



# The Patient-Centered Dental-Health Home: An Essential Guide for Planning the CHC Dental Facility Expansion

*for community health and safety net clinics with guidance and expertise from chc dental leaders*

 **HENRY SCHEIN<sup>®</sup>**  
DENTAL

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Dear Community Healthcare Provider,

Thank you so much for requesting this guide to help you budget and plan for adding dental to your center(s). Our goal is to give you the information you need for applying for a grant, or just exploring the possibilities of creating dental services for your service population. This disk is just part of what we have to offer.

Henry Schein Inc has partnered in many ways in the world of Community Health Centers and we have a team of people who understand the challenges of providing for the under-served, so please call us and we would be glad to help.

We provide a full spectrum of dental and medical supplies; equipment sales, service and support;



training, office supply and planning and exclusive product lines. We offer unparalleled customer service and knowledgeable sales specialists who provide guidance you can depend on for all phases of your facilities requirements.

Reimbursements and funding sources continue to change, and we know you are challenged with business practices and patient care protocols to realize your mission. Please give us a call, and we will provide you with one of our many dedicated sales representatives. We will help you with resources and purchase management tools to enhance your administrative and clinical operations. We look forward to helping you take advantage of everything Henry Schein has to offer.

Thanks for what you do in helping the people that are less fortunate than others.

# The Patient-Centered Dental-Health Home



## Introduction

As Community Health Programs focus more intently on what it means to be a Patient-Centered Health (Medical) Home (PCHH), we are giving serious consideration to how facility design with the inclusion of dental health services supports that mission. We have therefore included the following guiding principles in formulating best-practices in facility design and equipment selection concepts:

The American Academy of Pediatrics (AAP), and the American College of Physicians (ACP), have agreed upon guidelines which stress that care provided in the health home model must be ‘accessible, family-centered, continuous, comprehensive, coordinated, compassionate, and culturally effective’.

The Maternal and Child Health Bureau (MCHB) at the Health Resources and Services Administration (HRSA) has identified specific criteria to establish whether a child's health care meets the definition of a health home. These criteria include:

- Whether the child has at least one personal doctor or nurse who knows him or her well and a usual source of sick care;
- Whether the child has no problems gaining referrals to specialty care and access to therapies or other services or equipment;
- Whether the family is very satisfied with the level of communication among their child's doctors and other programs;
- Whether the family usually or always gets sufficient help coordinating care when needed and receives effective care coordination;
- Whether the child's doctors usually or always spend enough time with the family, listen carefully to their concerns, are sensitive to their values and customs, provide any information they need, and make the family feel like a partner in their child's care;
- Whether an interpreter is usually or always available when needed.

Care should also be comprehensive and focused on early intervention and prevention.

## Benefits of the PCHH Model

- Promotes Interdisciplinary Collaboration and Understanding – Eliminating treatment ‘Silos’
- Results in Improved Health Outcomes
- Higher Patient Satisfaction
- Reduced Operations Costs
- Increased Revenue

The purpose of this manual is to draw upon the PCHH guiding principles to provide you with resource knowledge and technical information to help you realize your vision for the most ideal (and hopefully integrated) dental clinic space possible. To assure that the content best reflects the unique requirements of community health programs and the principles of the PCHH model the Schein team has consulted extensively with national experts and dental directors of successful community health programs. Their recommendations, guidance and warnings are included in this manual in the hopes that they will enrich your project's process and ultimate results. We have highlighted their specific recommendations with a light-bulb symbol.

We have written this manual for safety net programs whether Federally Qualified Health Centers (FQHCs), look-a-likes, or other private not-for-profit safety net entities and it will take you through concepts that will help you determine what you want from your new facility, how it will promote optimal oral health outcomes in care, providing a welcoming environment for patients and a truly pleasant work space for your dental team.

This guide is intended for informational purposes, and we hope it will assist in your project planning. The principles apply universally. Please note that it is not intended to offer or hold out pricing with respect to any particular piece of equipment or service offering or to constitute proposed specifications for your contemplated project. We trust you will find it useful, and we look forward to working with you!

## Federal Grant Compliance

### Capital Expansion, Bids and Federal Purchasing Regulations

While your program will likely receive grants from a variety of sources, each with their own stipulations, we are taking a moment to specifically address how Henry Schein has researched and crafted resources that will help your program comply with federal grant purchasing guidelines for capital expansion.

*When you are planning an expansion, please tell us about the type of grant you are accessing and a little about its requirements and we will work with you to support your compliance needs.*

**Sole Source Approach:** One method you may have used or want to consider is a *sole source* procurement. Given that dental equipment, technology and software have very specific technical and integration and compatibility requirements, such an approach may be justified with specific documentation. If you are choosing to proceed with a sole source procurement process, please let our team know and we will proceed with everything you need to make design, technology and equipment selections and provide you with resources and materials that are compatible documentation requirements.

**Formal Bid Process:** Of course all responsible programs planning a dental expansion or upgrade need and want to do market research in the grant-writing phase, and often want additional details for planning once the grant has been awarded. Dental clinics are a large investment, and errors in design and choice can be devastating to a budget.

However, when working with federal grants, and when a *formal bid process* is undertaken, the process is different. For instance, if a distributor, such as Henry Schein, provides information that is specific to your program's proposed site, or exact details on equipment, these activities are considered "consultative" in nature if they occur before your program has issued a formal and competitive bid. As such, they create a potential non-compliance situation. The competition rules governing how a CHC establishes contracts with a formal bid for equipment and service suppliers, after a grant has been awarded by the U.S. Government, prohibit companies from competing if they have drafted the specifications for the CHC. There may also be fiscal, administrative, civil or other penalties for programs and companies involved with non-compliant activities. We're sure you agree; we all want to do what's right.

Here is how Schein is helping you meet Federal Procurement Guidelines for the formal bid process while providing your program with informational resources to help you make expert decisions within approved parameters:

- Before you issue a bid and to help with the creative process, we will provide you with 'example' clinic floor-plans and access to design tools on the Henry Schein design website.
- We will provide you with example layout templates for treatment rooms.
- We will wait until you have completed the bid process to provide you with a specific floor plan for your designated space. In fact, as part of any bid award to Schein for equipment for your project, we will provide comprehensive design services for your site, including equipment specifications and site readiness requirements at no additional charge.
- Before you issue a bid, and to help with budget planning and grant applications, we will provide you with complete, but generic equipment and technology lists with solid budget estimates.
- When you request the bid, we will provide a legal response with complete, specific equipment item numbers, manufacturers, descriptions and exact pricing.
- We will provide you with useful marketing materials on products and resources you may want to know of.
- If you choose to use a sole source approach in lieu of the bid process, we can provide you with technical information and details to assist you.

## Begin with a Plan

This may sound basic, but it's important advice from our expert panel. They have seen too many community health programs add a dental program without a complete plan, which is just a facility design but a comprehensive analysis of how the oral health program will function and be sustainable. Your planning team should include an attorney, an architect and an experienced building contractor (in dental clinics). Dental programs are expensive to create and expensive to operate. Community Health Program dental needs are different from those of private practice. Fortunately, there are many successful programs around the country that are willing to share their best practices as well as the



guiding principles we are about to share. Mistakes can be crippling. Too many programs underestimate cost, not just for operations but for adding a dental clinic.

This manual does not and cannot comprehend the legal nuances of different states or cities which impact construction and operation of a dental clinic, which is why you need an attorney for such guidance and you should not proceed with construction until all legal approvals from governing bodies have been received. However, we are going to help you identify key elements in hopes of helping you with most ideal outcomes and avoiding setbacks and underestimates of project investment. Here goes:

### **Needs Assessment**

The segment of the population whom you will serve, or your target population, is typically dictated by the demographics of your service area. The oral health care needs of low income, minority, rural, migrant worker, refugee and other vulnerable population groups are often much greater than those of the general population. How you will specifically address those needs will depend on which of these groups predominate in your region and the specific challenges they face.

CHC dental patients are not only likely to have greater dental disease management needs but may have a more complex combination of health conditions. You may gain insight on health issues as typically policy requires dental patients to register as community health center (medical) patients of record first.

In conjunction with a focus on underserved populations, many community health programs also consider how they can attract the entire neighborhood and include patients with insurance and other payment resources to bolster revenue and maintain financial sustainability. In doing so the goal is always to make sure such additions do not negatively impact care access for those with no resources.

To support one full-time employed (FTE) dentist, you can reasonably allow for a minimum of 3,000 underserved patients who live within a 3-mile radius of the proposed facility location or 5,000 underserved patients within a 5-mile radius. That ratio should assure sufficient patient participation to keep a full-time clinician busy. Private clinicians frequently support their practice on fewer base patients, but due to the complexities and demands we see in underserved populations, calculating clinic viability on a larger patient base, provides for a more realistic expectation for success.

As we proceed through this manual we will discuss not only how your clinic can assure effective delivery of care to the under-served, but how the design can support a mission to be a 'provider of choice' for everyone in your service area.

### **Who is Your Service Population (Target Population)?**

- **Ethnic diversity:** which cultures and groups need your services? How will you design not only a facility but a service delivery model that comprehends sensitivity to cultural beliefs and possible language barriers?
- **Geographic service area:** note most people will use your office if they live within 5 miles of its location. Unless you are in a very rural location, an estimated 70% of your patients will live within 3 miles of your facility.

- What do you know about barriers to accessing care and how will your plan address those? Note: if you have a medical clinic that already serves the target population, you will have many of the answers. However here are some examples:
  - Transportation availability and affordability.
  - Loss of work-time and income, perhaps even jeopardizing employment.
  - Lack of child-care and need to bring other family members with them.
  - Language and comprehension.
  - Physical disabilities.
  - Developmental disabilities.
  - Psycho-social disabilities.
  - Cultural and religious beliefs and practices

Note: The ASTDD website provides data on disease and access collected from state surveillance programs. You may find this resource helpful.

### **What Do They Really Need?**

How will your target population be healthier as a result of the implementation of your dental component? Consider the following outcomes as you answer this question:

- Elimination of active oral disease
- Strong focus on oral disease prevention and reduction of early childhood caries
- Decrease in the risk of disease complications related to periodontal disease, such as pre-term birth, heart disease, and diabetes management.
- Restoration of aesthetics and function
- Improved overall health especially where system diseases such as diabetes are better managed with the inclusion of regular oral health care and management of periodontal disease.
- Integrated Medical and Dental services to maximize patient time taken at your facility.
- Integration of spaces that reflect cultural/spiritual beliefs such as healing or meditation gardens.
- The ability to provide preventive services to the children accompanying scheduled adult patients.
- Enabling Services such as Case Managers or *Promotores de Salud* to help patients reduce the stress of navigating care requirements and more effectively access the care they need. In fact, Enabling Services are really an essential part of program sustainability.
- Finally and very importantly, one outcome to always consider is the value the patient places on the care you provide. Patients must deem what they receive to be worth the investment of time, financial payment and following of clinical instructions to more actively own their own oral health status, if a program is going to count itself effective.

As you consider the oral health status of your specific target population, you can begin to define the services it needs most. This will determine the extent and volume of the work you expect to perform and you will be better able to decide how large an office you need and how you should plan for future growth.

How to sustain your program as it provides care to those who lack resources is always the challenge. You will find that you will need a hierarchy of treatment to determine what your scope of services can and

should be. For instance, you may want to start with comprehensive services for children and pregnant mothers, as this is how to create a generation of improved oral health status. This population can often access Medicaid and/or SChip insurance. Many programs begin with giving priority to those services which diagnose and prevent disease and then which eliminate active disease (Phase 1 care; HRSA). In a new service area, don't be surprised at the number of urgent toothaches and acute infections your clinic will see.

Remember: Within budget limitations, the people you are helping and their needs should always dictate the location, size, and equipment of your new dental office.

## Defining Your Plan: Oral Health Outcomes vs. Scope of Service

### What procedures do we need?

The services you decide to provide to your patients are called your scope of practice. Determining the scope of practice as it compares to your desired oral health outcomes will not only allow you to determine what spaces you need, but their layouts, functions and the types of equipment and materials required.

General dental services are typically divided into these areas:

- **Acute Emergency:** *Acute infection, pain relief, bleeding control, injury, respiratory difficulty, avulsed teeth*
- **Diagnosis:** *Examination and imaging (such as x-rays)*
- **Prevention:** *Cleanings, fluoride applications, sealants, education*
- **Restoration:** *Fillings, root canal therapy*
- **Prosthetics:** *Crowns and dentures*
- **Surgical:** *Extractions*

Diagnostic, preventive, surgical and restorative procedures (use of root canal therapy varies) comprise the services which prevent disease and eliminate active disease.

Lastly, treatment services may vary in terms of what you will provide to children or other vulnerable populations and what you will cover for adults. As state Medicaid programs vary in their adult coverage, from comprehensive to very limited, creating a meaningful and affordable scope of services where benefits don't support those, can be challenging.

HRSA provides guidelines in this area.

### Procedures vs. Equipment

As you review the procedures that will meet your scope based on your patients' needs, you can determine the equipment you will require to support each aspect of care. By eliminating equipment that sounds useful but provides no real support to your activities, you can be much more cost-effective.

For example, when you consider whether or not you will support prosthetics in your clinic, ask yourself how much lab work you will really need to do in-house? What types of lab procedures need to happen in

the clinic and what can you send out to be done? You may need to take impressions for dentures, pour up study models for difficult cases, or orthodontics. You may want to do simple denture repairs, or, depending on the volume of work you have, it may be less expensive for you to send all of your work to an outside lab for construction of dentures, crowns, space maintainers, etc. The size of the lab and type of equipment will vary accordingly.

There are many wonderful tools and technologies which support advanced dental treatment. The key is to be sure that those you choose will work universally to support your mission and standard of care. They also should be universally useful to all your clinicians.

## **Working with a Budget**

### **Setting your own limits**

It's very important that you set your budget parameters in advance. Know them well and stick to them. Few things compare to the stress of having taken the time and effort to plan a beautiful new clinic out to the last detail, only to find yourself cutting out item after item because "we can't afford it."

Of course, to arrive at your final budget you will have to consider how all of the components discussed in this planning guide will work for you. Even so, an initial budget with limitations clearly defined will help manage expectations and focus contributors on viable choices for your situation.

Remember Capital Expansion funding is finite. You may not receive further funding to replace or upgrade equipment for some years.

If you have a limited budget but need to start somewhere, consider a strategic plan that implements your needs in stages that build on each other. This requires care and some forward thinking to make sure that you do not invest in areas that will become redundant very quickly.

