



Live patient Mini Residency
2025-2026



Thank you for choosing to spend your time with us. We know that there are many choices in continuing education and we sincerely want this to be one of the best experiences in dental CE today. Our goal is to help you gain greater understanding, confidence, and skill that will allow you to take your practice to the next level in cosmetic dentistry.

We desire that your restorative confidence is taken to new heights and that practice becomes more enjoyable and rewarding. **Please** let us know if there is anything we can do to help you in this experience as we learn to take your practice to a higher level with cosmetic and restorative dentistry.

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Educate – Engage – Encourage



Chicago Mini-Residency

Location Howard Brown Health Halsted
3501 N. Halsted, Chicago, IL 60657

Residency Schedule

Prep week -- Friday October 10Lecture and case review

Saturday October 11Case preparation clinic

Insert week - Friday November 7Lecture and insertion protocol

Saturday November 8Case delivery clinic

PREP week - FRIDAY, October 10, 2025

8:30 - 9:00am	Reception, caffeine, continental Breakfast
9:00 - 9:15am	Welcome and Course Logistics for Preparation Session
9:15 - 9:30am	How to plan..... Begin with The End In Mind
9:30 - 10:30am	Smile Design... Comprehensive Dentistry-Aesthetically Oriented
10:30 - 10:45am	Break , potty, more caffeine
10:45 - 12:00pm	Preparation Principles.... To drill or not drill
12:00 - 1:00pm	Lunch on site in meeting room
1:00 - 2:00pm	Cases from start to finish.... Confident optimism
2:00 - 2:15pm	Break, nap, cookies
2:15 - 3:00pm	Follow the science..... So many materials, so little time
3:00 - 3:30pm	Lab Communication, Professionalism and how to shmooze the patient
3:30 - 4:15pm	Case presentations , discussion, final planning for clinic
4:15 - 4:30pm	The DoubleClickquestions, comments, concerns? Clinic schedule and expectations for tomorrow

INSERT week - FRIDAY, November 7, 2025

8:30 - 9:00am	Reception, caffeine, continental Breakfast
9:00 - 9:15am	Welcome and Course Logistics for Preparation Session
9:15 - 9:30am	The indirect materials most used today... LiS2 and ZrO2
9:30 - 10:30am	Cementation Sanity... long lasting comfort
10:30 - 10:45am	Break , potty, more caffeine
10:45-12:00pm	Cases from start to finish.... Confident optimism
12:00 - 1:00pm	Lunch on site in meeting room
2:00 - 2:15pm	Break, nap, cookies
2:15 - 3:00pm	PAC cementation protocolCementation cookbook
3:00 - 3:30pm	Wear, rehabilitation cases ...odds and ends
3:30 - 4:15pm	Photography, marketing ...distinguishing yourself
4:15 - 4:30pm	The DoubleClickquestions, comments, concerns? Clinic schedule and expectations for tomorrow

Always think arch, not just tooth. We really appreciate your commitment to learning and the dedication you have to providing better service to your patients. There are many choices in dental CE and we are confident this investment in yourself and your practice will be one of great worth.

Thank you..... The Pacific Aesthetic Continuum



PREPARATION check list:

