordingly. (Source: Lean management- The Journey from Toyota to Healthcare, Sorin T. Teich, DMD, MBA, Fady F. Faddoul, DMD, MSc, 2013).

Solution:

Unlike traditional methodology in an oral surgery practice which surgeon is the boss and dictates to the patient what needs to be done, when it comes to large elective implant treatments such as full arch implant supported prosthetics, the practice focus should shift from surgeon to patient. Surgeons should practice to be a good listener. When a surgeon listens to the patient’s concerns and demand for the treatment, the surgeon will be more successful connecting with the patient. Satisfying the patient’s individual needs and expectations will set your practice apart.

Patient and Surgeon Interactions:

- The patient defines value (what he/she is willing to pay for)
- The surgeon should establish effective communication both ways during all consultations
 - What does the patient want?
 - What makes the patient happy?
- The surgeon must be able to deliver value to the patient
- The surgeon must support the decision making process of the patient
- The surgeon must deliver a unique and memorable experience

Patient Experience Includes the Whole Process from Start to Finish:

The entire treatment should be a positive experience for the patient. The ultimate goal of an implant practice that has implemented Operational Excellence should be achieving the following:

- Seamless experience
- Patient is treated in a special way by the staff
- Patient goes through process without delays or confusion
- The experience is unique and memorable
- The quality has to be higher than the status quo or baseline (traditional treatment)
- Zero defects and error-free treatment should be the goal

If you examine other industries you will realize how their error-free system impact our daily lives. Just imagine how our lives would look like if, instead of a 100% no-defect standard, a **99.9%** no-defect was “good enough.”

Here are some examples:

- Two unsafe landings every day at each major airport
- 20,000 incorrect prescriptions written every year
- 500 incorrect surgical operations performed every week
- 32,000 skipped heartbeats per person per year
- 22,000 checks drawn on incorrect accounts every hour

As you can see, it is critical for your practice to achieve zero defect status in an implant practice.

Your Team:

You always have to strive to build a team that has an attitude and commitment towards achieving excellence. You can teach everything in business except the attitude. This means you will never succeed in your implant practice if you are employing people who do not have right attitude toward your practice and your patients.

Start implementing the following processes:

- Flip the value chain pyramid: prioritize the most value adding processes on top. This means patient and office staff should be on top of the value chain...not the surgeon
- You and your team should perform at the highest level

- Be sure the team is willing and able to consistently deliver superior performance
- The team has to have the sense of ownership for the whole process
- The entire team has to have the opportunity and the willingness to identify a problem and show commitment to fix the problem
- Continuous improvement should be part of the mindset of everyone in the practice
- Continuous training and coaching; work smarter, not harder

Operational Excellence based on lean methodology flips the entire traditional hierarchy upside down, with patient at the top of the priority pyramid followed by employees and finally surgeon at the bottom. In other words, traditional hierarchy in the practice will be replaced by a value chain concept.

Patient satisfaction can only be assured if the value-added process receives optimum support

In the value chain ...

- ... value is added
- ... problems are solved
- ... starting points are found for improvement