### **What do you really need?**

Some elements you may consider as you choose your equipment include:

- Cost-effectiveness
- Reliability (There are reliable choices for many items with mid-range pricing)
- Warranty
- Ergonomic soundness
- Promotion of productivity
- Appearance
- Design and features for the procedures you plan to provide and the patients you plan to serve.
- Ease of left/right-hand adaptation to operator-handedness
- Evaluation and application of new and emerging technologies that improve patient experience, quality of care outcomes, clinical efficiency
- Fully integrated technologies
- Promotion of 'green practices'

Even so, equipment costs do not exist in a vacuum. For example, your dentist's salary is the single most expensive part of your budget. If your dentist must wait between patients for room clean up, x-rays to be taken or for anesthesia to be effective, you are losing productivity.



**Expert  
Advice!**

*Having the 'right' number of operatories and the equipment you need allows your dentist to be scheduled with a patient at all times during the clinical day. It also allows for best utilization of hygienists as well as assistants with expanded functions (based on state practice acts). All of these mean more time with patients and more effective care.*

### **Construction or Renovation Budget**

Once you have your contractor identified, it is especially important to assess existing buildings for potentially hidden expenses related to dental construction. These can include allowances for location of shear walls, supporting columns, asbestos abatement, inadequate and old electrical, concrete floors that may require trenching for air, water and vacuum lines and location of existing plumbing, which if tapped into with effective design can save thousands of dollars.



**Expert  
Advice!**

*Consider a national contractor who is experienced in both medical and dental facility construction who can contract with local labor in order to be compliant with local labor or building regulations that will impact your project. This is an important aspect of writing a Request for Proposal (RFP). Expert contractors are invaluable. If you do choose to a local or regional contractor, we recommend you verify specifically their experience with building dental facilities (not just having looked a pictures of dental clinics!).*

Have the contractor detail the budget and allow for contingency funds to address construction 'surprises' or additional requirements related to building inspection.

### **General Budget Categories**

- Architect/Design
- Contractor and Construction
- Permits and Legal
- Dental equipment and technology
- Office furnishings and equipment
- Waiting room furnishings
- Educational Resources
- Computer and technology requirements: servers or hosted
- Child entertainment
- Art work and other finishes that beautify your facility.

### **Who needs to know?**

Your Directors, Administrators and others involved in grant application and foundation funding certainly require your input into the budget. Once initial limits are established, it is important to communicate your budget restrictions to everyone involved in the decision-making process for that area

of the plan, from Directors to Vendors. Without this knowledge, planners and providers may be wasting time with unnecessary or overly expensive proposals and find themselves re-working those proposals resulting in reduced lead-time and increased cost and stress.



**Expert  
Advice!**

*Contractors experienced in building dental offices are essential. Equally important is guiding expertise for equipment and technology needs. Avoid change orders! These can represent thousands of dollars wasted that could be dedicated to meaningful technology or other upgrades that improve access. It is now possible to get 3-D plan versions that allow you to more effectively evaluate design functionality.*

# Nuts and Bolts



## Dental Design Elements

As we begin planning and designing the new office space, let's look at five key design elements that will affect choices:

- Patient-Centered Health-Home Principles - Spaces and flow that promote ease of integrating care both from a patient and a staff perspective.
- Accessibility - The ability of staff, patients, including disabled persons, to easily use the dental facility
- Function - How well the office provides an environment for performing tasks and effectively supports your desired oral health outcome.
- Compliance - More than just ADA accessibility requirements, compliance includes adherence to the State, Federal and local rules and regulations that govern the practice of dentistry.
- Aesthetics - Creation of visual appeal - how staff and visitors respond emotionally to the clinic space.



Now, let's look at each of these five elements in a little more detail.

## Patient-Centered Health-Home Principles

CHCs want to give their patients as much care on the same day as possible. Patients may have difficulty returning or keeping appointments.



**Expert  
Advice!**

*Design for the Future, not just Today!*

*It's tempting to think about the smallest, cheapest place to start a dental program, but it's an approach that can build a foundation that's difficult and expensive to change later. It can even prevent growth or upgrades down the road.*

You may be only able to start with three treatment rooms. It is reasonable to expect you will want and need to grow. Therefore, having space designated for expansion, especially if 'roughed out' with plumbing and ready to complete can be very cost-effective.



**Expert  
Advice!**

*Allow for adding technology you can't afford now. Whether it's a CAD-CAM solution or a panorex machine that's not in your budget yet, it's wise to designate spaces for them now. When funding allows, big construction changes won't be necessary to get them in. Those spaces can double as office or other works space in the meantime. In fact, a flexible design where spaces anticipated for future dental expansion can serve a different purpose now can be very cost-effective as part a of a master plan.*

Design should reflect scalability and repeatability. All treatment rooms should be exactly the same. This not only supports cost containment but productive and efficient staff performance.



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## Multiple Floors

If, with multiple floors you do not have room to place all primary medical and all dental on the first floor, then do a Medical A with a Dental A clinic on the same floor and a Medical B and Dental B on the second floor to assure that medical and dental are well-integrated and patient movement is minimal. Such an arrangement promotes efficiency for the clinical staff especially when coordinating with each other or providing services within each other's clinical spaces. This also means increased billable encounter numbers.

Patients, especially those herding children, are more able to access combined services which means a more effective treatment experience and care outcomes.



**Expert  
Advice!**

*If you are building within multiple floors, have primary medical care and dental share the first floor, with Obstetrics and Pediatrics on the second floor. These are more effective groupings for patient movement.*

Strategic Design can allow for complementary plumbing and gas lines for both dental floors along with placement of the mechanical room on the lower floor to accommodate both dental clinics.

## Optimal Patient Flow Through Service Points

Successful design brings all department heads together to assure that all needs are met, creative solutions flow and all interdependencies, opportunities to share and multipurpose spaces are identified. Wherever possible, clinic design should allow patients to move between medical and dental without going back through reception.



**Expert  
Advice!**

*After receiving care, it is ideal to have patients leave through an exit and checkout space without having to traverse the main waiting room. This improves flow and prevents congestion. Patients receiving surgical dental services could have designated parking spaces located outside such exits to allow ease of transfer.*

Space for case managers, *promotores de salud* or other treatment enablers is essential and their location should be integrated into the clinical design (not the administrative design) allowing them to quickly move from one discipline to another to serve patients no matter where their appointments originate. Grouping staff in pods (teams) which are positioned near their treatment areas allows them to not only see each other but track their assigned treatment rooms and patients. More efficient staff to treatment space location can reduce miles of staff walking, looking for their providers, and promote greater efficiency and timeliness of care.

Have a centralized reception room for both medical and dental patients for more efficient intake, sharing of staff costs and coordination of care. For patients brought back for test results or vitals, have a step down waiting area located between just after intake but before the treatment rooms. Consider

multipurpose treatment rooms between medical and dental that can allow for all services. There are equipment choices that will support this model. It allows for people with disabilities or moms with children to receive care that ‘orbits’ around them rather than their having to move around the facility. Another possibility: multipurpose treatment rooms designated to accommodate a wheelchair lift so that wheelchair-bound patients do not need to move from their chairs for care.

### Design to Follow the Flow

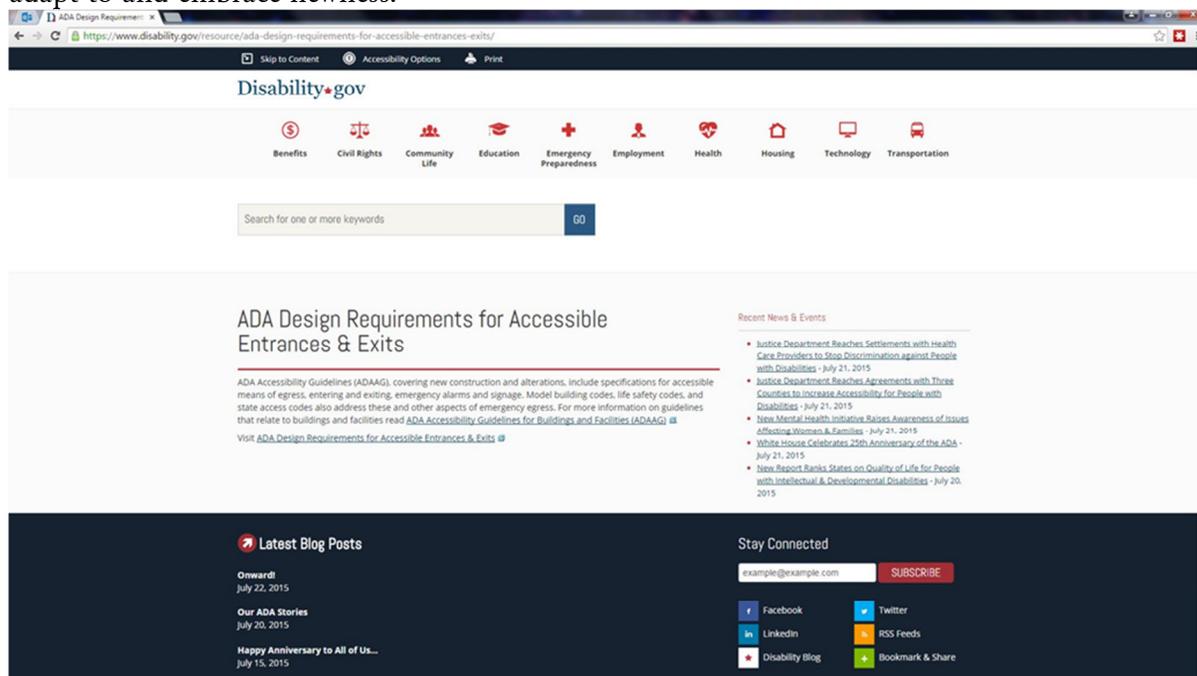
Sterilization is the heartbeat of the clinical space. Place it centrally surrounded by all treatment rooms. Assure adequate restocking space for procedure tubs, bur blocks and other aseptic activities. Consider a CAMBRA room just inside the clinical area from waiting room. This room will allow moms with young children to receive additional preventive services without tying up a treatment room and without bringing young children further into the treatment area.

### Application of Technology is Key to the PCHH Transformation

The work design of the practice is primary to the PCHH transformation. Once that is mapped out, integrated technology must support work flow, interdisciplinary communication and measurement of quality parameters and outcomes. Once again focusing on the patient experience and well-being, drives these decisions. You will find that practices that support a more meaningful patient experience are also those that support efficiency, productivity and lessened stress and physical exhaustion of staff.

### Work Together to Avoid Change Fatigue

Rethinking work flow and facility design and letting go of past models that may be copies of traditional private practices, while ultimately supporting your vision, can cause change fatigue for staff and teams. Consider a plan that takes teams in stages through the program’s metamorphosis and trains teams to adjust to change. Listening to messages that indicate escalated stress such as in adopting new technology whether a software or treatment tool, and addressing those with sensitivity can help staff feel ‘safe’ as they adapt to and embrace newness.



## Accessibility

### ADA (Americans with Disabilities Act)

Certainly, an important aspect of accessibility is to assure compliance to standards mandated by Americans with Disabilities Act (ADA). The Act specifies requirements such as wheelchair access to sidewalks, restrooms, telephones, and drinking fountains.

In fact, the ADA has many requirements that are specifically related to accessibility to healthcare facilities. These range from stipulating parking requirements (10% of parking must be suitably located and designated for disabled/handicapped patrons) to the space between the opening of the operatory and the dental chair (32”).

As of this writing, the ADA provides a very complete checklist online at <http://www.access-board.gov/adaag/checklist/a16.html>. In addition, you may contact the ADA directly for consultation, if needed.

### Getting Physical

While ADA is what most people think of when they think “accessible,” there are many other considerations beyond ease of movement in and around the clinic. Just as important as the layout of your clinic is the physical location of your office. It’s essential to evaluate how suitable your intended site is to your target population. Think about these questions:

- Is the site located on (or within very easy walking distance of) bus or train routes? In urban areas expect that 40% to 70% of patients will be at least somewhat dependent on public transportation.
- Are the access roads to the site in good condition?
- Are there close-by cross walks so that patients can traverse busy streets with relative safety?
- Is the clinic centrally positioned for your target population? Surveys of Medicaid beneficiaries in urban areas indicate that they prefer services located within 3 miles of home.
- Is the site easily described with driving directions, or will patients need a map and compass to find it?
- Is there adequate parking? Cities have standards for parking allocation including parking designated for people with disabilities.
- Will signage be easily visible from the road?
- What complementary services are co-located with your dental clinic or in close proximity? (Consider both integrated primary care services within your program such as medical, pharmacy, mental health and social services, but also nearby services like banks, grocery stores, and other shopping).
- Is the neighborhood relatively safe or will patients feel that it and neighboring businesses are potentially intimidating?
- If so, should you consider adding security services?

### To Build or Not to Build...

Whether you are building a new facility or converting an existing building space, it is important that you have an economical and efficient result. As you weigh the various options in your target area, think about how readily the site will accept conversion into a dental office. If you are considering an existing

building, you will benefit from expert evaluation of the site to determine how cost-effectively a suitable conversion can be done.

#### For new construction

- Do the building codes and zoning permit a dental clinic?
- Are all necessary utilities readily available: water, electrical, natural gas, telephone?
- Is sufficient bandwidth for internet access available for the site?
- Does the property have physical features: steep grade, need to remove trees or structures that will add cost to the construction?
- Will there be ample parking for staff and patients?
- Will the parking allow easy access to the clinic?
- What is the proximity of public transportation?
- Are signs allowed?
- Is there room for growth?
- How attractive are the surroundings?
- Will your landlord adequately maintain gardens, lawns, parking, snow removal, lighting and the exterior condition of the building?
- Can you co-locate other primary services creating integrated care that allows patients to be seen both by medical and dental on the same day?

#### For existing buildings

- Will the cost of the renovation be so high that the benefit of a low-cost lease is eliminated?
- Existing walls impact design. You need to identify weight bearing and shear walls and whether your design can be efficient with the existing configuration of those walls. If you must truly compromise your workflow and efficiency in order to make the space work, you may want to keep looking.
- Older buildings may contain asbestos in their construction. Whatever abatement plan is implemented, the process can be very expensive.
- The impact of the floor type of an existing building is always a concern. Air, water and vacuum lines must connect the chairs to the vacuum and compressor. Floors with basement or crawl spaces allow easier placement of utility lines from the utility closet to the dental chairs. If the floor is concrete, trenching is possible, but expensive. Running lines through a false floor placed over the concrete or along walls to the operatories may be possible instead of trenching.
- Unless your dental space is small, say six or fewer treatment rooms, avoid any temptation to run vacuum lines through the ceiling. Even with a small office, try to find other alternatives to ceiling run vacuum lines. It is better to run lines from the foot of the treatment chair to a common base wall and along it to the mechanical room.
- Plumbing and electrical lines may need to be completely upgraded in an older building. Water lines must be reliable, clean and free of debris.
- You may want to consider how design will take advantage of existing features such as plumbing, shared wet walls and window location.
- Electrical service is needed to support all of the clinic activities.