- Written description of case history, treatment, and expectations
 - Approval of plan by patient
 - Informed consent for PAC signed and returned to lab
 - Color selection by patient ... signature in chart
 - Shape selection by patient ... signature in chart
 - Review of treatment with patient
- Pre preparation co-planning with the technician
 - Wax up
 - Reduction guide
 - Stent for temporaries
 - Feedback on material considerations and case limitations
- Pre-anesthetic mock up on patient
 - Esthetic check – incisal edge position
 - Phonetic check
 - Function check
 - Photos taken – full series plus pre-op shade of teeth
- Anesthetic - maxillary
 - Topical in bicuspid area right and left 1 minute minimum
 - 30ga short needle, prilocaine or articaine, ¼ carp bicuspid area only, SLOW
 - Allow to infiltrate 1-2 minutes, massage forward
 - Follow up with articaine or lidocaine with epi in bicuspid area
 - Inject mesial to cuspid after lip “feeling numb”
- Tooth preparation
 - Try in reduction guide, not where reduction not needed... Conserve when possible
 - First reduce any tooth not in arch that interferes with reduction guide
 - Depth cuts as needed, keep facial planes “curved” as natural
 - Even, smooth reduction with course or medium diamond
 - No sharp corners anywhere on prep
 - Finish no rougher than finish diamond or medium polish disc
- Photos taken for lab
 - Preparation shade – same plane as teeth, moist, retracted
 - Photo of bite registration with alignment sticks in mouth
 - Photos in front of patient with Dentofacial analyzer in mouth
 - Photos or changes to temps from wax up, photos of temp color
- Temporaries
 - Full coverage restorations...matrix, temp material, desensitizer, temp cem
 - Veneers...spot etch, rinse, desensitizer, “lock-on” technique
- Case for lab
 - Disinfect all materials used in patient
 - Box up everything lab sent in wax up EXCEPT temp matrix
 - Box bite alignment, occlusal guides, Dentofacial Analyzer (bite plate only)
 - Box opposing model, impressions, completed lab slip
- Photos or digital images (CD, card, e-mail)
 - Pre-op
 - Prep shades
 - Bite alignment guide
 - Mock-up or accepted temps
 - Restoration evaluation, fine-tuning in 7-14days
- Patient expectations
 - Home care, tray therapy, medications
 - Adjustment period
 - Restoration evaluation, fine-tuning in 7-14days
 - Follow –up visits
 - Bruxism splint (if needed)

CEMENTATION check list:

- Review with patient
 - Review patient experience with temps...note concerns
 - Re-assure patient about how awesome the restorations turned out
 - Briefly explain temp removal, restoration placement, need for isolation
 - Anesthetic as needed...same procedure as prep appt
- Patient experience and feedback about temporaries – 5-7 days after prep
 - Esthetic check, phonetic, function review and feedback
 - Measure length of central incisors...write down for reference
 - Impression and photos taken, communicate changes with lab
- Restoration **try in**
 - Isolation – rubber dam placement, Opragate, etc
 - Removal of temps
 - Clean teeth with flour pumice, unfilled gauze, scaler, etc
 - Try in with water, aluminum chloride, or try-in paste
 - Adjust for fit and contacts, no occlusal adjusting at this step
 - Remove and keep organized on a clean surface
- Bonding the teeth for maximum adhesion
 - Phosphoric acid etch enamel 15-30 seconds (if majority of prep on enamel)
 - Several coats universal dentin bonding agent, air thin well, shiny surface
 - Keep light off teeth or use filter to keep from inadvertent setting
- Lithium disilicate** restorations (and other silica based ceramics)
 - Rinse veneer or crown, restoration cleaner, rinse, re-apply silane...
 - Veneer:
 - Bonding agent - air thin towards gingiva
 - Apply light cure luting material starting at centrals
 - Wipe off excess (2x2, cotton swab)
 - Tack cure – 2-3mm tack tip 2-3 seconds
 - Floss while holding, clean up
 - Final cure
 - Crown:
 - Dual cure self-adhesive resin cement (i.e. Speedcem, Smartcem, Unicem)
OR
 - Universal bonding agent (Chemical or light cure) + dual cure self-adhesive resin cement
- Zirconia** restorations (and other metal or metalo-ceramics)
 - Rinse, restoration cleaner, rinse...
 - “Everyday” adhesion (stable occlusion, retentive preps):
 - Dual cure self-adhesive resin cement (10-MDP containing)
 - After self-cure begins
 - “Maximum” adhesion (parafunctional issues, non-ideal preps):
 - Zirconia/metal 10-MDP primer (i.e. Monobond, Z-Prime...)
 - Dual cure self-adhesive resin cement (10-MDP containing)
- Check occlusion and function
 - Simultaneous centric, anterior disclusion, cuspid rise
 - To adjust zirconia and lithium disilicate – fine diamond, water, light pressure
 - Polish with rubber polishers and paste
 - Impression for bruxism splint, retainer, bite guard
 - Take series of photos
- Reappoint patient for “fine tuning” and “refinement” 1 week later
 - Ask if the patient feels roughness, sharpness, and if the bite feels even
 - Adjust occlusion as needed
 - Check for flash and areas that need smoothing or polishing
 - Schedule for final photos 2-4 weeks after insert
 - Take full series of photos