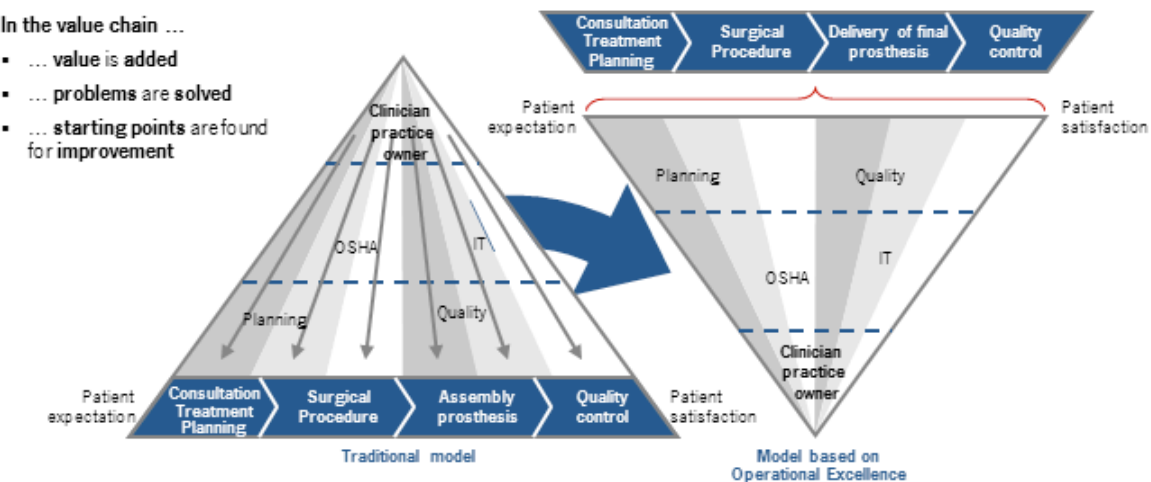


Fig 6- Traditional hierarchy vs. Operational Excellence hierarchy

While this seems counter-intuitive, but putting employees before doctors means that employees feel valued, and are given more responsibility because they can be trusted with the standardized system which has been put into place. This means that they have much greater involvement in the practice as a

whole, and feel more valuable and invested in the work being done. Feeling more ownership of their work and the direct impact it has on the practice results in people staying longer at their jobs, resulting in lower turnover rates. Having less people to train and keeping the same people who work well together can be crucial for running a practice based on an Operational Excellence system that naturally requires continual improvement and advancement.

In addition to having profound positive effects on the employees, it has been found that Operational Excellence creates a calmer and more organized work environment as a whole. Work becomes orderly and predictable as opposed to scattered and chaotic. With everyone knowing the plan of action for every situation, no one is scrambling around the office with no idea what to do. This translates to patients seeing and feeling a very “put together” and professional practice that they can trust and feel comfortable for dental implant concerns and procedures. They see it as a place they can feel confident that they will be well taken care of, rather than a stressful environment when they first walk in the door and wonder if something will go wrong because the staff looks like they would frequently make mistakes.

A more calm and orderly practice also means a lower potential for error, and more accurate clinical results. Less error and precise clinical results make for a much more satisfied patient base. Additionally, less non-value adding activities and fewer interruptions associated with it means that clinicians have time for more patients per day than ever before. This significantly boosts your bottom line while continually cutting potential non-value adding activities by giving patients faster appointments.

Implementing Operational Excellence in your implant practice eventually will affect the patients’ behavior and perception toward your practice. Patients will know that they will not be forced to wait around. As soon as they arrive the whole system starts moving toward their needs and purpose of their office visit. Distinguishable differences between a practice which runs based on Operational Excellence vs. a practice which does not have such a methodology in place will impact a patient’s perception of the practice value. This ultimately will impact their behavior toward the practice and its team. They will be more receptive to sign up for the proposed treatment plan and they will show up on time at a much higher rate.

As a clinician you understand and can appreciate how frustrating late appointment and no-shows can be. Imagine attracting a client base with the same mindset that matches yours, those who appreciate finding the most efficient way to go through the day. A better client base means more reliable payments and more willingness for elective procedures because they know there will not be any time wasting activities in your practice because they are the priority.

Two Simple Approaches to Make Your Practice's Daily Operation Excellent:

1) Categorizing Implant Patients by Procedures

Creating an operationally excellent implant practice is very difficult when a daily schedule is not set based on defined parameters such as nature of the procedures. One of the easiest ways to create a smooth and predictable patient flow during the day is categorizing implant procedures into 5 categories.

Non-Esthetic Zone Implant Surgeries: Canine-to-molar region that does not require any kind of soft and hard tissue management.