- Will you share the building? If so, other businesses, their type and their parking requirements should be compatible with your operation.
- How economically can the building be heated in winter and cooled in summer?
- Where is the sun located in the afternoon when compared to the treatment rooms?

## Function

Let's think about the function of our clinic. By "function" we mean, "how easily we can get our jobs done." If an operatory is too small, or if the supplies or equipment we need are in the wrong place it can make it difficult to complete our tasks. The outcome we're looking for could be compromised. What can we do to assure that our workspace is just right for the job we need to do?

What spaces do we need in our dental office?

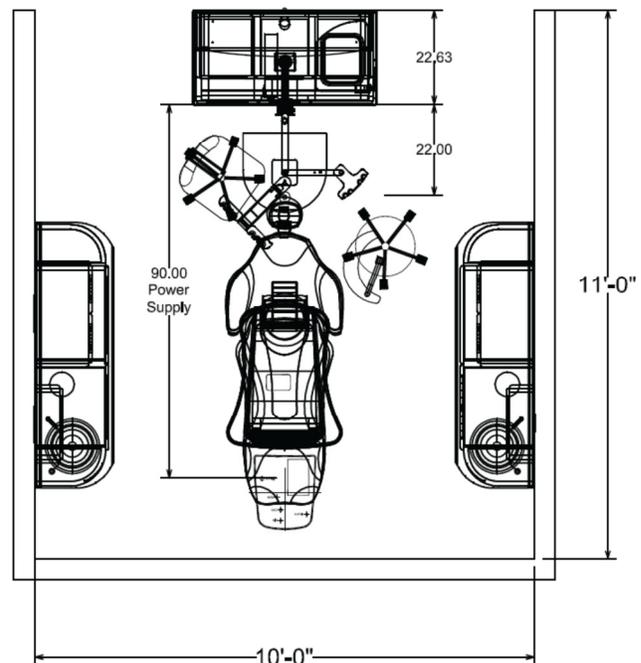
The first thing we need to know is what spaces we really need in our clinic. Some spaces are absolutely necessary, while others may not be required. Whether you include them in your planning and design will depend on your mission, budget, scope of service and organization. Let's look at some essential vs. non-essential spaces in the dental clinic.

### *Essential Spaces*

#### **Operatory**

We recommend that each operatory be 10' wide by 11' deep (some rear delivery systems will require greater room depth) and no less than 9'8" wide if side cabinets will be used. A simple operatory design can be 9' wide by 10' deep if necessary. Please remember that to comply with ADA wheelchair accessibility requirements, treatment rooms must have a minimum 32" (36" recommended) clear entrance to allow the patient to transfer from the wheelchair to the treatment chair. If both right-and-left-handed (likely) dentists will use the operatory, then you must have the same amount of clearance on both sides of the dental chair.

The number of operatories depends on how many dentists you need. An experienced dentist with 2 assistants and optimal equipment and workspaces may readily treat 1.8 to 2.2 patients per hour depending on the age, tolerances of the patient and work to be done as well as effective use of expanded function assistants. To achieve the standard, each dentist needs a minimum of three operatories. While it is feasible for a dentist to manage fairly satisfactorily with only two operatories, three operatories can provide significantly improved workflow (See table below).



Improved Workflow - Multiple Operatories	
Operator 1	Large appointments and complex procedures.
Operator 2	Overlap the beginning and end of each appointment in Operator 1 with a smaller, simpler procedure such as a simple extraction of a deciduous tooth, a small filling, denture adjustments, initial impressions for dentures, suture removals.
Operator 3	Urgent work-in patients such as post-operative complications, toothaches, trauma, denture repairs.



**Expert Advice!**

*If state practice acts allow it, well-trained, expanded-duty dental assistants may perform many additional functions such as coronal polish, placing restorations, replacing dressings, placing temporary fillings, creating temporary crowns, placing sealants, and applying fluoride varnish under the dentist's supervision. A fourth or even fifth operator may readily be supported.*

Since the dentist's salary is the largest individual expense in your annual budget, your dentist should be scheduled with a patient at all times during clinical time. Strategic use of your operatories will help the staff avoid getting irretrievably behind on their schedule and patients from waiting unnecessarily. If a dentist is waiting between patients for a room to be cleaned, x-rays to be taken, or for anesthesia to be effective you are losing productivity. More operatories will also reduce stress when the unforeseen happens - fillings that break at the end of the appointment and have to be replaced; simple extractions that become surgical; difficult patients.



**Expert Advice!**

*"How many hygienists will I need?" Hygienists are most productive if they have access to two operatories. The hygienist can move from one patient to the next while an assistant cleans and prepares the used operatory. While some programs have created separate hygiene rooms that are equipped differently, we strongly recommend against making any operatory treatment specific. Doing so immediately limits functionality and flexibility which can be financially costly. If equipment in a treatment room breaks down, clinicians need to be able to use any other room to care for patients while repairs are made. If patient care falls behind for any reason (such as complex surgical procedures or working in emergency patients), overlapping operatory function allows staff to adapt and deliver the best care.*

Finally by having treatment rooms with universal functionality you may be able to effectively house a full time dentist and a hygienist in four to five treatment rooms.

How the operatory is designed, equipped and located is one of the most significant decisions you will make. This is because of how it impacts workflow, the employees' and patients' experience as well as their well-being. Locate the sterilization area as centrally to the operatories as possible. If your clinic has windows, a design that incorporates them into the operatories improves the experience for the patient and provides natural light for the dentist. Natural light aids the accurate choice of composite and tooth shades.



### Expert Advice!

*Standardize operatories to one style and layout for all. In fact if you have multiple office sites, it is optimum that all the offices have the same operatory layout and as far as possible the same workflow. During times of new staff acclimation or staff shortages, standardization allows team members to work anywhere with ease and without impediment to efficiency. The only exception should be if you choose to add closing doors to an operatory for the purpose of special treatment requirements. Doors on standard operatories are not necessary, and add to construction costs. Poorly placed, they can impede operatory access by staff. An operatory with a door should therefore be larger.*

We recommend one of the following operatory layouts depending on your needs and budget:

- A simple and less costly operatory design uses a 'T' wall with a 4'-5' opening in the center of the operatory wall that has the hall access. A pass-thru cabinet in a shared operatory wall houses the x-ray machine for use between adjoining operatories. Swing delivery off the dental chair is the recommended delivery unit choice.
- An ergonomically sound and efficient recommendation, is an operatory with access from the hallway on either side of a '12:00 o'clock' cabinet. This type of design allows the dentist and support staff to readily enter and leave the space without interfering with activity. The 12:00 o'clock cabinet is ideally positioned to accommodate operatory equipment and the dental delivery system. From an ergonomic standpoint, with an assistant trained in four-handed dental technique, this position is superior.
- Adjoining operatories can share center island cabinetry. The cabinetry comes in many designs and provides storage, writing spaces, handwashing stations and x-ray machine housing.

### Sterilization Bay

The sterilization bay is perhaps the most critical support area in a dental facility. To comply with standards established by the CDC and to promote efficiency, the sterilization area design should flow from the intake of contaminated instruments and trays, to their storage upon completion of sterilization. The key sterilization areas defined by the CDC are *RECEIVING* (intake), *CLEANING AND DECONTAMINATION*; *PREPARATION AND PACKAGING*; *STERILIZATION*; *STORAGE OF STERILE ITEMS*.

First, the intake area needs a surface for unloading trays, disposal of non-reusable sharps in sharps containers (however, we do recommend that disposable sharps be placed in a sharps container in the operatory directly after use), and used cotton rolls and gauze in a biohazard container. The containers can be placed under the counter accessed by a hole for disposal through the counter or a foot tap to open trash storage below the counter.



The next area is for removal of debris from instruments and trays. A space for an ultrasonic cleaner or under-counter instrument washer (when instruments are organized in cassettes) can increase safety by reducing handling during the processing of contaminants.

Next a sink is required for rinsing instruments and other dirty items, and for washing hands. It is also a suitable place to locate an eyewash station. Some sterilization centers can be equipped with suction to clean water from surfaces or to empty out containers with ease.

The next area is for packaging of instruments or wrapping of instrument cassettes. Proper organization requires space for wrapping of cassettes or bagging of instruments with ready access to the necessary tools.

The actual sterilization space requires separation in such a way that contaminants will not splatter on to cleaned and sterilized items during early processing. This means that a physical barrier between the dirty intake area of sterilization and the packaging area, then a separation between packaging and sterile help assure compliance. Your office may need a place for cold-sterilization of items that are reusable but which will not tolerate heat or steam sterilization and disinfecting of the procedure trays and lids. Key to this area is placement of one or two sterilizers with easy and safe access not just to the sterilization chamber but the reservoirs and areas that require maintenance. Some sterilization centers come with a built-in vacuum for cleaning of water reservoirs and spills around the sterilizers. They can also come with slide out shelves to hold sterilizers and refill hoses with distilled water for filling sterilizer reservoirs. These features improve access and safety during sterilizer maintenance and use.



The last component of the actual sterilization process is the storage of sterilized items where they will not be subject to contamination from processing activities.



**Expert  
Advice!**

*Your sterilization bay may also benefit from additional counter space for restocking procedure trays, procedure tubs and bur holders with items necessary for the categories of procedures you will provide. The space must be adequate for the volume of work it receives. Drawers and cabinetry to organize materials and items by function or procedure can greatly enhance speed and productivity. For instance, many offices benefit from a column of drawers organized to hold surgical instruments.*

Instruments should be divided by order of use and category starting with surgical curettes, then elevators, also grouped by type, forceps grouped by type, scissors, hemostats, and so on. The same organization

process is effective for organizing other types of procedures such as endodontics, crown and bridge and dentures.

To assist with efficient and effective sterilization spaces that comply with CDC standards, manufacturers now produce sterilization centers that meet all the requirements. For information and help on infection control and sterilization practices, you can find excellent resources through the Organization for Safety, Asepsis and Prevention (OSAP) Please go to [www.osap.org](http://www.osap.org).

### Waiting Room

Waiting rooms give the first impressions of the care experience. Where-ever possible they should be large enough for patients to be comfortable, entertained, and give flow to movement around the space. To determine the space you need, a simple method is to allow 120 square feet for the first 6 patients and an additional 10 square feet per patient thereafter. This includes seating, walking spaces, entrance door, and access to the front reception desk.



**Expert  
Advice!**

*3D rendering of the waiting room space can help determine optimal size and layout.*

Many factors can increase your seating requirements in a CHC environment. For example, you may have patients who arrive early to their appointments. Emergency patients who come to your office planning to wait until they can be worked in to see the dentists will also add to capacity. Many low-income families cannot afford child-care, so visiting the dentist can be a family outing. Allow for room for additional family members in your space requirements.

As we mentioned earlier, if your practice will accept a high percentage of pediatric patients a separate play area in the waiting room may help to entertain them and reduce the impact of their normal exuberance on other adult patients. It keeps rambunctious activity within specified confines, promotes a positive experience for the child visiting the dentist, and reduces stress for child, the parent, and other patients. Some community health centers are embracing a 'cafeteria' approach to waiting room space. While this requires more square footage,



the waiting area becomes a functional place for families with areas for supervising schoolwork and play. You can achieve great results with two or three chairs surrounding small tables where parents can supervise children's schoolwork (homework) while sibling(s) receive care. Consider designating a wall in the play area where several video game stations are installed at different heights.

### **Patient Restrooms**

Patients need to have a sufficient number of restroom facilities available to them. ADA requirements specify minimum sizes for wheelchair access - typically a stall that has a 60" turning radius. Locate restrooms near the waiting room area. If you have a restroom in the waiting room area, try to create indirect access so that patients in waiting room seating do not face the restroom door.

### **Reception Area**

This area will require space for patient intake, check-out, initial creation of patient records, patient scheduling, answering phones, accepting patient payments, printing walk-out statements, and checking patient eligibility for services, insurance coverage and sliding fee scales. Allow for a reception desk with room for patients to check-in and out in separate sections (check out leading straight to exit without traversing the waiting room) to promote good workflow. Allow desk space for computer monitors as well as work areas. You will need room for easy storage and access of forms and for a photocopier, printer, and fax. The functions you designate for the area will determine the size. You may need quiet, divided areas where patients can have confidential payment and eligibility conversations.



### **Business Office**

Your business office is certainly an essential space, but it doesn't necessarily need to share space with your clinic. Plan space that allows for efficient movement of staff, with sufficient counter or desktop space for computer placement, and neat and confidential performance of front desk activities. Business functions include insurance billing, collections, accounting and bookkeeping, purchasing, accounts receivable, human resources management, employee interviews, private discussions, maintenance and storage of compliance records and policies, and employee records. Some programs centralize the business office to one site that handles the functions for a group of offices, while others prefer to keep business functions separate in each office

### **Utility Closet**

The minimum size should be 4'x6'. However, for a large office, begin by knowing the size and specifications for the vacuum and compressor needed to serve your facility. It is possible to stack utility equipment to save space. The utility closet location should allow for efficient connection of lines to the operatory equipment; but not permit loud noise to be an impact. Utility closets belong on the same floor as or below the dental clinic. Never locate above the dental clinic. *Note: It's a good idea to always verify electrical, plumbing, venting requirements and best location for master on/off controls (such as sterilization where staff are constantly in and out and control panel visibility is a reminder)*

### **Storage Room**

This space must be large enough to allow you to store similar items together. If you split your inventory up to store it, tracking that inventory becomes very difficult. If you have a distributor like Henry Schein which accurately delivers orders within one to two days of placement, you only need enough storage for about two weeks of supplies. If you choose to not have a storage room, you'll need enough cabinetry in other parts of the office to accommodate all your supplies along with a written tracking and allocation plan: not recommended if avoidable.

### **Panoramic X-ray Machine Space**

Even if you cannot afford one now, plan for the future with a designated space for a panorex machine. It only needs 5'x5' feet of clear floor-space. It is often efficient to locate the panorex space near the front of the clinical area, close to the entrance from the waiting room. If you plan to add ceph capability in the future, obtain the dimensions before finalizing the plan.

### **Doctor's Office**

This space does not need to be large, but with enough room for a desk, computer equipment, chair, reference materials, and storage of personal items. The office should be close to the clinical area, but away from the usual route of patients entering and leaving the clinic. This will give privacy and security to the space. Multiple clinicians can share a space with a modular or built in desk system.

### **Lab**

Study models and initial impressions are poured up, custom trays, temporo-mandibular joint (TMJ) splints, mouthguards and space-maintainers are made, broken dentures repaired, and a variety of other adjunct functions occur. You may decide to do many of these activities yourself or just very basic ones and use the space to ship and receive projects to and from a professional lab. Your space requirements and equipment needs will depend on what activities you keep "in house."