The smile

Dental aesthetics is about the smile and the tissues surrounding it. The position of the teeth and supporting tissues do not occur by accident. They are affected by the unique functional parameters of each patient. The smile is the marriage of physical positioning and shape with the psychology of the person. 3 major components exist when discussing the smile:

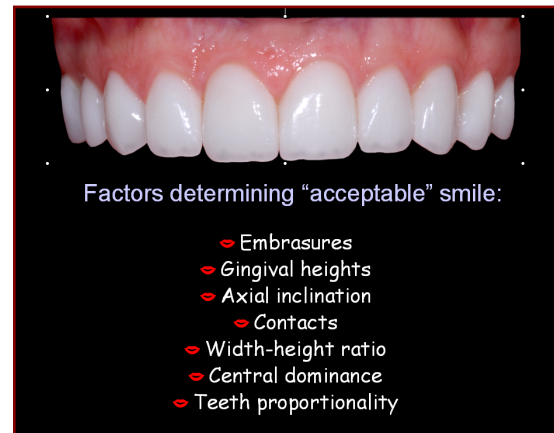
1. Global Aesthetics – the relationship of the smile to the face
2. Macro Aesthetics – the shape, contour, and position of the teeth and surrounding soft tissue
3. Micro Aesthetics – the subtle nuances of particular teeth such as texture, color, effects

We will consider each of these as a whole as we discuss cases. It is important, particularly when beginning a new case, to consider each of these components individually as the best results happen when all of these are analyzed taken into account when planning and presenting the case.

Smile Design

Of course, what constitutes beauty is subjective, for instance Europeans look at tooth color and shape different that Americans. However, there are basic principles that if followed will help make anterior restoration cases end up with a more predictable and accepted result. These are the basics of smile design.

These factors should be considered in every cosmetic case before prepping any tooth. Photos may be analyzed, lab technician consulted, and a plan made to incorporated correction of all of these aspects into treatment. These principles should be carried throughout treatment.



Embrasures

The incisal embrasures widen going distal. They broaden and extend more towards the contact giving the appearance of more tooth "separation". The ceramist controls this in the final restorations and developing this concept in temporaries can make them much more pleasing.



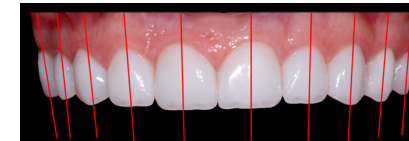
Gingival Heights

Teeth emerge from the gingiva at differing levels with the lateral incisors about 1mm more incisal than the centrals and cuspids. This can be altered by periodontal therapy with basic gingival recontouring or by osseous flap alterations and crown lengthening. This is much more of a factor in patients who have a "gummy smile" during a natural, full smile and may be ignored if no soft tissue shows.



Axial Inclination

The centrals are more vertical and the incisal edges or buccal cusp tips appear to move palatally moving posteriorly. Axial inclination must be factored into tooth preparation so that the technician has space to contour porcelain that is not over-bulky.



Contacts, central dominance, and width-height ratio

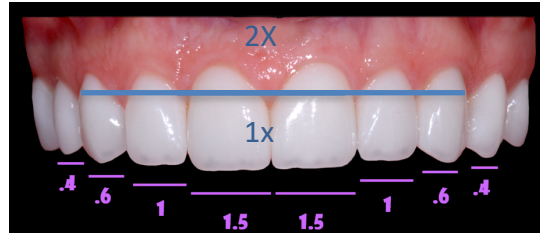
The contacts move from incisal towards the gingiva moving posteriorly. The centrals have a width that is 75-78% of the height. The trend today is slightly longer incisor and needs to be accepted by the patient in the mock up or temporization so that phonetics and esthetics can be patient approved. The centrals are the predominant tooth in the smile.