Esthetic Zone Implant Surgeries: May involve some level of hard and soft tissue management

Multiple Implants Placement Up to a Quadrant: This does not involve total occlusal rehabilitation

Full Arch Reconstruction: All-ON-4 (Nobelbiocare) , TeethXpress (Biohorizons), Revitalize (Zimmer)

Value-Added Services: Hard and soft tissue engineering, scanning and digital impression, delivering transitional prosthesis

2) Categorizing the Implant Patient's Needs Cycle Based on Operational Excellence

On demand: Emergency patients, trauma patients who are good candidates for immediate implant placement

Scheduling based on request: Straightforward implant surgeries based on delayed load protocol

Completely customized Visits which require extra time, staff involvement and planning:
Immediate load therapy such as: All-ON-4 (Nobel Biocare) , TeethXpress (Biohorizons), Revitalize (Zimmer)

Steps to Implement Operational Excellence:

- Adopt and implement newer business models
- Vision and mission to achieve Operational Excellence
- Have a strategy and measuring system in place (measuring patient and employee satisfaction, not only profit)
- Put in place efficient processes and constantly improve them

- Processes are transferrable: a process that works well in one practice can easily be transferred to another
- Well-designed processes can be mathematically monitored: tracking numbers leads to traceable, provable results
- Stress is reduced when employees know exactly what their jobs require

Opportunities for Operational Excellence

| Problem | Potential to Reduce cost and/or Increase Performance | Cost/Time Ratio to Execute | Value to Patient |
|--|--|----------------------------|------------------|
| Redundant information gathering by admin, implant coordinator, and surgeon | Medium | High | Low |
| Error in identifying patient's chief complaint and treatment expectations which will lead to a wrong diagnosis | High | Low | High |
| Treatment Planning Mistakes | Very High | Medium | Very High |
| Account Receivable | Very High | Low | Low |
| Clinical and Laboratory reworks | Very High | Low | Very High |

Source: Porsche Consulting, AID

Fig 8- Measuring the opportunity for Operational Excellence

Mapping the Value Stream:

This means following the exact routes your patients go through from the initial moment they request care from the initial phone call all the way to their final checkout. Understanding where the non-value adding activities start, even if it is from the first phone call, can be significant in improving your practice's processes.

For example, evaluate your telephone situation at your practice. The first thing to realize with the phones is that the phone is the practice's first connection with the outside world. With this in mind, never put the wrong person in charge of answering the phone. This person is the one who is handling the first interactions with established patients and potential new patients, which in turn means their involvement in this process can impact growth or decline of your business. Investing time for training and financial investment to find a quality worker make good business sense. This might mean expecting

certain turnover, and hiring someone new early on so they can become properly trained. This also means to offer a competitive or slightly higher wage to ensure you hire someone who is truly suited for the tasks at hand.

Next, see if there is a challenge or problem for patients to connect with the right person for their specific needs at your practice. Patients do not want to be put on hold or leave a message, especially for an elective procedure such as implant therapy that requires noticeable out of pocket financial and time commitment. If they cannot get the help that they are looking for on the first call, you can bet they will move on with their search to an office who can talk with them right away and places a higher value on being reachable to their patients. Do your patients complain about busy signals or long hold times? What about referring dentists complaining that they can't get through? Or people are getting through, but your staff members spend too much time searching for answers for the callers or redirecting them to many different people at your offices? If any of these are true, your telephone answering protocol must be reviewed to find the non-value adding activities and optimize productivity and service.

A final aspect to consider in this step is recording everything seen, heard, and said while mapping the value streams.

Examples:

- What patterns do you notice among all the data collected?
- Are there many calls coming in asking about scheduling?
- Do all the receptionists have an unfriendly or unhelpful demeanor on the phone and in person?
- What kinds of complaints come through the office?
- Are they repetitive in nature and it was just never known until it was recorded?

Collect this data and analyze it to use it to your advantage when mapping out new systems using Operational Excellence.

There are so many situations like the telephone issues mentioned above that can severely impact the perception of your practice, simply because the surgeon has never gone through his/her own process first-hand.

That is why it is so crucial to go through every step as if you were a patient with their key values in mind all the way through. The takeaway from this process should revolve around improving the entire process for the patient for a world-class experience they would do again and recommend to others, rather than simply optimizing one miniscule aspect and considering that enough of an improvement to call it substantial for the patient experience. Just think of the word “**experience**.” This means from start to finish, not an individual aspect of the process.