A good minimum is 5'x7' with one countertop with a small sink along the short wall. The lab is part of the clinical space; but can be out of the main path of activity.

### **CAMBRA (Caries Management by Risk Assessment) Room**

This space, the Consultation and Anticipatory Guidance Office, is Essential for the PCHH. If you plan to follow the national recommendations for early childhood assessments, and we recommend you do, it is more cost-effective to use the treatment consultation office than to 'tie up' an entire operatory. You do not need a room with expensive dental equipment and the room can be much smaller than the normal operatory. Consider locating the room just inside entrance to the clinical area so that moms with babies and very young children can efficiently be brought in, assisted without walking through other treatment

areas. Allow about 8' by 6' and equip with two regular office chairs (When doing a risk assessment exam on a baby, the mom and clinician sit knee to knee with baby lying on his/her back with legs wrapped around mom's waist). The chairs should be vinyl-covered for cleaning. A mobile cart readily stores basic assessment supplies fluoride varnish application materials. Address hand cleaning with hand-sanitizer products so no sink or plumbing will be needed.

### ***Promotores de Salud* or Enabling Services Space**

Also essential for PCHH. Designate a centralized location utilizing strong communication technology, where the *promotor/a* or case manager is easily accessed by staff and patients and readily able to help patients negotiate care.

### **Non-Essential but Useful Spaces**

If you have the room, these could easily be considered essential. However, if you are truly limited and 'something has to give', here are some options for compromise:

- If at all possible employees should have a break room - a place to eat and rest. This space does not need to be large and can be equipped with a small sink, microwave and fridge. Break rooms often double as a staff training and conference room. However, a dental specific break room is not necessary. Center staff can share.
- Staff members often prefer to have separate staff restrooms. Ideally staff restrooms should include a shower stall as a resource for those who exercise and for decontamination from exposure to blood or other potentially infectious materials.
- As you determine health outcomes for your patients, you may find that designating a small patient education office can enhance the impact of your preventive program and free up the more expensive operatory space for treatment procedures.
- If you are inconveniently located to outside services or your office is large, a laundry may help you to cost-effectively and quickly clean towels, and personal protective equipment (PPE). It is not a necessary space if you contract with an outside laundry service or use disposable PPE.
- A locker room enables staff to change in and out of PPE quickly and to securely store personal belongings.
- If your practice will experience a high volume of pediatric patients or children accompanying parents to appointments, a children's play area is worthwhile, keeping play segregated and reducing stress. You may also consider creating a 'cafe' style area in your waiting room where parents and children can sit around small tables to do homework or where children can draw while supervised.
- If the assistants are very actively involved in follow-up calls to patients, ordering supplies, or other administrative activities, an assistant desk/work area equipped with a phone and computer is useful and productive.
- If you plan to have medical gases built into your office, you will need a designated secure space to store them and connect them to your delivery system.
- To enhance patient understanding and ownership of their health, you may consider adding a small library/research room that houses health education materials and one or two computers for internet health research.
- Conference or training room used either shared between medical and dental staff or large enough to do duty as staff break room depending on what best fits.

## Obsolete Spaces

- Chart Room: With implementation of EDR this room is no longer necessary. Existing Chart rooms can make great CAMBRA rooms and space for a panorex, or additional operatories.
- Dark Room: With implementation of digital radiography, dark rooms are no longer necessary. An existing dark room may be converted into storage or possibly a milling room for CAD/CAM.

## How Big Should the Office Be?

Now you have established your budget restrictions, your patient base and your plan to improve its oral health status, which rooms you need and how many, you can estimate the optimum clinic capacity necessary to meet your goals.

There are two approaches you can use to determine clinic size requirements. One is to take the number of planned operatories and multiply by 400 square feet for each operatory, or for a more limited space plan, multiply the number of planned operatories by 250 square feet. While with expert help, it is possible to design an office to fit in a smaller square footage allowance, this can be quite an accurate formula to assess adequacy of a proposed space.

The other precise alternative is to determine which spaces you will include (from the essential and non-essential list), how large you want each space to be add those together and multiply by 1.3 to allow for hallways, unusable spaces and other design limitations. Create a table and list the spaces accordingly. To see example office designs for community health offices, go to [www.henryscheinofficedesign.com](http://www.henryscheinofficedesign.com) . You can also log in there to the easy-to-use design module to assess and formulate your own design ideas. There are additional workbooks available on the site.

## Compliance

Many regulations - federal, state, local and program specific - govern the building and operation of a dental office. A design that facilitates compliance to all of these standards creates a more positive work environment that reduces risk and increases quality of care.

### OSHA (Occupational Safety and Health Administration)

These are regulations that govern a safe work place. Perhaps the most important of these are the rules regarding bloodborne pathogens. This information is available as of this writing at <http://www.cdc.gov/oralhealth/infectioncontrol/guidelines/index.htm> which specifically discusses infection control principles as they relate to dental settings. You can find addition information at <https://www.osha.gov/needlesticks/needlefaq.html> and <http://www.cdc.gov/oralhealth/infectioncontrol/> .

Infection control encompasses both employee safety and patient protection. Let's discuss a few key considerations related to the impact of infection control in your new office design. Acceptable employee behaviors and work functions are very specifically defined.

Employees must not eat, apply make-up or perform other personal care activities in these infection control areas. In the same way, employees cannot wear PPE to lunch or in break rooms.

- Employees must change into and out of PPE before entering and when leaving infection control areas. To minimize negative impact, it's easier to group areas subject to the rule together (Operatories, lab, sterilization, x-ray etc).

- If employees must cross a non-infection control area to get from one infection control area to another, the design is faulty.
- Employees should not have to break rules in order to function effectively, e.g. change out of PPE in the break room.
- Spaces and equipment must allow for effective decontamination and sterilization. The CDC ([www.cdc.gov](http://www.cdc.gov)) specifies divisions for correct layout of sterilization bays. Consider investing in a sterilization center.
- Choose equipment that readily accepts barriers with non-critical surfaces that will not be damaged by disinfectant.
- Choose equipment features that allow sterilization over disinfecting.
- Many equipment choices will improve adherence to infection control, as well as efficiency and safety: instrument washers, cassette systems that reduce handling of contaminated sharps while increasing processing speed.
- Have adequate hand-washing stations.

### **Americans with Disabilities Act (ADA)**

ADA compliance, as we have previously discussed, relates to providing access for disabled persons. If you have additional questions, the ADA website can provide resources.

### **Radiation Control**

Place x-ray equipment where radiation exposure is limited to the patient requiring the radiograph. Simple things such as installing remote exposure switches in hallways instead of operatories, and digital conversion can improve compliance. A radiation control evaluation may be valuable and necessary to assure both safety and compliance (Schein can facilitate such assistance).

### **Medical Gases**

Built in systems must comply with strict standards to pass inspection. If you are using a portable nitrous system, make sure it is secured and that all replacement tanks are not only locked up but secured so they cannot fall over. Always obtain expert specifications approved by the manufacturer of the product you are using. If you plan to regularly use nitrous oxide, a built-in system is much more cost-effective long-term. Medical gases design must pass specific inspection and licensing review. If you are using medical gases such as nitrous oxide, the storage room for the tanks works best with an external door access.

### **HIPAA**

Compliance with HIPAA includes workspaces and systems that do not easily permit the disclosure of protected health information. Open operatories are acceptable even though a patient may on occasion hear something about another patient's treatment, however if you must discuss sensitive medical information, you will need a confidential space to do so. Modern software systems allow for more ready compliance by limiting access and establishing increased security. As we mentioned earlier, chart/record rooms need to be secured. In addition, offices where records are used for administrative functions should not readily allow unauthorized access.

### **Security**

Making a workplace safe is important. Your design can facilitate improved security and response in emergencies. Examples of good security planning would be such things as a locking door with a buzzer

or code between the waiting room and the clinical area and a back exit from the clinic for emergencies. Other possibilities include:

- Private access to the clinic for staff members.
- Places for employees to secure personal items.
- The implementation of a communication system to inform staff of patient readiness, but which may also be used for emergencies or coded responses.
- Building security with key codes at employee entrances.
- Locked storage with authorized access.
- Medication storage with a secure cupboard for all medications and a double-lock for controlled substances.
- Adequate building and parking lot lighting.
- Strategically placed barriers and coded access doors for different parts of the clinic.
- The challenge when addressing security is to keep the office welcoming and non-intimidating to patients and guests.

## **JCAHO**

Compliance to standards is an essential factor in obtaining the honor of JCAHO accreditation. ([www.jointcommission.org](http://www.jointcommission.org) or [www.jcrinc.org](http://www.jcrinc.org)) Your office design and equipment choices can enhance your ability to attain this honor.

## **Additional Resources**

Other resources include the American Dental Association (<http://www.ada.org>), and the national Library of Medicine and the National Institutes of Health ([www.ncbi.nlm.nih.gov](http://www.ncbi.nlm.nih.gov)).

## **Going 'Green': Environmentally Friendly Concepts**

Environmentally friendly resources for dental facilities now abound and can encompass a comprehensive LEED (Leadership in Energy and Environmental Design) certified facility or simply add enhancements and improvements to an existing program.

## **The 'LEED' Certified Office**

LEED certification provides independent verification of a building's green features, allowing for the design, construction, operations and maintenance of resource-efficient, high-performing, healthy, cost-effective buildings. This is a complex but rewarding undertaking. Begin by hiring an architect certified in 'LEED' design. A 'LEED' certified building includes many aspects from how the building is placed and faced on a building lot, to types of materials that are sustainable, limit environmental toxins and/or promote energy efficiency (go to the U.S. Green Building Council, [usgbc.org](http://usgbc.org) for additional details)

Certain materials and approaches in an environmentally sound design will require additional investment however there are materials, resources and strategies that will work with your budget. Going Green does not have to break the bank.

Our Henry Schein Design Team along with our local team will work with your architect and your Community Health Center leaders to provide expertise and resources that support your green approach.

If you have an existing facility or are expanding or upgrading, there are some simple green steps that you can also take:

- Consider painting walls with ‘green’ certified paint. There are several good choices.
- Suitable flooring alternatives include recycled materials and sustainable hardwoods.
- Use Energy efficient building lighting. There are many choices. T-5 fluorescent bulbs are the most energy efficient on the market and also reduce carbon dioxide emissions.
- Office chairs and furnishings now come made in sustainable, recycled, non-toxic and natural materials.
- Develop a recycling plan for office waste.
- Recycle cell phone batteries, printer and toner cartridges and other tools.
- Eliminate or reduce paper and energy consumption. Provide website access for employees for human resource information, policies and procedures, training (supplement training with Henry Schein’s DRC- Dental Resource Center: online learning and resource tool for clinicians and dental assistants). Even provide personal pay information on-line and ask employees to enroll in direct deposit. Ask employees to consider what can be read or shared online without printing on paper.
- Turn out the lights when not in use.
- Turn off computers when not in use.

#### **Dental Specific Resources to Help You with Your Green Goals:**

- Clinical dental cabinetry: Ask your local equipment specialist about ‘green alternatives’. There are now efficiently designed, beautiful and sustainable choices just for clinical areas.
- Dry vacuum: As you know the dental vacuum is an essential part of your utility room. The dry vacuum requires slightly higher initial investment but will save you hundreds of gallons of water a day: good for your utility costs and great for water conservation. Dry vacuums perform very well and reliably.
- Water Recycler for Wet Ring Vacuum: if you must use a wet-ring vacuum, you can achieve good water savings by adding a recycler.
- Dental Practice Management Software: Perhaps the single most important change you can make to your community health center that will improve efficiency, accuracy, productivity and at the same time, reduce storage requirements and use of paper. This is truly a ‘win’ for your clinic and the environment.
- Digital Radiography: Traditional film requires the use and disposal of toxic chemicals and metals. Implementing digital radiography is about as important as an electronic record in how it will positively impact how you effectively deliver care while achieving great things for the environment.
- Steam sterilizers (autoclaves); These not only provide consistent sterilization results when used correctly but do not require toxic and potentially carcinogenic chemicals that turn into gases or require disposal.
- Dental Light: There is now an energy efficient dental light alternative that also provides superior illumination of the patient’s mouth during treatment.

- Amalgam Separator: if you are going to provide amalgam (silver fillings) restorations to your patients, adding an amalgam separator will help improve the quality of waste that enters the sewer system.
- Composite restorations: Consider wherever appropriate for patient care, the use of composite restorations for repairing decayed teeth instead of the traditional amalgam filling. Manufacturers now provide sophisticated and well researched products that may work well in your setting and for many of your patients.
- Cleaning materials: Henry Schein offers a line of 'green' cleaning and infection control products. You can review these on-line or in the Henry Schein catalog.
- Recycling Programs: Dental products arrive in packages and containers that are often recyclable. Developing a plan to recycle the appropriate paper, plastics, metals and glass is a simple inexpensive step your program can take.
- Online Dental Catalog: Access the Schein catalog online. It provides detailed information about products and frequently includes pictures. Online ordering is fast, accurate and efficient. The Schein system allows for management approval of orders submitted by dental staff before transmission to Schein for fulfillment. Your office can also access invoices and reports on-line. If you would like to learn more about ordering and reporting capabilities made available to you, please ask to schedule training.