Tooth proportions

There are variations of the "Golden Proportion" to help guide tooth ratios. Generally speaking, we see about 1/3 less of each tooth less than the one in front of it. In other words, if we say a lateral incisor is a "1" in width, the central would be that width plus 2/3 or about "1.5". The cuspid would be about 2/3 of the lateral, or about ".6". This continues posteriorly.

Another way to look at it is the “Golden Percentage” which basically states that of the total distance from distal of cuspid to distal of cuspid, the width of the centrals is 50% of this distance. So, each central is 25%, each lateral is 15%, and each cuspid is 10% when looking straight from the anterior.



“Ideal” smile design basics are the goal in every case. These principles guide treatment planning, material selection, tooth preparation, and lab construction. They can even be used to help show the patient where they are deficient with their smile... these principles can help with case acceptance. All of these factors should be planned well in advance and guide all patient treatment during the case. However, the perfection of micro aesthetics cannot make a case “perfect” when macro aesthetics or global aesthetics are ignored or non-correctable

Case preparation and Visualization

The final cosmetic case outcome will only be as good as the weakest link of the following: understanding of patient desires, proper case planning, laboratory selection, proper material selection. Thorough records, consultation, and planning must be made before touching a bur to the teeth. Obviously each case is unique but the following are recommended to make the results more predictable.

- ☞ Full mouth x-rays, panorex, bitewings
- ☞ Occlusal analysis
- ☞ Soft tissue analysis – probing, gummy smile, perio defects, frenum pull, etc
- ☞ Full series of digital photographs
- ☞ Review of patient expectations
- ☞ Communication with patient regarding treatment plan and case limitations
- ☞ Study models, pre-treatment bite registration
- ☞ Pre-operative shade and final desired shade
- ☞ Lab communication, wax up, reduction guide, material selection

Know before you go. Before any tooth preparation, the outcome should be visualized. Studying the pre-op photos, consultation with the lab technician and a pre-treatment wax up can be critical in this area. None of this can happen without complete records. Once the practitioner, ceramist, and patient are all in agreement with the pre-operative analysis and goals, treatment can begin.

Soft-tissue

Often overlooked in cosmetic cases are the soft-tissues. If gingival tissues are not handled well the case will ultimately fail. Bulky margins, rough finish, incomplete cement clean-up, bonding failure, biologic width violation, and improper hygiene can all lead to recession, inflammation, or tissue irritation. It is impossible to get excellent long-term success if the health of the soft tissue is overlooked.

Pre-op soft-tissue health is the best way to get an excellent restorative outcome. Great perio leads to better preps, impressions, temporary tolerance, and patient comfort. Before doing any cosmetic case, consider these:

- Complete periodontal evaluation
- Soft-tissue management potentially including perio treatment (i.e. tray therapy, grafting, SC&RP, etc)
- Orthodontic treatment particularly for the opposing arch
- Occlusal equilibration

Retraction techniques are often needed to control fluid leakage and to provide accurate marginal interpretation by the ceramist. It must be stressed that choosing materials for bleeding and retraction can influence case success. Ferric sulfate (i.e. Astringent, VicoStat) should be avoided as the iron may penetrate the tooth and cause darkening under the restorations as can blood on the tooth. Cord that is too large or placed with too much pressure may cause unexpected tissue tearing or recession.

1. Cord ... gentle insertion, error on small size, braided may pack better
2. Hemostatic agents ... no iron containing materials, aluminum chloride for mild or moderate bleeding (i.e. ViscoStat Clear), epinephrine cord (i.e. GingiBraid) work well for minor bleeding
3. Retraction paste ... clay material with non iron hemostatic agent (i.e. Expasyl) may work well in most veneer cases
4. Laser ... conservative troughing at low wattage can be predictable in most situations.
5. Combination of above ... i.e. cord with retraction paste, paste with laser, etc

Gingival re-contouring must be considered in every case. The laser has certainly made this more acceptable by clinician and patient than traditional periodontal techniques with open flaps and electrosurgery. In cases where there is sufficient attached tissue and where other periodontal conditions are stable, the laser can be a great adjunct to cosmetic outcomes. The diode laser is most often used for minor gingivoplasty because of its relative in-expense, ease of use, versatility, and predictability. The following is a simplified outline of its use (NOTE: it must be stressed that the clinician must gain additional training in laser techniques, indications, and basic periodontal principles):

- ✎ Analyze the photos to determine ideal gingival levels.
- ✎ Measure sulcular depths and/or “sound” (probe to) bone.
- ✎ Biologic width == minimum soft tissue superior to the crestal bone of the alveolar process that will allow healthy tissue.