Touchpoint Description

| TOUCHPOINT NO. 2 | TOUCHPOINT NAME: Incoming call | RESPONSIBLE: Admin, Patient Experience Specialist | SUPPORT: |
|---|-----------------------------------|--|----------|
| <p>Touchpoint Description: The patient makes a phone call to make an appointment. At this point, the Patient Experience Specialist (PES) sees the referral on the website and what's needed. Based on previous training, an appropriate consultation time is allotted (Level 1 consult: 20 min; Level 2 consult: 40 min). PES answers the cost related question in a broad term but informing the patient that real price can be given after consult session.</p> <p>Systems in Use: TBD</p> | | | |
| <p>Customer Value at Touchpoint: Verification of the patient without repeating patient information and acknowledging patient treatment of choice.</p> <p>Customer Non-value at Touchpoint: PES is not updated and synced with the website. Leaving the patient on hold to ask someone else for an answer.</p> <p>Customer Excitement at Touchpoint: Receiving personalized response. Feeling that everyone is updated and ready for the patient.</p> <p>Key to satisfaction: Be answered promptly, receive clear answer to questions, be accommodated during appointment, and feel personalized response.</p> | | <p>Employee Behavior:</p> <ul style="list-style-type: none"> Responding with a receptive manner Thanking the patient for calling or considering the office Using the right phrases Not answering in a rush Patients have to be well received and accommodated for their implant consultation <p>Physical Environment: Office desk</p> | |

Source: Porsche Consulting, AIID

Fig 9- Example touchpoint for answering the phone when a new patient calls

| TOUCHPOINT NO. 4 | TOUCHPOINT NAME: Patient gets the CBCT image | RESPONSIBLE: Clinical Assistant | SUPPORT: - |
|--|---|---|---------------|
| Touchpoint Description: The clinical assistant obtains the CBCT imaging | | | |
| Systems in Use: Carestream | | | |
| Customer Value at Touchpoint: 3D imaging allows the surgeon to make a better diagnosis and pre-surgical planning. | | Employee Behavior: <ul style="list-style-type: none">▪ Responding with a receptive manner▪ Using the right phrases▪ Patients have to be well-received and accommodated▪ Showing absolute competency in what he or she is doing▪ Provide the patient with correct information | |
| Customer Non-value at Touchpoint: Complexity of set-up, patient has not been informed in a simple language about process of taking a 3D x-ray, surgical assistant is not able to perform the process in a timely manner, technical errors which lead to multiple exposures and extra radiation. | | Physical Environment: <ul style="list-style-type: none">▪ Clear signage▪ Corporate identity▪ Clean entrance area▪ Clean desk▪ All equipment in working condition | |
| Customer Excitement at Touchpoint: Feeling the simplicity and convenience of the work flow. | | | |
| Key to satisfaction: Speed, competency, positive surprise. | | | |
| Key Performance Indicators at Touchpoint: CBCT data acquisition has completed fast and accurately. Oral surgeon approves the quality of 3D imaging. No need to repeat the process. | | | |