## Aesthetics

### **Well-Designed Small Spaces Can Be Welcoming**

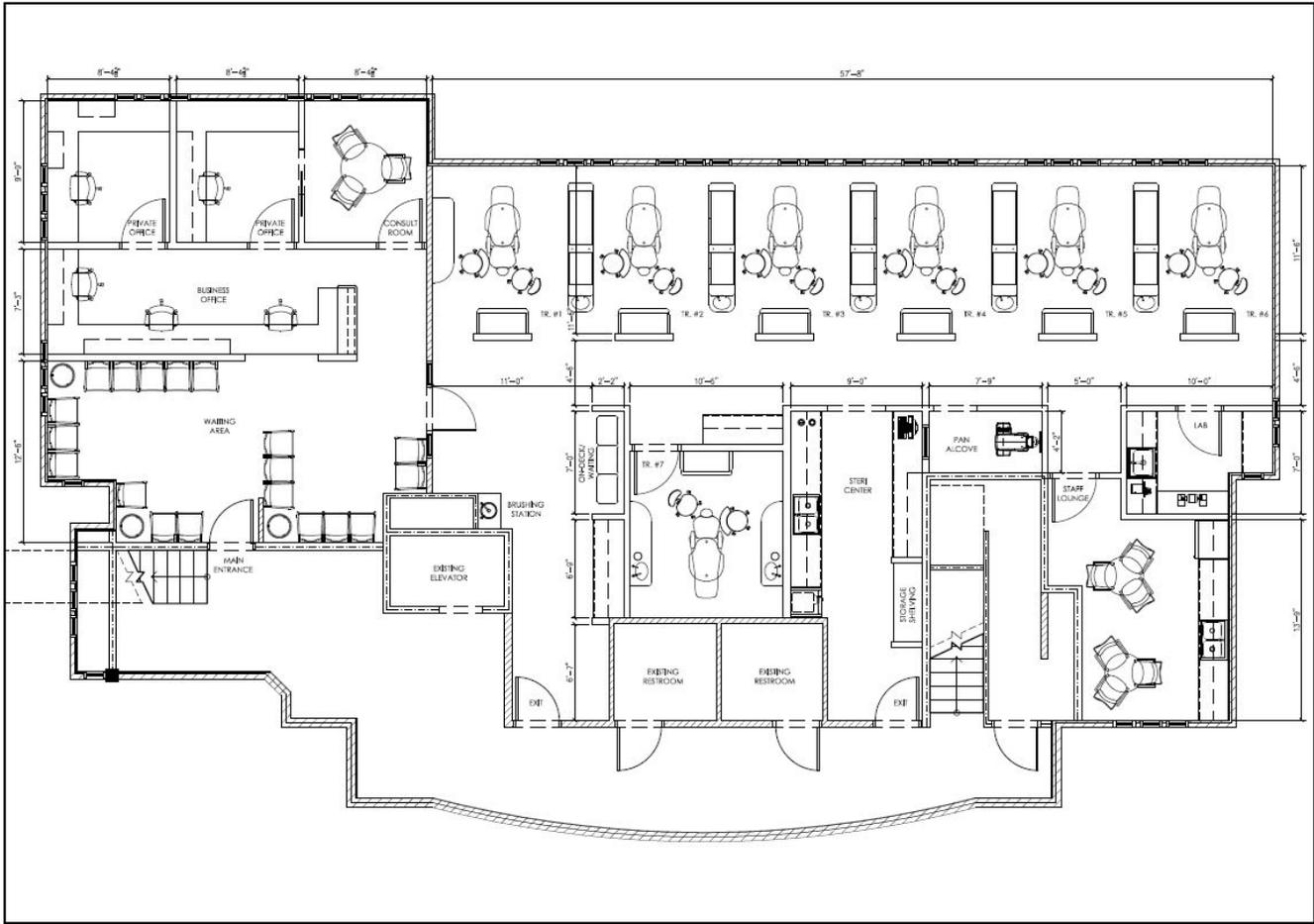
We at Henry Schein are proud of our ability to "think outside the box." We have had the opportunity to produce some of the most creative and attractive dental environments in the business. We listen carefully to your ideas, and work within your budget to create the best possible design for your program. The result is an office that flows well and has a look and feel that reflects your program's vision. The professionals in our Interior Design Group can help to carry your concept through by specifying harmonious color schemes, carpeting, wall coverings, accents, and furnishings.

Even if your budget is very limited, we can implement many strategies to make your office a pleasant and welcoming environment for patients and staff alike. A few ideas:

- Choose furnishings that resist wear and deterioration.
- Use a washable paint on the walls.
- Install chair rails in the waiting room. These can prevent wall damage.
- Many studies confirm that color impacts our emotions. Some colors are calming and reassuring. Choosing relaxing and inviting colors helps patients and staff to feel better. Our design team is ready to help you choose and coordinate palettes and materials.
- For waiting room chairs choose fabrics that resist tears, disguise stains, or can be scrubbed clean. Avoid broadloom carpet. One stain can ruin the whole look of the waiting area. Use carpet squares that can be moved and replaced to spread wear and hide stains.
- Consider tile with easily cleaned mats at entry doors to reduce mud and dirt transfer onto other surfaces. However, make sure you use products that are less likely to be slippery when wet.

- Use artwork designed to relax and distract the patient not only in the waiting room but in the operatories as well. Operatories with window views can also distract patients waiting for treatment.
- Where signage is necessary, use framed signs, to greatly improve appearance. Avoid the temptation to add signs that are pinned or taped to walls. They soon tear and dispel the charm of the investment in design you have made.
- Floor coverings such as vinyl tile with a scattered pattern in clinical areas create eye movement that helps distract the vision from scuffmarks on the floor.
- Dental chair upholstery fabrics in colors that disguise wear and scuff marks from shoes.
- Children's toys that are age appropriate, clean and kept in a specific part of the reception area in storage containers.
- Plants add color and interest: If you are afraid that children will eat them, use silk.
- Place protective strips on corners of walls to prevent bumping and chipping.
- Avoid wallpaper. Repainting is more cost-effective and keeps walls clean and looking new. Textured wall papers that are scrubbable and limited to certain feature walls can work.
- Engage students from a local art school to create a dramatic and appropriate mural – something that reflects your community.
- Consider a waiting room wall with built in video games to entertain, or a built in Video screen to educate.
- Keep a spray bottle of 409 and cleaning cloths on hand to clean off prints and dirty marks during the day, along with glass cleaner for windows and doors. Little details can make budget furnishings look terrific.
- Murals in operatories can be very cost-effective and entertaining.
- A higher budget solution for operatories is a ceiling based screen for entertainment and educational videos.





This design is part of a large facility however it has a separate reception area. The operatories are standardized with pass-thru cabinets for the x-ray units contained in the center island cabinets.

# Dental Equipment



## What Do You Have To Have?

You've probably noticed that there is a wide variety of dental equipment available today. What equipment do you need? What will work best for your program and your budget? Do you really need the highest priced item, or will a less expensive alternative provide the features and reliability for less money? Your Henry Schein representative can help.

The best time to discuss how various types and brands of equipment will fit into your plan is in the earliest stages of your planning. To help you start to decide what will work best for your program, let's first look at a list of elements you should consider as you choose equipment and talk about some specific items you'll probably need.

When you consider purchasing equipment, what should you think about? Cost effectiveness? Of course! Reliability? Certainly! What else should be on your list?

- Warranty – longer is better.
- Ergonomic soundness – Does the equipment allow the clinician and assistant to sit with good posture and minimize stress on their bodies and limbs as they reach and move during treatment?
- Is the equipment comfortable for the patient?
- Is it easy to adapt the equipment to left or right-handedness?
- Promotion of productivity – do your employees want to use the equipment, or do they avoid using it?
- Does the equipment aid with improved treatment outcomes? Less time for the patient, faster healing?
- Appearance – does the equipment “fit” in your design scheme?
- Design and features for the procedures you plan to provide and the patients you plan to serve.
- Evaluation and application of new and emerging technologies.
- How long must the equipment last before your program will be able to replace it?
- What is the best value for investment?
- Invest in the highest quality core equipment (dental chairs and delivery units) your program can afford, where wear and tear will be great and the likelihood of being able to replace that equipment may be more than 10 or 15 years hence.

- Invest in the best mechanical equipment you can afford. This is the vacuum and compressor. If they go down, the whole clinic and all treatment stop.
- Invest in enough treatment rooms to allow optimal treatment and patient flow.
- Invest in evidence-based technology that improves patient and clinician experience as well as outcomes.
- Avoid ‘gadgets’ – that is equipment or items that lack evidence-based value.
- Don’t invest in any piece of equipment, technology or cabinetry for which you have not determined use and purpose.
- Always have 2 autoclaves!



**Expert  
Advice!**

*You will undoubtedly have right and left-handed clinicians at some point or other. Operatory design, layout and equipment positioning must be configured to accommodate changing the handedness of the operator.*

## Operatory Equipment

We have labeled equipment in this section either ‘Essential’ or ‘Recommended’ to help you with the planning and decision process.

### Chair: Essential

Dental chairs are hydraulically or electrically operated by foot controls or touch keypads (we recommend hydraulic chairs for their weight capacity). When choosing a dental chair, individuals often seat themselves in the chair to test comfort. While patient comfort is important, the real purpose of the dental chair is to position the patient so that the dentist has comfortable, unobstructed access to the oral cavity from all angles. Evaluate your chair choice with this goal in mind.

It is therefore better to sit on an operator stool and simulate normal treatment position. Consider the following elements when looking at your dental chair:

- Does the chair enable the operator to sit with back in neutral position with no more than a 20-degree angle to the head to view the oral cavity?
- Does the back width and shape of the chair allow the operator to position as closely as needed to the patient?



- Can the patient's head be adjusted easily and safely for better access? Does the chair have an articulating headrest that is narrow enough to permit access to the patient, but which cannot be easily knocked or loosened? If the headrest is not stable, it may allow the patient's head to drop suddenly – possibly resulting in neck injury.
- Will the chair support your patients' arms in such a way that they will not feel like they are falling out of the chair?
- Does the design allow for access by disabled or wheelchair bound patients?
- Does the style allow for easy cleaning and maintenance?
- Are the materials durable?
- For patient positioning, will a touch pad on the side of the chair work best or will a foot control better suit operators?
- Does the appearance of the chair appeal to you?
- What kind of warranty does the manufacturer provide: 1 year, 2 years, 5 years? Dental chairs involve many components. The more extensive the warranty, the better.
- Is your decision wholly brand driven? Consider whether an equally reliable, but less expensive brand might be able to serve your needs just as well.



**Expert  
Advice!**

*Invest in the best chair and delivery unit you can afford. These items are expensive to replace and you may not have funding to do so for 10, 15, or even 20 years.*

### **Delivery Unit: Essential**

The delivery unit refers to the suite of powered instruments used by the dentist to provide treatment. The instruments, or handpieces, are attached to a movable platform by flexible tubes containing air, water,



fiber optic and electrical lines. While the delivery unit primarily involves handpiece control, many other components can comprise the delivery unit. The minimum components of a typical delivery unit are two slow-speed handpiece positions, one high-speed handpiece position, and one air/water syringe. You can also add a built-in scaler, curing light and intraoral camera to some delivery units.

The delivery unit also includes a component called the assistant's instrumentation. These are tools the assistant uses to clean and dry the mouth and to assist the dentist with visibility and access. The assistant's instruments should include two high-volume evacuators (HVE), one low-volume evacuator for saliva ejector attachments, and one air/water syringe.

Several types of delivery systems have evolved to

accommodate the various ways in which a dentist positions and uses handpieces: over-the-patient (OTP), European or transthoracic (buggy whip), side delivery, and rear delivery.

**OTP Delivery: Recommend Swing or Elliptical Versions to Address Right/Left Handedness**

This very common style of delivery system places the dental hand-pieces on a movable tray attached to a post on the dental chair. Such positioning is right or left-handed specific and requires a technician's assistance to change from one side to another. The chair-mounted unit is often the best choice for small operatories because of its simple, integrated design.

OTP units may also be designed and mounted on the chair to swing from left to right depending on the handedness of the operator. This is a cost-effective solution for the varied needs of community health clinicians. Manufacturers may call styles that readily change (or swing) from left to right swing, orbital, radius, or elliptical units. Swing units also provide ease of use to the handpieces, with potentially positive ergonomic impact. However, the same features that provide ease of access may also present a more 'cluttered' and intimidating appearance to the patient and the close proximity of the instruments may make some patients anxious.

**European (Transthoracic or Buggy Whip) Delivery: Recommended Conditionally.**

This delivery style also swings left or right over the patient to allow for operator handedness; but the positioning of the tubing feeding the handpieces and air/water syringe is above the delivery unit instead of dangling below as they do in the standard swing delivery option. The appearance is where the 'buggy whip' name was derived. The argument for this delivery style is that it is ergonomically sound. There are two considerations: 1. Does the operator find that there is resistance when pulling the handpieces forward for use that causes joint stress? 2. Does the handpiece consistently return to its correct position and 'turn off' when not in use? If so this style can work well.



**Side Delivery: Not Recommended**

Side delivery places the unit on an arm mounted within an accessory cabinet on one side of the operatory. While it provides a very uncluttered operatory appearance, there is no ability to change the location to address the handedness of the operator.



### **Rear Delivery: Recommended**

We strongly recommend that you only consider a left/right convertible rear delivery systems that allow you to address operator handedness. Rear delivery places all the instrumentation out of the patient's view and facilitates the smooth transfer of instruments between assistant and doctor. It also provides for easy left/right-hand conversion. Rear delivery does require deeper operatories and sometimes a greater operator width depending on the size of the rear cabinet or wall to which the unit is mounted.

*Easy left-right changeability makes this system suitable for all clinicians.*

### **Doctor and Assistant Stools: Essential**

There are many styles and price points. Both Dentist's and the assistant's stools choices should focus on promoting good posture, core stability and the ability to easily access instruments and other necessary items during treatment activities and with minimal stress on the body.



### **Handpiece: Essential**

The handpiece is an air or electrically powered rotary instrument used by the dentist in cutting and polishing operations. Handpieces may be



high or low-speed, electric or air driven. We recommend fitting High-speed handpieces with a fiber-optic light source to provide better visibility and access for tooth preparation. You'll need to have a sufficient number of both high- and

low-speed handpieces to allow patient treatment volume and sterilization after each use. More and more manufacturers are trying to balance function and ergonomics. Since the use of handpieces is very a repetitive activity, ergonomically designed handpieces can help reduce stress and wear to the joints and connective tissue of the hand. Electric handpieces lead this field.



**Expert Advice!**

*With more dental graduates using electric handpieces in the school environment and the fact that electric handpieces are very quiet, which means less stress especially for younger patients, we recommend considering these as an appropriate alternative.*

### **Fiber Optic Light Source: Recommended**

This is a system that transfers light along tubes to the head of the high-speed handpiece. The light helps the dentist better view the area of the tooth that is being prepared. Several very cost-effective brands exist

### **Intraoral Camera: Recommended**

The intraoral camera enables the dentist to record and show the patient the actual condition of the mouth and teeth. The camera is the size of a toothbrush and can be easily moved around the mouth to capture various angles of the teeth and tissue. Intraoral camera images enhance the patient's ability to understand and accept the need for treatment while documenting the justification for treatment recommendations and decisions. Some insurance companies now require such images as documentation for requests for prior authorization for treatment and proof of treatment.



### **Junction Box: Essential**

The junction box, J-Box or utility center is the termination point for all of the utilities (compressed air, fresh water, electricity, central vacuum system and drain) needed to operate dental equipment in the treatment room. It is located under the foot of the chair if the delivery unit is mounted to the chair or in cabinetry for rear or side-delivery systems.

### **Dental Light: Essential**

The dental light is for creating optimum visibility of the oral cavity. We recommend LED lights which are cool (generate less heat), with good color mixing and a clear light pattern. Dental lights can be attached to the dental chair on a swing or traditional mounting, attached to side cabinetry, attached directly to the ceiling or track-mounted to the ceiling. You will need to know the height of the ceiling in order to choose the right track-mounted light.