- ✘ **GENERALLY keep final margins 2.5-3.0mm from bony crest.** Any more and there is risk chronic inflammation and possible recession.
- ✘ Use wattage minimal wattage levels.
- ✘ Analyze initial shaping by having patient sit up in chair and evaluate.
- ✘ Do bony crown lengthening and grafts when needed and let them become stable (2-3 months) before doing final preparation margins and impressions.

Lab involvement

The sooner the lab is involved, particularly in complicated cases, the better. It is recommended that each aesthetic case have a “wax up” done by the lab so that reduction guides, temporary matrix, and lab suggestions/limitations can be used to increase case success and reduce clinician stress. The following are needed by the lab for a wax up or computer mock up:

1. Photos
2. Patient and clinician goals
3. Smile design desired
4. Bite registration along with vertical and horizontal guides
5. Pre-op shade
6. Pre-op length of central incisors
7. Completed PAC lab slip



Tooth preparation

The more tooth structure we save now, the more treatment options we will have later. The preparation goal as in every aspect of dentistry is the removal of the minimum amount of tooth removal needed to achieve the treatment goals. These are the basics for “ideal” all ceramic tooth preparation:

- ✘ Know your materials BEFORE laying a bur to the tooth. REDUCE according to materials used to meet the cosmetic and functional need of the patient.
 - Empress, Emax veneers: 0-0.5mm reduction
 - Layered Emax or zirconia restorations: 1.0-1.5mm rounded shoulder/chamfer, 4-8* taper, 3-4mm axial wall height, 1.5-2.0mm occlusal clearance
- ✘ No sharp internal line angles ... reduce potential fracture stress points
- ✘ For veneers, the greater the color change, the more subgingival and the more lingual the veneer preparation must be. Remember that for severely stained teeth the deeper the prep the darker the color encountered
- ✘ For diastemas, incorrect midlines, or cants the preparation must be more lingual and subgingival
- ✘ Preparation should start at the midline and worked posteriorly to “distalize” tooth size discrepancies and spacing problems
- ✘ Incisal reduction needed when shortening length of tooth or when adding incisal character for teeth pre-operatively of acceptable length
- ✘ Reduce evenly to give ceramist consistent thickness of veneers when possible
- ✘ Final preparation should be no rougher than fine diamond or medium polishing disc before impression, smooth prep and round line angles if reducing with course diamond

Breaking contact for anterior veneers is often needed.....

1. To correct midline position or cant
2. When interproximal restorations are to be covered
3. When significantly changing tooth color ... more than 2-4 shades
4. Tooth proportion problems exist
5. Interproximal decay
6. When one or more teeth are lingually positioned

Minimal tooth invasion should be the goal. We would all benefit from no tooth preparation if the result was best: less sensitivity, less office time, more efficiency, increased patient satisfaction(?). That said, dentistry has come full circle with “no-prep” veneers which were common in the 1990’s, went out of style and replaced with over-prepping, and then came back in style because of marketing by particular ceramic companies. Now, it’s about **STRATEGIC PREPARATION**...It must be stressed that reduction must be in moderation to fit the properties of the porcelain selected and aesthetic goals of the case. If done well, the results with “selective reduction” can be superior in every way if you **vision the end result before laying a bur on any tooth**.

