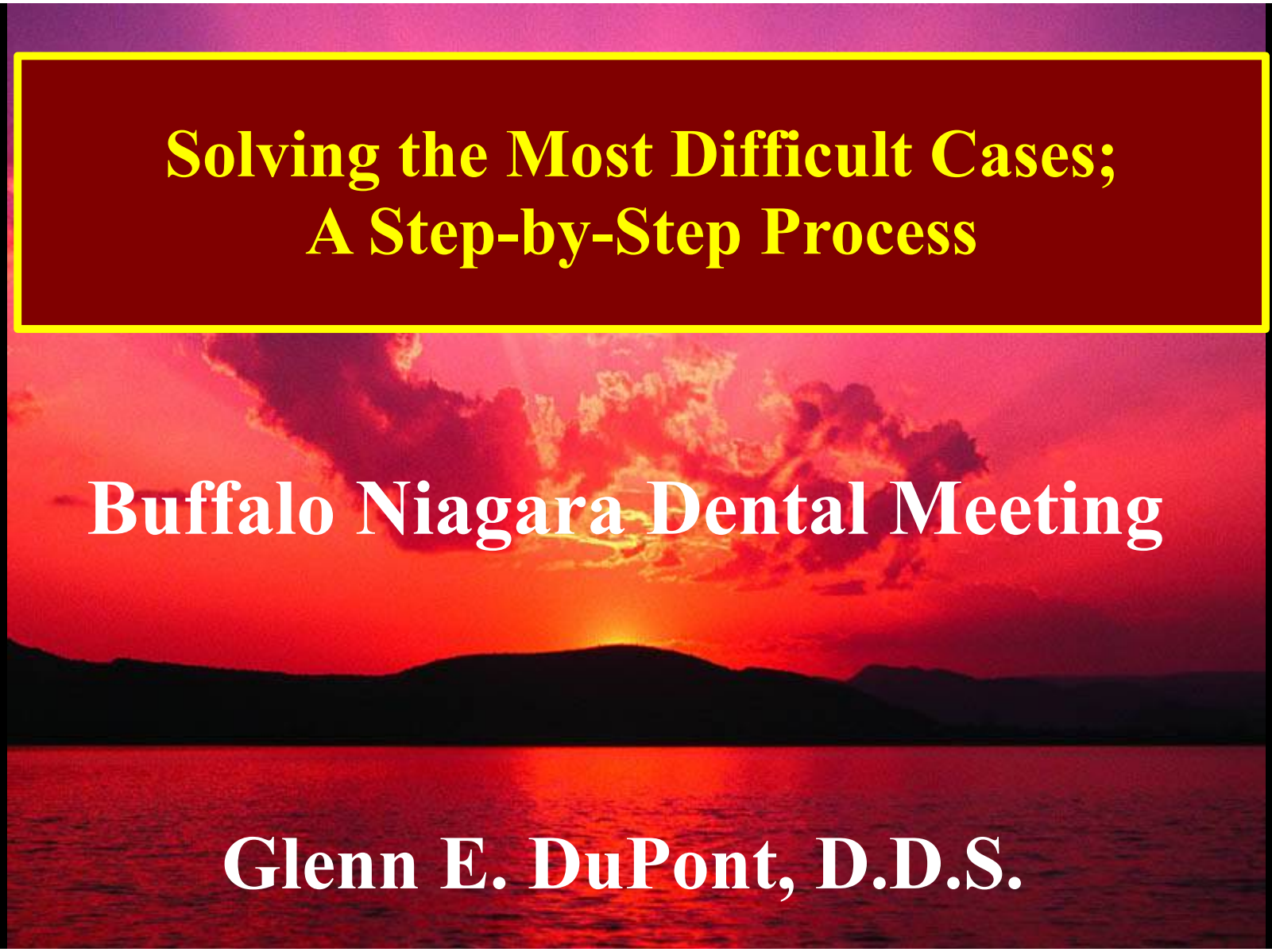

Solving the Most Difficult Cases;
A Step-by-Step Process
Buffalo Niagara Dental Meeting
Glenn E. DuPont, D.D.S.