### **Computer Monitor and Mount: Essential**

Absolutely necessary for digital x-ray and Electronic Dental Record, the design of the operatory should comprehend how placement of a computer monitor and mount will best suit its operation. You can mount a monitor to the chair, to a side cabinet or a rear cabinet. For an office where the handedness of the operator may change, you should be able to adjust the position to right or left-handed.

### **Laser Caries Detector: Recommended**

Caries detection systems aid in the diagnosis of caries where x-rays and visibility of the eye leave uncertainty. Even very small lesions are detected at the earliest stage, enabling the dentist to protect and preserve the tooth substance.

### **Intraoral X-ray Machine: Essential.**

You can install one x-ray machine per operatory or share one intraoral x-ray machine between two operatories in a cabinet, called a 'pass through'. This permits two operatories to use the same machine and improves cost-effectiveness while maintaining productivity.

As you consider the type of intraoral machine you need for your program and how many you will need, consider the reach of the arm from the wall or wall cabinet to the dental or x-ray chair. The unit must be able to be positioned to accommodate all of your patients.

There is also a handheld X-ray unit, the Aribex, Nomad, which is quite light and allows for portability in any situation. Note however, that while use of the Nomad in some states is unrestricted, others have specific guidelines for approval. Check those for your state before purchasing.



### **Curing Light: Essential**



The curing light cures or ‘hardens’ filling materials such as composites and sealants. The curing light can be built in to the delivery unit or it can be a separate piece of equipment that can be moved from room to room. Some are cordless and rechargeable and others require direct connection to an electrical outlet. This is a necessary item and there is a suitable style for every budget.

### **Scaler: Essential**

Scalers make the removal of adhesions to the teeth, such as tartar (or calculus), fast, easy and effective. There are several types of scalers. Scalers can be special tips that connect to handpieces, they can be built into the delivery system or they can be portable scaler systems that can be moved from room to room. It is an important tool in the treatment of periodontal (gum) disease and using a scaler reduces joint stress to the operator over the repetitive motions of hand scaling. Your practice patient requirements and your budget will determine the most appropriate choice.



### **Integrated Treatment Room: Chair and Delivery:**

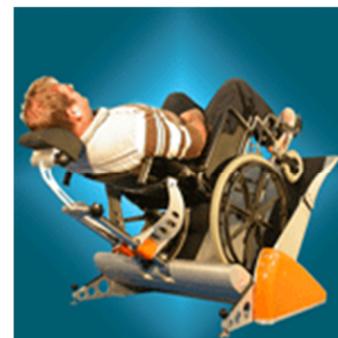
A very good idea, especially for PCHH Approach. The room is equipped with an adjustable chair that works for dental, medical, podiatric procedures.



A portable dental delivery unit with a small built-in vacuum and compressor can be wheeled in for restorative, periodontal and surgical treatments.

Integrated Care for Wheelchair Bound: Recommended for PCHH Approach To enhance care to those with severe access challenges due to physical disability, a treatment room equipped with a wheelchair lift and designated

for multiple health disciplines, will enhance patient experience and promote the ability of providers to effectively manage the patient's treatment and comfort. Such a room can also use a portable delivery unit with a small built-in vacuum and compressor which can be wheeled in for restorative, periodontal and even surgical treatment.



### **Sterilization Equipment: Essential**

*Sterilizers* are essential clinical items. Instruments are placed into a chamber or container and pathogens are eliminated through various means. There are several types to consider:



#### ***Steam Sterilizers: Essential***

This type of sterilizer replaces the air in the instrument chamber with steam using heat and pressure. This is the most common type of sterilizer found in the dental office. Steam sterilizers have a long history of reliability and effectiveness in achieving consistent results. Instruments must first be cleaned of debris and dried before sterilization, which typically takes 20 to 30 minutes and should be followed by a drying cycle. Steam sterilizers use distilled water and come in many sizes from quite small to very large capacity. Choose a sterilizer suitable for the volume of instruments your program will use. There are very reliable, safe brands on the market with various features. Sterilizers may vary in time to achieve sterilization; degree of computerization and automation; and steps required for operation.

#### ***High Speed Sterilizers: Recommended***

SciCan's Statim or the Midmark M3 sterilizers are highly recommended steam sterilizers designed with a cassette that slides into the machine and which holds the instruments. Once again, this system replaces air with steam and pressure to sterilize, but these sterilizers achieve sterilization this with greater speed than any other type of sterilizer. They can process instruments in just a few minutes. Because of this, high-speed sterilizers are very useful for sterilization of handpieces and items that require quick turnaround.



#### ***Dry Heat Sterilizers: Recommended for Orthodontic***

Frequently used for orthodontic offices where instruments require quick processing between use and for the prevention of the formation of rust on instruments. There are several brands with varying sizes available.

#### ***Chemical Sterilizers (Chemclave): Not Recommended***

As the name states, chemical sterilizers or Chemclaves use chemicals as well as heat to kill pathogens. We recommend steam sterilizers for both function, effectiveness and safety. However, if you choose to use a

chemical sterilizer, it is important to assure good ventilation and minimally irritant sterilizing solutions to prevent respiratory irritation and injury in employees who use it.

### **Instrument Washer: Essential**

An instrument washer is a large washer for washing contaminated instrument cassettes. This allows contaminated instruments to be completely cleaned prior to sterilization, just like a dishwasher for dental applications. In recent years there has been a greater focus on the risks of exposure to injury from contaminated sharp instruments. The Needlestick Safety Act of 2001 states that where safety sharps or safer methods exist to reduce risk of employee exposure to contaminated sharps those methods must be implemented. The instrument washer is an effective tool to achieve this outcome. When coupled with instruments packaged for processing and subsequent use in cassettes, this process eliminates the individual handling and cleaning of contaminated instruments, while increasing speed and productivity. Hand-scrubbing debris, rinsing, sorting and packaging stages are no longer necessary.



*Instrument washer with cassettes*

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### **Handpiece Maintenance: Recommended**

Correctly lubricating handpieces is key to their longevity but difficult to achieve manually. Several small machines allow for simple cleaning and lubrication of the inside of the handpieces.

### **Ultrasonic Cleaner: Essential**

An ultrasonic cleaner uses vibrations to remove debris from instruments. Using an ultrasonic cleaner also reduces or eliminates the need to hand-scrub instruments before sterilization. Contaminated instruments are placed in a basket that is lowered into a bath inside the ultrasonic cleaner and then processed for about 15 minutes before removal, rinsing and packaging for sterilization.



### **Lab Equipment: Recommended**

It is easier to contract with a dental lab for more extensive processes, but most labs will need, at least, a lathe, a model trimmer, a vibrator, a portable torch and plaster bins. The following is a summary of commonly used lab equipment and their typical purposes:



**Lathe.** Typically used for polishing dentures, crowns and other items with a variety of attachments.

**Plaster Trap.** Attaches to the plumbing under the laboratory sink to keep drain lines clean and free from plaster residue.





**Model Trimmer.** Used to neatly provide finish work and trim to study models, plaster and stone impressions of the mouth, as well as custom trays.

**Electric Lab Handpiece.** Only necessary for detailed and sophisticated cutting.



**Vacuformer.** Used for making plastic impressions of the teeth for prosthetic work, mouth guards and splints.

**Model Vibrator.** A small machine that simply eliminates air bubbles when pouring plaster or stone impressions.



### Additional Laboratory Equipment

Depending on how comprehensive your lab services will be, you may require some additional equipment.

- Sandblaster Used for cleaning cement or other hard deposits from items.
- Plaster Bins Storage of plaster and stone powders.
- Curing Unit For curing of acrylic prosthetics such as partials and dentures.
- Sandblaster Removal of cement and other adhesions from crowns and prosthetics.
- Burner There are a variety of burners from built in systems to stand-alone Bunsen burners. These provide flame and heat to melt and manipulate various dental materials, such as waxes in the making of dentures. Most dental offices that provide dentures and partials do well with a simple, stand-alone torch.

## Digital Impressioning (Highly Recommended) and CAD-CAM (Good Idea based on Scope)

Perhaps the most revolutionary change in dentistry in recent years is the development of digital impressioning techniques which use scanners. Until recently a tooth or mouth impression required having a tray of goopy alginate or unpleasant-tasting vinyl polysiloxane inserted in the patient's mouth and held there until the material set. If there's an error or part of the impression isn't sufficiently detailed, the whole process is repeated. The impression is then decontaminated, poured up into stone and/or shipped to a lab where a crown, denture or other prosthetic tooth replacement is constructed. Impression material is expensive, the use is time-consuming, the patient experience is not particularly pleasant and patients frequently must return for multiple appointments.

Today, those same impressions can be taken more accurately, quickly, pleasantly and with improved clinical results by using digital scanners.

The head of the scanner is an approximately tooth-brush- sized wand which is covered by an infection control barrier sleeve. There are essentially two types of scanners. One type uses blue LED (light-emitting diode). These systems are optical scanners and they require a contrasting medium or powder to acquire a representation of the tooth morphology. This means that a fine powder is sprayed over the mouth area to be scanned to assure accurate imaging. There are also systems that use laser technology to scan and measure distances from the tooth surface to acquire the image. They do not require powder.



The scanned image becomes part of a digital record which can be either sent electronically to a lab along with instructions, or used to mill a restoration in house and even same day. Digital scanners eliminate: gingival retraction of the tooth to be restored, tray selection, material dispensing, disinfection, disposal of biohazard, disinfection of the impression tools, pouring models, model trimming, hand-writing the lab script, packaging the impression for shipping to the lab, distortion and retakes.

Some scanners are well-suited to the accuracy needed for crown and bridge restorations; but there is at least one scanner, 3 Shape, which can accurately scan full arches for partial and full dentures.

A complete CAD/CAM system takes you from digital impressioning all the way through tooth restoration with a milling unit. Restorations can be produced in an hour or at least same day for patients who cannot take additional time off work to return for placement of a crown or onlay. The software which guides the creation of the restoration is accurate, intuitive and easily learned by a dental assistant. For programs expanding their services that want and need a fast, desirable outcome, adopting a complete CAD-CAM solution can be a valuable addition to the quality and choices of treatment.

Digital impressioning and CAD/CAM solutions are significant investments; but may be solutions for which writing a specific grant request is warranted.

## Radiography

Diagnostic radiography describes the use of x-rays to create images of interior body structures. There are three types of diagnostic radiographs taken in today's dental office: intraoral (bitewings and periapical views), panoramic and cephalometric images.

### Panoramic ("pan"): Recommended

Panoramic x-rays generate a 5" X 11" (15cmX30cm) wrap-around image of the patient's mouth. This is useful for studying the patient's jaw, the position of the teeth relative to one another, facial and jaw injuries, and even arterial blockages to the head. The pan machine usually occupies its own small alcove in the dental office. Digital pan machines instantly acquire the image and then transfer it to the designated computer monitor to be viewed. Patients will notice no difference in how they experience the process.

Because of the many ways in which panoramic images enhance diagnosis, we recommend you allow for the addition of a pan in the future if you have insufficient funds initially.



### Cephalometric ("ceph"): Recommended for Orthodontics

Ceph x-rays capture a radiographic image of the entire head, usually in profile. Orthodontists use these images most frequently for diagnosing misalignment of teeth and bite problems. Ceph images require a panoramic machine outfitted with a cephalometric arm mounted off to one side. When you decide on a ceph machine, you will need to choose whether the ceph arm needs right or left positioning. Some panoramic machines may be upgraded to accommodate a ceph arm while others cannot. If you are considering growing your program over time but plan to only start with a pan machine, make sure that your panograph can be upgraded to ceph capability in the future.

### Intra-Oral X-ray Unit: Essential

Best located in the operatory and discussed in operatory equipment. See "Essential Equipment" above.

### Digital Radiography

Digital radiography electronically captures, loads, stores and enhances diagnostic images. There are two types of digital radiography: direct digital and phosphor plate.

A direct digital system uses wired sensors, which are placed in the mouth in lieu of film. The sensors



connect directly to the computer system and give an instant image. When taking a full mouth series, the same sensor is moved from one position to the next in the patient's mouth, without any need to change or erase the sensor. Sensors work well for virtually all patients and manufacturers provide excellent positioning systems to help staff correctly place the sensors for good diagnostic results and optimal patient comfort.

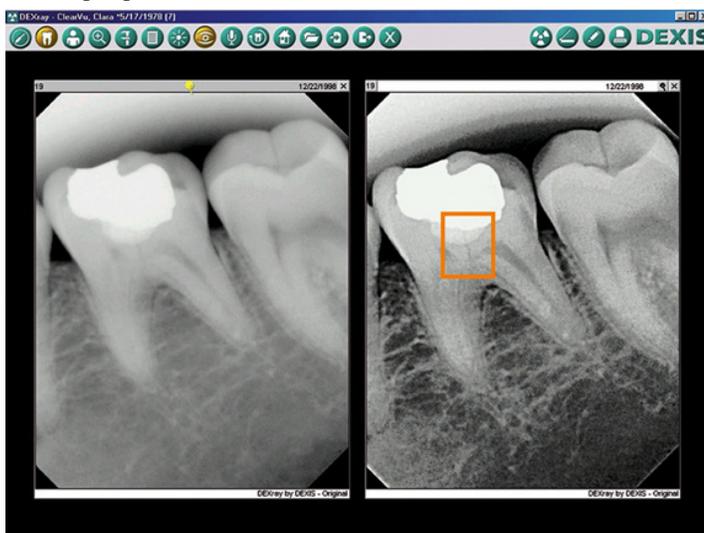
There are two key types of digital sensors sizes. Dexis produces a sensor that is essentially the size of traditional child film but which has an imaging size that is approximately equal to adult film. This sensor therefore allows for a single sensor size to serve all patients. Dexis therefore not only provides an excellent image but versatility and cost-effectiveness.

The second type of digital sensor sizing includes sizes 0, 1, 2. Size 0 is so small it captures very little that is diagnostically useful. We recommend that buying size 0 sensors is an unnecessary expense that can be avoided. Size 1 is useful for small children and size 2 equals an adult size image. With positioning kits to aid, any patient that can tolerate having an x-ray taken can realistically be accommodated with the recommendations made in this section.

Phosphor plates may be easier for some to correctly place in the mouth than sensors but they require a second step of processing and erasing before they can be viewed. Processing through a scanner takes several seconds before the image is sent to the computer monitor. Phosphor plates require careful handling to extend their life. They can be reused until they are too damaged or scratched to produce a diagnostic quality image.

With image and record management software and regular backups, digital images will never be lost and the need to search for records will be eliminated. Digital radiography improves the ease of compliance to HIPAA standards while enabling easy transfer of images to specialty referrals and insurance companies for review.