Limitations of no preparation veneers are that the minimal labial position is limited to the most facially positioned tooth, hiding darker colors is more difficult, creating natural incisal character may be impossible without adding substantial length, covering interproximal restorations is impossible, and providing a smooth lab glazed margin is hard to do. One must also be careful to consider the long term cosmetics, marginal integrity, and soft-tissue response and evaluate this technique by comparing long term (5-10 year) follow up. Prudent case selection for no-prep is wise.

Temporization

Transitional or temporary are certainly alive and dynamic. They are an irreplaceable tool for case success and should be considered “transitional pre-view” restorations as they can provide valuable feedback for restoration shape, length, and color. Like the mock-up, temps today are made from composite and can easily be modified to change length, color, and texture. Most importantly, we make them of a shade that is close to what the patient is wanting so that there are no surprises later.

- I. **Temp choice #1: “Spot Etch”** normally provides enough mechanical retention to keep the transitional in place particularly in conservative, veneer type cases
 - a. Use the shade the patient chose for final restorations
 - b. SPOT ETCH with 37% phosphoric acid spot etched on a 3mm diameter area on enamel and rinse well once final prep impressions, bite registration, and preparation shade photos are taken
 - c. DISINFECT with a chlorhexidine or aldehyde product on a micro brush (reduce MMP's)
 - d. BONDING AGENT placed on teeth, air thin, and cure
 - e. wipe air inhibited layer with alcohol micro brush
 - f. place dual cure resing (i.e. Luxatemp) into matrix, place on tooth, let cure
 - g. remove matrix, trim, adjust, polish
- II. **Temp choice #2: “Extra-oral finishing”** technique. Very much like making any posterior temp for crown and bridge. Particularly good with full crowns are done, more likely to break while finishing if preps are very conservative.
 - a. Moist teeth or separating medium applied... ProV Coat (BISCO), KY jelly, saliva, or glycerine
 - b. MATRIX filled with composite temporary material, move as material sets to prevent locking on
 - c. REMOVE after complete setting, trim, adjust
 - d. DISINFECT with a chlorhexidine or aldehyde product on a micro brush (reduce MMP's)
 - e. CEMENT with non-euginol temp cement (i.e. Temp Bond NE, Zone Free)
- III. Repair voids or add “character” composite after placing bonding agent
- IV. Shape with disks and burs as needed, finalize occlusion

Cementation

There are many choices in luting materials. It is important that you understand the benefits and limitations to whatever materials you use.

- I. **Lithium Disilicate (& silica based ceramics):** The goal is both chemical and mechanical retention.
 - a. Thoroughly remove temporaries
 - b. Clean teeth with flour pumice, unfilled 2x2 gauze, etc
 - c. Isolate, try in with water, aluminum chloride, or try in paste
 - d. Fit/contact adjusting...don't adjust occlusion at this point
 - e. Remove from mouth, set aside on “padded” soft surface
 - f. Rinse, cleaner, rinse, silane
 - g. Isolate teeth
 - h. Veneers: Phosphoric acid etch enamel, rinse, leave moist, several coats “Universal DBA”, air thin towards gingiva, light cure resin
 - i. Full coverage: “Universal DBA” for maximum adhesion, dual cure self-adhesive resin
- II. **Zirconia:** The goal is primarily mechanical with moderate chemical retention
 - a. Thoroughly remove temporaries
 - b. Clean teeth with flour pumice, unfilled 2x2 gauze, etc
 - c. Isolate
 - d. Fit/contact adjusting... don't adjust occlusion at this point
 - e. Remove from mouth, set aside on “padded” soft surface
 - f. Rinse, cleaner, rinse, zirconia/metal 10-MDP primer
 - g. Isolate teeth
 - h. Cement with 10-MDP containing self-adhesive resin cement

Success is where preparation meets opportunity.

Educational experiences like this help give you the preparation needed to succeed when opportunity arises. Keep learning...materials and techniques seem to change overnight and sharing the experience of other practitioners is invaluable. There are many terrific educational resources today.....commit yourself to a life time of learning. **By sticking to an organized sequence** of treatment and keeping meticulous attention to detail, every practitioner can experience great rewards in cosmetic dentistry. What a great time to practice.

THANK YOU very much for listening during this presentation...it is an honor to be able to share with you.

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