Patients come
to us for…

A Healthy Smile!

**It's what's behind
the smile
that counts!**



44 years!

- You are the example
- Feel blessed & arrive positive every day
- Be sure my employees know they are #1
- Help my patients understand I am their advocate
- Present the BEST way to help solve their problems
- The most important step is the step you are on
- Ask, ’Is there a better or more efficient way?’
- Stay in balance

The examination process

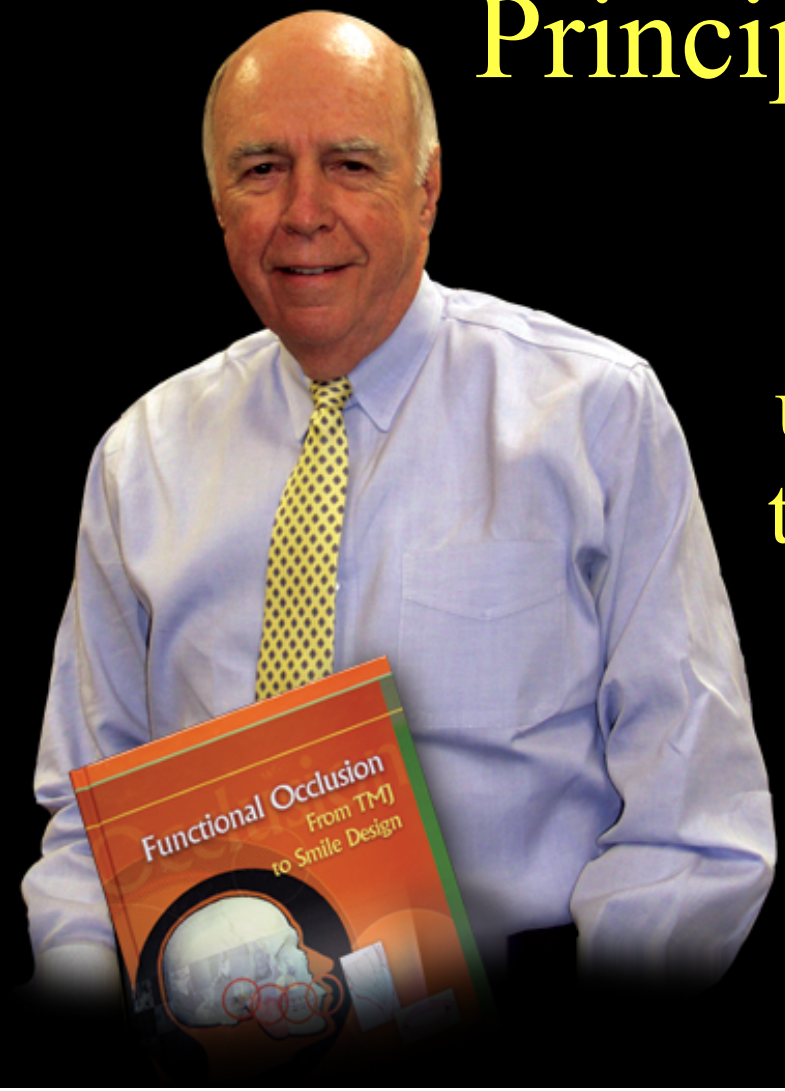
CAUSE → EFFECT

Must examine the whole system

1. The patient interview and history
2. TMJ screening and muscle exam
3. Soft tissue and cancer exam
4. Occlusal evaluation
5. Examination of the teeth
6. Periodontal examination
7. Airway screening

How does this help you?

Principles



Pete said, “ If you do not understand the principles then technology will just get you in trouble faster!”