### Imaging Software: Essential



All digital radiography requires imaging software. This is different from the EDR. Imaging software is where the digital x-rays are stored, viewed and manipulated. To assure cohesive patient care, imaging software that integrates directly with the patient record is invaluable. Imaging software should be easy and intuitive to use and patients benefit from being able to review their x-rays with the dentist with images the size of an entire computer monitor rather than tiny traditional films. Many software applications advertise a plethora of features. In reality most dentists use few of those: contrast adjustment, image magnification, and colorization of tissues are examples of commonly used and beneficial

software features.

### **Utility Closet Equipment: Essential**

The utility closet is the heart of your office. The equipment located here is absolutely essential to your office's operation, but is often noisy and bulky. Separated from the remaining areas of the clinic in its own special area, your utility equipment can function in the background without interfering with your normal daily routine.

### **Vacuum: Essential**

Simply put, a vacuum suction away water and debris during the performance of procedures on the patient. The vacuum is connected by lines that typically run under the surface of the floor from the utility room to the junction box in the operatory and then along the lines in the chair to the high volume evacuators and saliva ejector. If the vacuum fails, dental treatment comes to a halt in the entire office.

Vacuums come in many sizes and types. The size of the vacuum required for your office is dependent on the number of operatories you will have and the number of anticipated simultaneous users of the system. There are several considerations when looking at vacuum systems:



#### ***Twin Head Vacuums***

These provide the extra assurance of continuous performance. The life and performance of a twin head vacuum benefits from a vacuum equalizer alternating the use of the vacuum heads.

#### ***Vacuum Equalizer***

Useful to extend the life of twin head vacuums by alternating use of the heads and wear.

#### ***Wet Ring Vacuums***

Use large amounts of water to operate; but provide excellent suctioning results and proven reliability.

#### ***Hydromiser***

Can be added to a wet-ring vacuum to reduce water consumption by as much as 60%.

#### ***Dry Vacuums***

Provide suctioning but do not need water to operate. We highly recommend choosing dry vacuum.

#### ***Sound Reducing Cover***

To help reduce the noise of the vacuum if it is located in a closet near the work area.

### **Amalgam Separator: Essential**

If you remove old amalgam fillings or place amalgam, you will need this. Required in many communities to remove the amalgam and thus the mercury from wastewater entering the sewerage system.

### **Compressor: Essential**

Used throughout the office to propel handpieces, dry teeth, clean out hand-held instruments before sterilization and for lab work, The compressor is the other essential and critical item found in the utility closet. If the compressor fails, treatment comes to a halt. A reliable compressor is therefore a worthwhile investment. The compressor is connected by 1/2 inch copper lines which typically run under the surface of the floor to the operatory and other parts of the office.



Just as with the vacuum, the size of the compressor is dependent on the number of operatories and simultaneous users your office will have. Some options to consider:

### **Lubricated Compressors**

There are several highly effective and reliable brands that are oil-lubricated. Lubricated compressors are generally quieter than oil-less compressors and have a longer life.

#### ***Oil-less Compressors***

Often easier to maintain and can be cleaner than lubricated compressors, but may wear out faster.

#### ***Remote Air Intake***

Pulls clean air from a remote location and can help make the system quieter.

#### ***Remote Control Panel***

Remote on/off controls for the vacuum and compressor can help staff to remember to turn off the equipment at the end of the day, and eliminate the need to enter the utility closet to turn equipment on and off.

Additional considerations for your utility room include a 'floor sink' for handling cleaning supplies such as filling and emptying wash buckets; and HVAC (heating, ventilation, air-conditioning) space.

### **Medical Gases: Recommended**

Dental clinics frequently use various medical gases in the provision of treatment and the managing of emergencies. These gases normally originate from a cylinder storage closet or tank room and are delivered to the treatment rooms through a network of 1/2" and 3/8" copper tubing.

#### **Nitrous Oxide: Recommended**

Nitrous or "laughing gas" is a sedation option that dentists can offer to help calm nervous or excitable patients. Nitrous also helps to relax patients during long appointments. The patient wears a nasal mask and breathes a carefully metered blend of nitrous oxide and oxygen during treatment. Where nitrous oxide will be frequently used, built in systems are more cost-effective. If your program will only use nitrous oxide on special occasions, a portable system will work well.

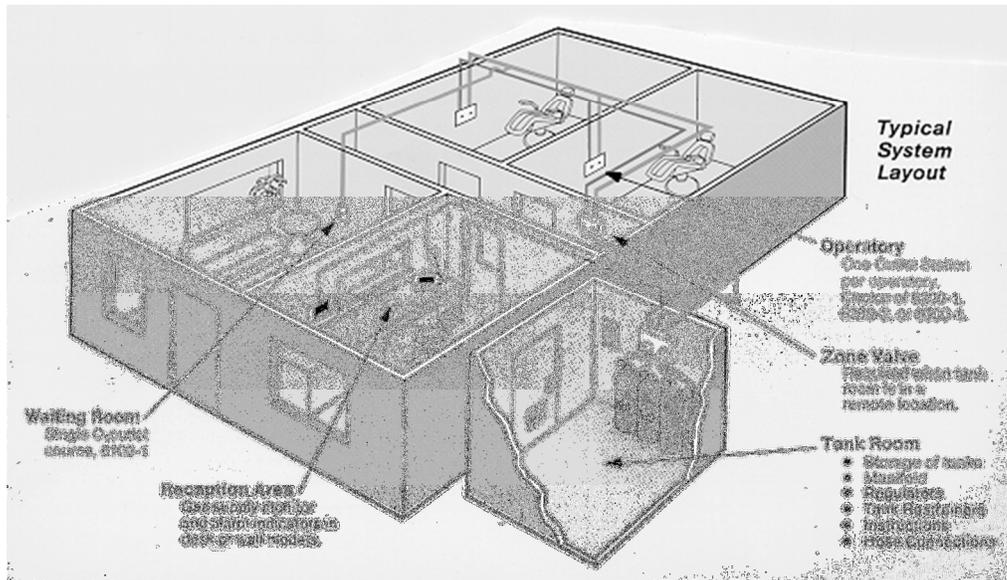


#### **Nitrogen: Recommended for Oral Surgery Specialty**

Nitrogen is often used in lieu of compressed air in oral surgeons' offices. Compressed ambient air may contain bacterial contaminants that raise the risk of infection while operating handpieces.

## Oxygen: Essential

If you decide not to have a built-in nitrous system that includes oxygen, your office will need portable oxygen to respond to medical emergencies.



## Additional Equipment Considerations

### Soft-Tissue Lasers: Recommended

Soft tissue lasers are effective tools for any practice that frequently performs oral surgeries, biopsies, crown lengthening or other procedures where the soft tissue requires incisions or excisions. The soft tissue laser manages bleeding and limits trauma to tissue thus promoting prompt healing and limiting post-operative complications. Where CHC patients often suffer from chronic systemic diseases which are better managed by good control of periodontal health, soft-tissue lasers are a valuable treatment enhancement.

### Water Treatment System: Recommended

Purity of water for the protection and longevity of equipment is an important issue in a dental clinic. During treatment the dentist, hygienist or assistant will flush the patient's mouth with fresh water. Water also flows through the handpiece to providing cooling during preparation of cavities for fillings. Steam sterilizers also require pure water in order to function. Many dental chair systems now come with a plastic bottle mount to provide purified water for treatment. The office can keep a supply of distilled water on hand for use around the office. However, a more efficient approach is a built-in water treatment system that purifies community water before it travels to the dental unit and for filling of sterilizer reservoirs.

### Intra-Office Communication System: Recommended

There are several systems that can help the front desk/reception area communicate with the clinical area and the provider office. The simplest are light systems coded to represent patient arrival or readiness.

More advanced system display messages on computer monitors. These help staff to know what is happening and to convey information without having to leave their work-posts or current patients. Such systems improve accuracy and speed and reduce frustration.



**Expert  
Advice!**

*When deciding on cabinetry needs, consider the purpose, function and storage goals for each piece you consider. Often operatories are loaded with drawers and cupboards which serve no purpose. Operatories are not where supplies should be stored unless the office is so tiny, there is no alternative.*

### **Cabinetry: Essential**

Consider hand-washing/sanitizing solutions, where the sink should be placed (access for the dentist and assistant is important); what essential items should be stored in an operatory, and what items belong in standardized procedure tubs (we can help you with how to set those up), what work surfaces you need and where, of what material those surfaces should be manufactured, outlet placement and ease of reach.

There are two options when purchasing new cabinetry for their offices. They can either buy commercially manufactured dental cabinets or they can hire local cabinetmakers to design and build according to their specifications. There are advantages and disadvantages to each approach.

#### ***Dental Specific Manufactured Cabinetry***

##### *Advantages*

- Readily available from several companies
- Wide variety of price ranges and options on the market
- Standard cabinetry designs handle a majority of needs in the treatment room and support areas
- Aseptically designed for easy cleaning and long life under harsh conditions
- 'Name' brands may have better resale value
- Most manufacturers will customize within reason
- Can be moved if practice relocates or expands
- Purchased cabinets are considered capital investments rather than leasehold improvements, thereby accelerating the purchaser's tax deductions
- Divider consoles offer economy. Shared sinks and pass-through cabinets for x-ray machines reduce equipment and installation costs
- Designed to support the weight, utility requirements and function of dental equipment such as delivery units.
- Coordinate esthetically with dental equipment



##### *Disadvantages*

- May not fit unusually shaped rooms

- Cost may be higher than custom cabinetry
- Last-minute design changes may be expensive or inconvenient to make

### ***Custom Cabinetry***

#### *Advantages*

- Depending on builder, may be less expensive than purchased cabinets
- Unlimited choice of colors and finish materials
- Doctor can be actively involved in design process and can monitor progress of job

#### *Disadvantages*

- May not be aseptically designed, and may not withstand long-term hard use.
- Difficult to move
- Built-in cabinets are considered leasehold improvements, not capital equipment, so they are not tax deductible
- As leasehold improvements, these cabinets usually become a permanent part of the building and cannot be removed if the doctor relocates.
- Limited resale value
- Specialty materials can greatly increase cost
- Smaller shops may have trouble meeting deadlines if job is delayed by problems in production or obtaining materials.
- May not support cantilevered delivery units, the weight and extension of intra-oral x-ray units or other dental equipment that requires anchoring to cabinetry.
- Custom cabinets may not necessarily be built in a modular style, and may not allow for easy future expansion or modification

### **General Office: Essential**

These are not dental specific items, simply reminder lists for your consideration.

#### ***Front Desk/Reception***

- Work Desks
- Computers
- File cabinets
- Fax machine
- Printer
- Chairs
- Safe
- Cash register
- Phone

#### ***Waiting Room***

- Patient Chairs
- Brochure holders
- End tables
- Television/videos
- Appropriate games and children's toys

- Plants
- Artwork
- Water fountain

#### *Business Office*

- Computers
- Desks
- File cabinets
- Printer
- Phone

#### *Provider Office*

- Desk
- Computer
- Book shelves
- Phone

### **Used Dental Equipment: A Good Idea?**

Dental equipment is expensive. Repairs are costly. One dilemma you may face as you decide how to build and sustain your new office is whether you should purchase new equipment or take advantage of offers of donated equipment.

New equipment will have warranties and require few if any repairs but require a large initial investment. Used or donated equipment may eliminate the purchase cost completely and be a wonderful boon or which may be outdated and may ultimately cost you more in lost productivity due to breakdowns and increase irritation and costs with frequent repairs.

Older equipment may have different utility requirements or other compatibility issues. Always have an expert check.



X-ray machines must be registered and disposed of legally whether or not they are usable in your practice, or even work at all. Do not accept x-ray dinosaurs. Because of your not-for-profit status, your program should expect manufacturer discounts and special pricing to help you afford new, reliable equipment. You can likely find a very affordable brand of new equipment that will serve you better.

If your budget is such that you truly cannot afford to purchase all of your equipment new, strategically use donated equipment in places

where breakdowns will not shut down your office. Before you accept donations have a knowledgeable person, such as a qualified technician, examine the equipment for you. This person should tell you if the donated equipment is suitable for a modern practice, how long it is likely to last, whether utility connections will work, and if replacement parts are still available.

Donations from dentists in private practice benefit the dentist with tax credits, a way to dispose of large items, and a good feeling about helping. These donations may not provide as great a benefit to you.

What seems like a great way to save a little money up front, may ultimately become a nightmare for your program.

# Dental Supplies



## Dental Supplies and Instruments

*“All human errors are impatience, a premature breaking off of methodical procedure...”*  
*Franz Kafka*

The list of available dental instruments and supplies is staggering. But there’s hope: choosing which dental supplies and instruments you’ll need depends on the procedures you will perform and the services you will provide to achieve your desired oral health outcome.

To help you decide, here’s a list of a number of procedures common to public health settings. There are many alternatives, variations and sub-categories for the items we’re describing. We’re sure you will want to include procedures in addition to these, so you’ll need different materials than those listed here.

### Procedures?

Dental procedures are very dependent on having all of the necessary materials and instruments on hand. The absence of just one item can result in having to delay a procedure and rescheduling your patient.

You can however standardize your procedures with one specific product identified for each specific purpose. You don’t need to have different products for each doctor and in fact, if you don’t standardize your inventory, your costs will likely increase.

Field sales consultants can help you identify the best products for your purposes, and place those in your own personal shopping guide in the automated internet ordering system. They can also show you how private label products can increase your savings while still maintaining the quality you need.