Source: Porsche Consulting, AIID

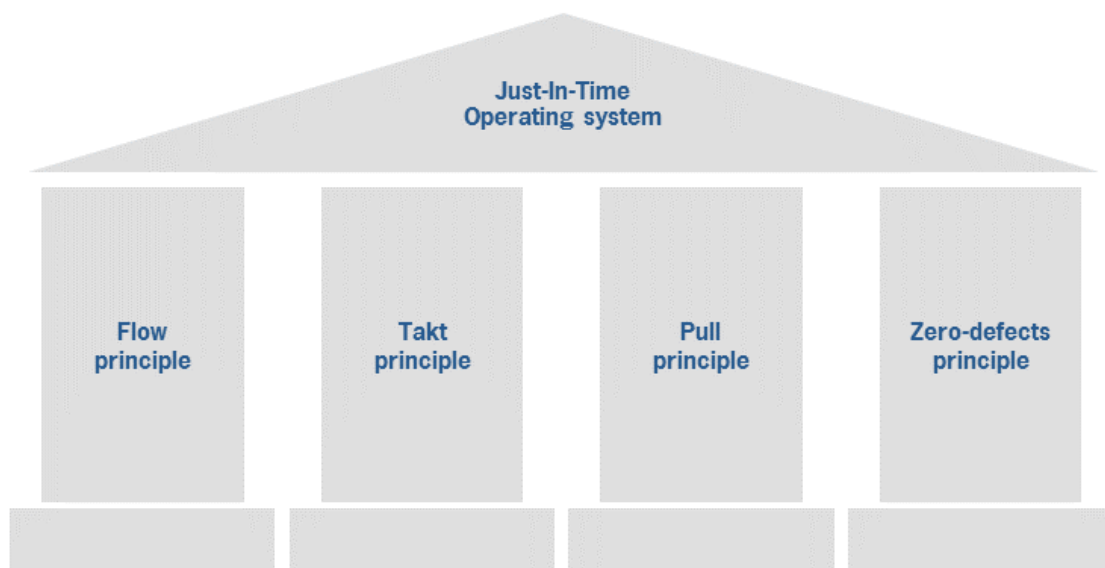
Fig 10- Example touchpoint for taking a CBCT

Elimination of Non-Value Adding Activities: attempt to allow the patient to have continuous flow during the visit:

After mapping the value stream, you can then move to the final step: eliminating the non-value adding activities found in the previous step to create a continuous flow for the entire patient's visit. The way to begin is by specifying how each aspect of work is to be conducted through standardization. Make each part of every job clearly spelled out so that there are no questions as to what to do, where to find information or resources, and make it so that every employee is trained in every area. To better understand this concept, it is basically eliminating the "individual human impact" on routine tasks. This means no matter who does things such as answer the phones, put information into the computer, grab basic tools, and so on the outcome will meet the same standard. Having nearly any employee be able to do nearly any job helps on days when a team member is sick, leaves their job, or is just tied up somewhere else in the office so that workflow remains as seamless as possible.

Set your practice daily activities based on lean principles of Flow, Takt, Pull, and Zero Defects

The Just-In-Time framework



Source: Porsche Consulting, AIID

Fig 11- Just-in-time operating system

Flow Principle: Link all of the processes in the office so all of the information (e.g. surgical notes, insurance letters and forms, product orders and invoices) move through the practice without idle times.

Takt Principle: In an orchestra, the conductor establishes and maintains a regular takt, which allows a large team of professionals to work together effectively. The goal of a Just-In-Time Operating System is to create an ideal situation by “leveling” surgical schedule and production in your practice. Daily surgical schedule and production should be held steady throughout the day. Slight fluctuations in patient demands are compensated by flexible working hours. Takt time will have direct impact on your practice operation; you can easier determine and plan for more accurate purchase orders, it will be easier to set accurate deadlines and everybody can clearly related to deadline rational, finally problems which your daily operation can be identified rapidly.

Pull Principle: All of the supplies for implant and tissue-engineering surgeries should be organized based on pull principles. This means products used by the surgeon will automatically trigger a replenishment order. You have seen and experienced the pull principles at supermarkets when you purchase milk or orange juice. Replenishment orders are based on “First In- First Out” principle. This will eliminate the possibility of waste because of expired products.

Zero-defects Principle: This represents continuous improvement and stabilization of processes. For example, to prevent infection and failure, the surgical room must be clean and disinfected for every single surgery. This process has to be repeated and audited regularly.

Start Adopting New Technologies Such as Digital Workflow:

Benefits of digital workflow compare to conventional workflow:

- Allows real time communication with patient and restorative dentists about final design through digitization of patient cases
- Diagnosis accuracy
- Virtual smile design
- Virtual establishment of proper occlusal scheme
- Patient education and case acceptance
- Team communication
- Surgical and prosthetic workflow off of the same line
- Case backup

Training the entire staff on digital workflow increases efficiency instead of only one person being knowledgeable. All of the staff should be familiar with digital workflow. If the surgeon needs merging DICOM and STL file for a patient treatment planning and consultation any staff member should be capable of doing it vs. only having one person in the office that does it. When surgeon walks in the consultation room merge has been done beforehand by the first available staff member.