Let’s start our list of procedures with the very first clinical contact your office will have with the patient. For every procedure you typically need the following as a standard:

#### Basic:

- Procedure tray with lid, or instrument cassette
- Paper tray cover
- 2x2 gauze

- Front-surface mouth mirror
- Explorer
- Cotton pliers
- Air/water syringe tip
- High volume suction tip (HVE)
- Infection Control barriers to prevent contamination on handles, chair, lights etc.
- Patient bib
- Protective eye shield for patient
- Bib chain
- Post-operative instructions (completion of visit)

*To this initial list you should add the following for each procedure:*

**Initial Examination and Diagnosis including Emergency Visits:**

- Perio-explorer
- X-ray film (for traditional radiographs)
- Phosphor plates or sensors (for digital radiographs)
- X-ray positioning system, snap-a-rays and bitewing tabs
- Lead shield
- Film mounts

**Prophy**

- Prophy paste(fine, medium, coarse)
- Saliva ejector
- Floss
- Floss threader
- Prophy cup
- Slow speed handpiece
- Topical fluoride application(varnish or gel)
- Fluoride trays(if using gel)
- 2x2 gauze additional
- Disposable dish to hold prophy paste or dappen dish

**Scaling (Prophy III or Prophy IV)**

- Irrigation Syringe
- Peridex
- Saliva ejector
- Cavitron or other electronic scaler and one or more of the following hand instruments:
- Universal curette
- Jacquette
- Gracey
- McCalls

- Columbia

### **Sealants**

- Sealant
- Etch
- Cotton rolls
- Saliva ejector
- Sealant applicator brush
- Disposable container for sealant
- Local Anesthesia
- Long or short disposable needle
- Aspirating syringe
- Topical anesthetic
- Cotton tip applicator
- Local anesthetic carpules (lidocaine, carbocaine, marcaine etc)

### **Amalgam Restoration**

- High speed handpiece burs (330, 557 etc)
- Low speed handpiece burs (round 2,4,6,8 etc)
- High and low speed handpieces
- Amalgam carrier
- Amalgam condenser (small, large)
- Amalgam carver(s) (Hollenback, discoid cleoid etc)
- Amalgam burnisher (acorn, football, round)
- Matrix holder (Tofflemire or other)
- Matrix bands
- Wooden Wedges
- Floss
- Amalgam well
- Amalgam capsules
- Articulating paper
- Articulating paper forceps
- Dri-aids
- Cotton rolls
- 2x2s
- Lining materials for deep cavities
- Pin retention for large restorations

### **Composite or Resin Restorations**

- High speed burs(cutting and finishing the restoration)
- Low speed burs (cavity preparation and finishing disks)
- High and low speed handpieces
- 2x2s

- Cotton rolls
- Dri-aids
- Matrix bands
- Wedges
- Etch
- Bond
- Lining material
- Composite to match the shade of the patient's tooth
- Finishing disks
- Articulating paper
- Articulating forceps
- Floss
- Plastic instrument
- Disposable holders
- Lining materials if cavity is deep
- Retention pins if restoration is large

#### **Temporary Filling**

- Glass mixing slab
- Spatula
- Cement liquid and powder
- 2x2s
- Cotton rolls
- Plastic instrument

#### **Extractions - Simple**

- Surgical curette
- Straight elevators (small, medium, large)
- Forceps (most commonly preferred are 150 for upper and 151 for lower. 150s and 151s are for deciduous teeth)
- Irrigation syringe
- Sterile saline solution
- Sterile gauze packets
- Surgical suction tip

#### **Extractions - Surgical**

*In addition to the above you will need certain of the following, depending on the situation:*

- Surgical handpiece
- Surgical burs
- Periosteal elevator
- Selection of various elevators to handle particular situation
- Root tip picks
- Selection of various forceps to handle particular situation

- Disposable scalpel and blade
- Hemostats
- Surgical scissors
- Suture material
- Needle holders
- Tissue forceps
- Rongeurs
- Bone file
- Hemostatic gel sponges

### **Denture Work- Make, Repair and Reline**

- Impression trays (various sizes)
- Alginate
- flexible mixing bowls
- Mixing spatulas
- Wax knife
- Alcohol torch
- Bite registration materials
- Waxes (baseplate, boxing, bite wafers etc)
- Color transfer applicators
- Stone or plaster
- Repair acrylic
- Soft reline materials
- Hard reline materials
- Tissue conditioner
- Custom tray acrylics
- Impression materials
- Shade guide
- Plaster knife
- Boley gauge
- Calipers

### **Pulpotomy or Pulpectomy**

- High speed handpiece
- High speed burs
- Low speed handpiece
- Low speed burs
- 2x2s
- Cotton rolls
- Formocresol or other agent
- Endodontic files
- Cotton pellets
- Temporary filling material

- Plastic instrument
- Irrigation syringe
- Irrigation solution
- Glass slab
- Spatula

### **Rubber Dam Placement**

- Rubber dam
- Rubber dam frame
- Rubber dam forceps
- Rubber dam clamps (selection of sizes and types)
- Rubber dam punch
- Floss

### **Root Canal Therapy**

- High speed handpiece
- High speed burs
- Low speed handpiece
- Low speed burs
- X-ray film or digital sensors
- Endo handpiece and attachments
- Obturators
- Root canal preparation medicaments(RC-prep, Eugenol, Endo Gel, Calcium Hydroxide, various)
- Endo files (hand or mechanical)
- Endo stops
- Endo ring
- Endo ruler
- Endo explorer
- Apex locator
- Irrigating syringe
- Paper points
- Root canal sealer
- Lentulo spiral fillers
- Gutta percha
- Endo spreaders
- Temporary filling cement
- Cotton pellets
- Cotton rolls
- 2x2s

### **Stainless Steel Crowns**

- High speed handpiece

- High speed burs
- Low speed handpiece
- Low speed burs
- Set of stainless steel crowns(various sizes)
- Post and core materials if necessary(posts of different sizes, build up material)
- Crimping forceps
- Cement
- Mixing slab or pad
- Mixing spatula
- Plastic instrument
- Articulating forceps
- Articulating paper
- Floss

### **Dry Socket Treatment**

- Dry socket paste
- Dry socket gauze
- Scissors
- Spatula
- Irrigation syringe
- Sterile saline solution

### **Functions**

*These functions accompany the procedures we've listed and include supplies and equipment of their own:*

### **Sterilization and Infection Control**

- Sharps containers
- Biohazard bags and containers
- Surface disinfectants rated for the function
- Disposable barriers(chair, light, curing light, x-ray, handles and buttons, digital sensors)
- Ultrasonic cleaner solution
- Distilled water
- Sterilization pouches(various sizes) or
- IMS cassette system
- Instrument or cassette wrap and tape
- Sterilization indicators
- Sterilization forceps
- Sterilization trays
- Towels
- Cold sterile tub
- Cold sterile solution

- Sterilizer cleaning and maintenance materials
- Evacuation cleaning solution
- Disposable evacuation traps
- 4x4 gauze
- Storage containers
- Selection of cleaning brushes for decontamination of instruments, suction tips etc.
- Hand cleaner
- Nail brush
- Paper towels

**Personal Protective Equipment (PPE)**

- Face Masks rated for the purpose used
- Face shields
- Eye protection
- Disposable gowns or fabric gowns or jackets(with laundering process in place)
- Disposable gloves (various sizes and types including latex and nitrile)
- Disposable hair and foot covers (if needed).

# Practice Management Software



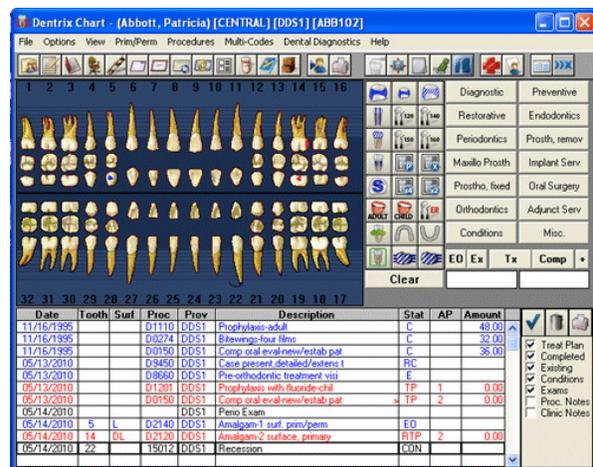
## Is Software Really All That Hard?

### Dental Practice Management Software: Essential/Foundational for the PCHH!

Modern dental practice management software is essential in the community health world. Often dental specific software has taken a 'backseat' to the medical software and the decision driven by easiest compatibility with the medical software even if the features themselves do not seem to understand the unique requirements of dentistry, especially community health dentistry, and do not facilitate desired outcomes.

Here are some features which enhance the community health program delivery of care:

- Patient record keeping
- Accessibility and security of patient records
- Appointment scheduling
- Charting
- Patient billing
- Insurance claims
- Patient recalls
- Custom reporting
- Patient Education
- Treatment Planning and tracking
- Diagnostic Codes
- Coordination and Integration with Medical Care
- Data mining for unmet treatment, grant reports, needs assessments, outcomes evaluation.
- Periodontal charting
- CAMBRA
- Risk management: for example: standardization of post-operative instructions and medical alerts
- Updated patient history
- Prescription management



## Meaningful Use (MU)

Meaningful Use certification is now an essential part of implementing an electronic health record. If you have a certified electronic medical record, and your dental record integrates with that record, you can meet MU Certification. Dentrix Enterprise is also stand alone MU certified.

As essential functionality and considerable federal funding is available to you through MU certified electronic health records, these are recommended. 2016 is the last year to attest and receive all years of MU funding.

## Are you ready?

A new software system means changing the way you do things – for the better. Many practices rely heavily on paper systems that are very different and much less efficient than a software system. Switching to a new system can require some adjustment, but a great software system will increase efficiency, minimize liability, and reduce the need for staff members directly involved in administrative functions, freeing them for more important clinical work.

When considering a dental software system, ask yourself a few questions:

- Is the system logical and intuitive?
- Is the system flexible?
- Can the system be networked to centralize functions and share information? This is especially important if you have multiple sites or plan future expansion.
- Can the system collect all the data you need and provide reports?
- Will the system help you to comply effectively with governing rules and regulations?

## Things to look for in software

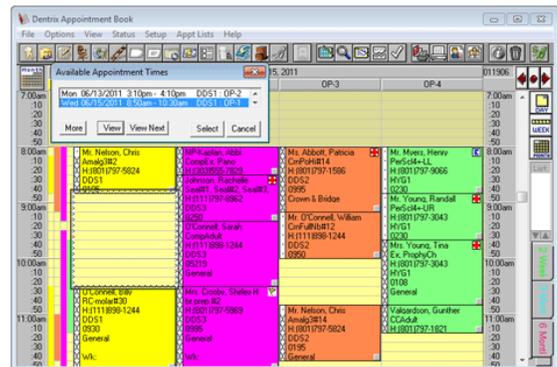
There are many systems available on the market, but not all of them function the same way. As you compare the systems that interest you, you should look for those functions that will have the greatest effect in increasing your program efficiencies.

## HL7 (Health Level 7) Interface

The purpose is to allow disparate healthcare applications to exchange key sets of clinical and administrative data. Put simply, it means your center's medical software and your dental practice management software can talk to each other. However, you can have an HL7 compliant dental software where your HL7 compliant medical software refuses to open the portals, or at least unless you pay significantly.

## DICOM (Digital Imaging and Communication in Medical) Compliance

This is the ability of software to manage and communicate both digital images and written material.



### **Schedule for Maximum Efficiency**

Your schedule is the heart of daily operations. Truly superior software is not only easy and fast to use, but allows the user freedom of judgment to insert patient appointments in any way that maximizes time management and workflow, and in 'real time'.

### **Prescription Management**

You are able to identify the prescriptions you most commonly write, print them instantly and save them into patient charts.

### **Operative Notes**

Any time you do a procedure, how you do it and what you tell the patient is instantly recorded.

### **Postoperative Instructions**

Postoperative instructions should be standardized and be able to print out on the patient's walkout statement.

### **Integrated Patient Information**

Patient information should integrate from the initial family record to the treatment records to the billing records. Data should be entered into the system only once.

### **Alerts**

Alerts should flash on the monitor when the patient arrives, making your staff aware of special situations such as emergencies, payment requirements and allergies.

### **Custom Features**

Your system should allow customizable features. An example of a custom feature would be the ability to program key assignments with standard diagnostic codes so that patient diagnosis and treatment can be entered into the patient record with a single keystroke.

### **Data collection capability (UDS requirements)**

The system should collect patient statistical data for use in grant applications and reporting.

### **Security features**

One of the most useful features of modern software systems is controlled access to records. A high level of security is required by current stringent HIPAA standards.

DENTRIX Enterprise was designed from the ground up with health care security in mind. It is fully HIPAA compliant and includes data, employee security and reporting features that help you stay confident in your compliance.

DENTRIX Enterprise has powerful, yet flexible security options that let you decide how you will secure your organization's operations. Password protection and user rights can be assigned for more than 200 practice functions. A comprehensive audit trail tracks who edited what and when, as well as other pertinent data necessary to ensure the integrity of your data and finances.

**Backup Data Security**

With only one database, you only need to do one nightly backup. No need to worry if 15 locations are properly maintaining and backing up their data and you don't have to worry about people walking away without a system backup.

**Insurance claims**

Your system should accept multiple insurance and co-payment schedules. It automatically accumulates the insurance information from the treatment record and batches it for submission to insurance carriers.

**Productivity**

It should produce reports that verify accurate treatment and calculate daily production and revenue.

**Revenue and Collections**

Line Item Accounting: The system should keep track of payments from patient and insurance claims and provide you detailed reports so you can stay on top of your revenue. It should apply the remittances and payments to the actual related to charges and not simply the oldest, outstanding charge on the patient record.

**Reports**

Once data is collected, a superior software program allows you access to it in the most meaningful ways. This does not just include treatment and financial information, but demographics, patient and treatment profiles. Such functions should never have to be manual functions that waste precious staff time.

# Implementation Strategy



Now that we've had an opportunity to discuss the various parts that make up the clinic plan, the next step is to put all those parts in order. Since it can be hard to keep everything straight as you pull everything together, here are resources to help you:

<http://www.henryscheinofficedesign.com/>

- Here, under Guides and Resources, you will find a workbook for project management.
- Here, under Sample Floor Plan and 3D gallery, you can see example designs including some specifically for community health.
- Here, with the online planner, you can experiment with your own ideas and solutions.
- Here, under Photo Gallery, you can be inspired by the ideas of others
- Here, under Interior Design, you can explore fabulous solutions for how your office could appear. Have a look at the great pediatric office ideas!

## **Let's succeed together!**

Contact your Regional Account Manager, local Field Sales Consultant or Equipment Sales Specialist for help or call: (800) 851-0400 to request assistance.

- Example design plans
- Example budgets: equipment, technology and software
- Equipment catalogs and manufacturer marketing brochures that demonstrate products.

For more information, check out these Websites:

- [www.dentrix.com](http://www.dentrix.com) (Dentrix Enterprise Software, specifications, features and resources)
- <http://www.3shape.com/new+products/trios/intraoral+scanners> (digital impressioning)
- <https://e4d.com/planscan-complete-system/> (CAD-CAM Solutions)
- [www.nnoha.org](http://www.nnoha.org) (operations manuals and other tools for dental programs)
- [www.osap.org](http://www.osap.org) (infection control resources)
- <http://www.cdc.gov/oralhealth/infectioncontrol/> (infection control in dental settings)
- [www.midmark.com](http://www.midmark.com) ( medical and dental equipment and technology)
- [www.a-dec.com](http://www.a-dec.com) (equipment and technology)
- [www.pelton.net](http://www.pelton.net) (equipment and technology)
- [www.dexis.com](http://www.dexis.com) (digital sensors and imaging)
- <http://www.planmeca.com/na>: Imaging solutions

- <https://www.hu-friedly.com/> : Instruments and Infection Control Systems