Another application of this step for implant dentistry would be organizing surgical room and surgical tray in a certain standard way every single time for every doctor. This is so that whenever the doctor needs a tool, it does not matter what dental assistant is there, they are on the same page just as if any other assistant was there. Organizing like this could mean color-coordination, alphabetical organization on top of the color-coding, and keeping different categories of things on different levels of shelves and/or shadow boards.

Another example is setting a standard protocol for all surgeries so that oral surgeons always know how to do things the way that practice calls for it to be done. This way if another surgeon is covering for the designated surgeon to continue the care of that particular patient can know exactly what to expect and what needs to be done next.

Finally, in case of a full service implant practice, as long as there is no conflict and limitations with healing process all of the doctors visits (surgeon and restorative dentist) could also be coordinated in a way that the patient sees both clinicians in the exact same visit rather than all the non-value adding activities involved with the patient having to set up two or three separate appointments. The time and resources wasted during that visit ultimately could have been used on seeing another patient. In conclusion, money that could have been earned without these non-value adding activities is lost for good.

Porsche Consulting and the American Institute of Implant Dentistry Have Identified Seven Different Types of Non-value Adding Activities in an Implant Practice:

Unnecessary waiting time: a) Patient is waiting for clinician, staff member, diagnosis and treatment plan being presented or treatment time is overextended because older and conventional two-stage protocol is being used b) Clinician waits for imaging results, prosthetic treatment plan from restorative dentist, supplies, surgical room to be ready c) Rooms are not being turn around in a timely manner

Redoing steps due to poor procedures: a) Redoing poorly planned and executed surgical procedures b) Removing perfectly osseintegrated implant because of bad angulation or location c) Mistakes in billing and insurance forms

Inventory management: a) Excessive quantities of implants and implant related products b) No standardization of the supplies and ordering c) Unnecessary equipment or purchasing equipment which do not provide ROI

Poor space Utilization: a) Constant search for supplies and equipment due to lack of centralization and being stored too far from surgical room b) Floor plan does not provide an efficient patient in patient out as well as inefficient accessibility of doctor to office staff

Less than optimized transportation: a) Patient is moving between offices due to lack of digital workflow implementation b) Instead of performing all of the services by different clinicians in the same treatment room patient is being moved from one room to another to be seen by different clinicians.

Basic and preventable errors: a) Inaccurate models since alginate impressions were not poured immediately b) Submitting wrong insurance codes c) Wrong implant parts were ordered because staff wrote the wrong product number

Poor communications and interfaces: a) Patient loses confidence in implant team because surgeon and restorative dentist have presented two different treatment plans b) Lab technician design the prosthesis wrong since details about soft tissue architecture, smile line and patient's desires and demand were not communicated with the lab.

7 contributing factors that are creating a series of non-value added steps or activities which result in a less profitable implant practice



Errors

are mistakes that create additional work



Inventory

is excessive storage of supplies, instruments, etc.



Space

General office space or operatory, cluttered or under utilized, e.g. fully equipped, unused operatory



Transport

of materials to your practice as well as patient from surgical to recovery rooms



Wait time

for patients with appointments or staff who set up the rooms



Interfaces and Communication

that are ineffective or unnecessary, multiple inquiries for the same activity



Duplicate work

from multiple parties doing similar tasks resulting in redundant outcome

Source: Porsche Consulting, AIID

Fig 12- Seven common non-value adding activities in an implant practice

Ideally, patients should be able to move from one step to the next without any hassle or delay. By not allowing continuous flow, practices are ultimately doing a disservice to the patient and hurting the overall experience. A bad experience could not only lose that individual patient, but all the potential patients they may have referred to you had their experience been better. In fact, customer service experts say that one unhappy customer will tell approximately ten other people about the bad experience. Does this mean that each of those ten people would have become customers had the negative word of mouth occurred? Of course not, but maybe positive word of mouth could have traveled to a friend of a friend who was looking for your services. The bottom line here is why would you

allow this bad “PR” to happen when you could be in complete control of it by using Operational Excellence to perform better service.

Results of Operational Excellence:

Implementing the principles of Operational Excellence will empower an oral surgeon to compete successfully within the ever-changing implant dentistry business environment.

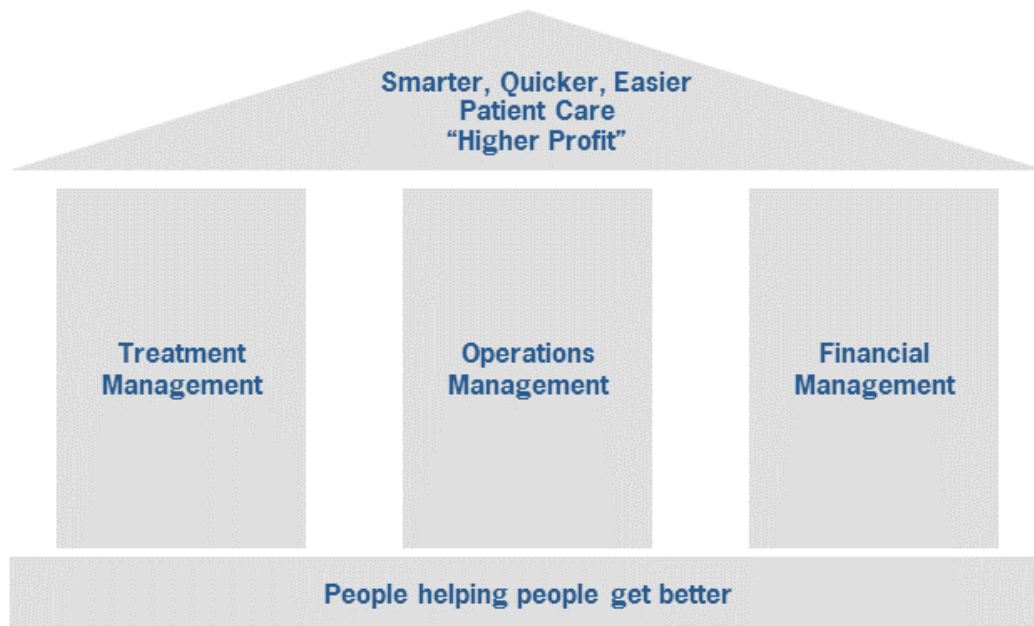
- Surgeons create a unique and memorable experience that makes it difficult for a corporate or general dentist to duplicate
- Surgeons easily can distinguish themselves from corporate and general dentists
- Higher case acceptance for high-end and expensive treatment plans
- Patient can experience the difference which will result in higher value recognition for your practice
- Patients become fully active references (ambassadors, enthusiasts). The best source of referral is a satisfied patient
- Less stress for patient as well as entire team
- Smoother work environment
- Surgeons will become a dominant real player in implant dentistry market
- More profit

Conclusion:

Just from this small taste of Operational Excellence discussed, it is clear to see that the techniques can have significant benefits for every part of your practice. Do not continue to do things the way you have always done them. Just because a practice has been running the same way for the past 20 years does not necessarily mean it is the best way or even relevant in today’s dental implant market.

Focus on implementing:

- Integrated value chains (clinical activities that bring the most profits)
- CAD/CAM implant dentistry
- Identifying quality loops and feedback cycles
- Producing quality at every step, not waiting until the end to check the quality
- Designing the correct infrastructure and improving the team attitude

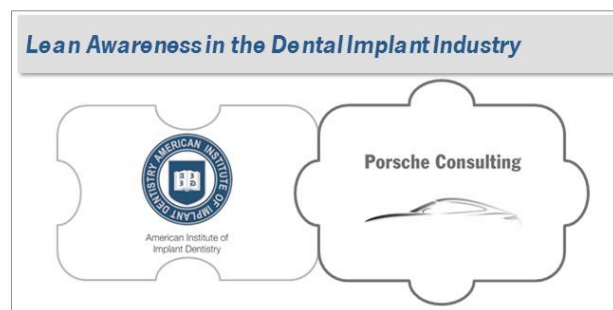


Source: Porsche Consulting, AIID

Fig 13- Smart management system

The first place to start improving is by undergoing Operational Excellence training with an expert. If this expert has a clear understanding of oral surgery and implant practice business model he or she can expedite your practice transformation much faster.

Porsche Consulting and American Institute of Implant Dentistry have partnered together to design a course of Operational Excellence in Implant Practice; this is the first educational and training program of its kind. This is the first dental implant organization that Porsche Consulting has paired with to offer their successful methodology in the field of implant dentistry. There are several Operational Excellence courses held throughout the year that feature a lecture portion as well as simulation training.



Source: Porsche Consulting, AIID

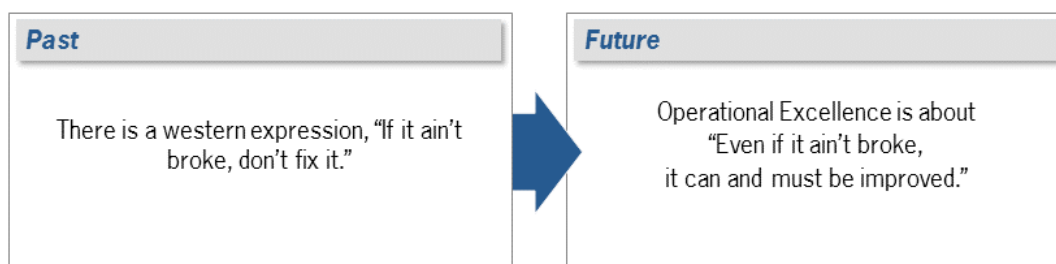
Fig 14- AIID and Porsche Consulting strategic alliance

One final consideration for Operational Excellence is that unlike what is typically thought this thinking is not just simply a set of tools that anyone can bring into their practice by following a ten-step guide. It is by no means a “quick-fix” for inefficiency or staffing issues associated with your practice. Operational Excellence takes time and adjusting to, and it takes the right people to accept it without resistance. It is a new way of thinking, problem-solving, and working that promotes constant improvement. Employees who undergo the training are taught to “seek perfection” continually, meaning to always identify and eliminate the waste to get as close to 100% efficiency as possible.

Ultimately, Operational Excellence not only allows for a better environment for you and your staff, but for your patients. This is the most central point to keep in mind for all of this. Patients should always remain the core value of any new activity, non-value adding activities elimination, or technique put into place using this methodology. They are what keeps the practice going day after day, and should be considered first. The bottom line of Operational Excellence is to anticipate what the patient will want and need, and deliver it before the patient asks for it.

Going back to the challenges mentioned earlier that practices face in today's economic, competitive, and regulated landscape, Operational Excellence allows you to rise to these challenges while raising your bottom line. This is done all the while significantly improving your practice for everyone involved.

Operational Excellence is a strategy, not just a tool



Source: Porsche Consulting, AIID

Fig 15- Continuous improvement

Please visit www.aiidglobal.org for further information.

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Dr. Firchau is the President & CEO of Porsche Consulting, Inc., a management consulting firm in Atlanta, Georgia. His main area of focus is Operational Excellence for a wide range of industries, including but not limited to automotive, aerospace and implant dentistry. Before his current position, he was the Manager of Business Development at Porsche Cars North America, where he led strategic and corporate development projects. The similarities between implant dentistry and manufacturing piqued his interest in improving performance in implant practices. Dr. Firchau is adamant that Operational Excellence requires a rigorous adherence to value adding activities as everything else is waste.



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Dr. Wu is a Diplomate of the American Board of Oral and Maxillofacial Surgery. He completed his residency in oral and maxillofacial surgery at Washington Hospital Center in Washington, D.C. and maintains privileges there. Currently, he serves as one of the faculty members of the American Institute of Implant Dentistry and advises on the surgical course curricula. He has a keen interest in lean methodology and has collaborated with AIID and Porsche Consulting to further enhance the application of lean methodology in today's evolving dental implant practice.

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