The examination process

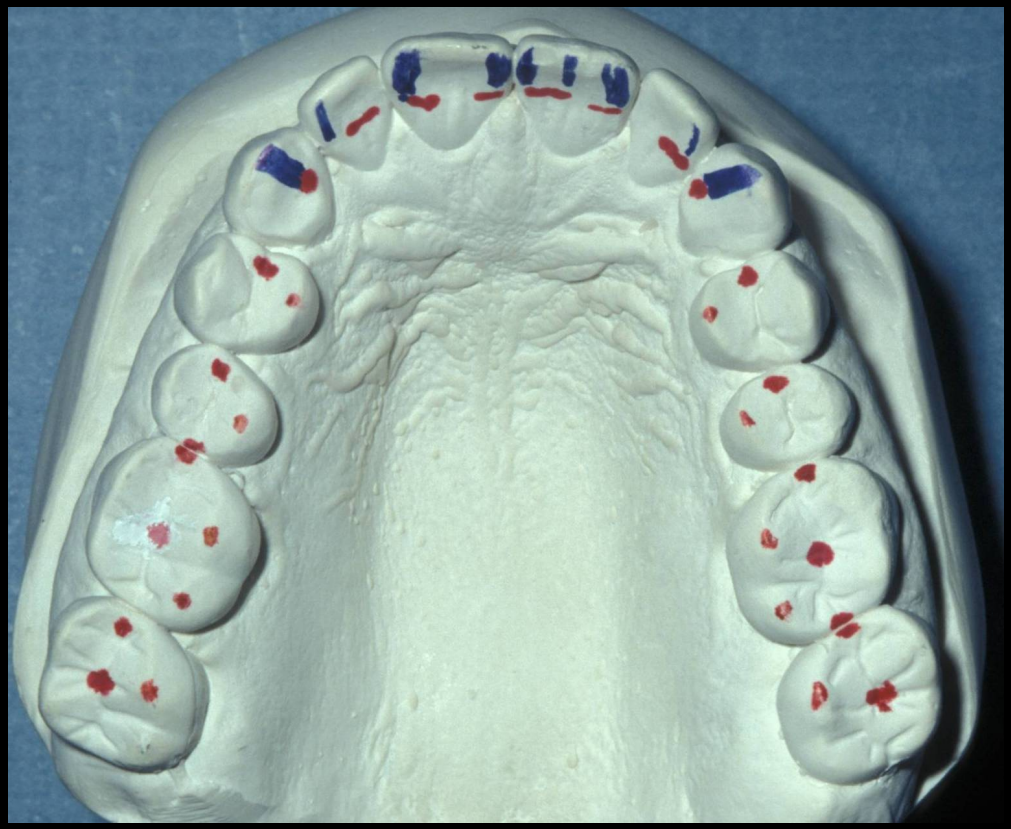
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How does this help you?

What is an ideal occlusion?



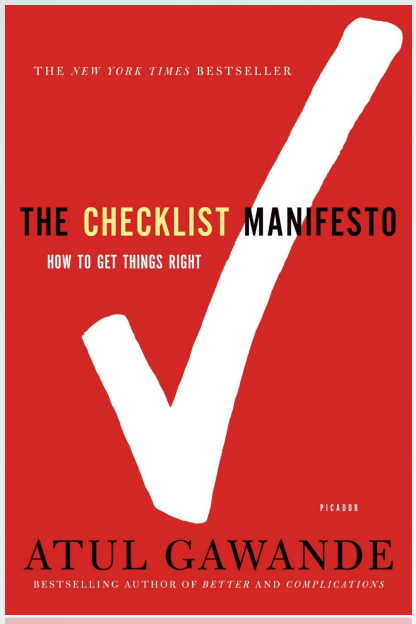
Starts with;
Stops on all teeth in centric relation

Anterior guidance in harmony with the envelope of function

Posterior disclusion in; protrusion, balancing and working excursions

Teeth in the neutral zone

Time tested and research proven!



A deliberate protocol and the discipline to adhere to a checklist will help to insure predictable excellence

Treatment options

PROVIDE every requirement;

1. Reshape teeth
2. Reposition teeth
3. Restore teeth
4. Reposition boney segments

Treatment options

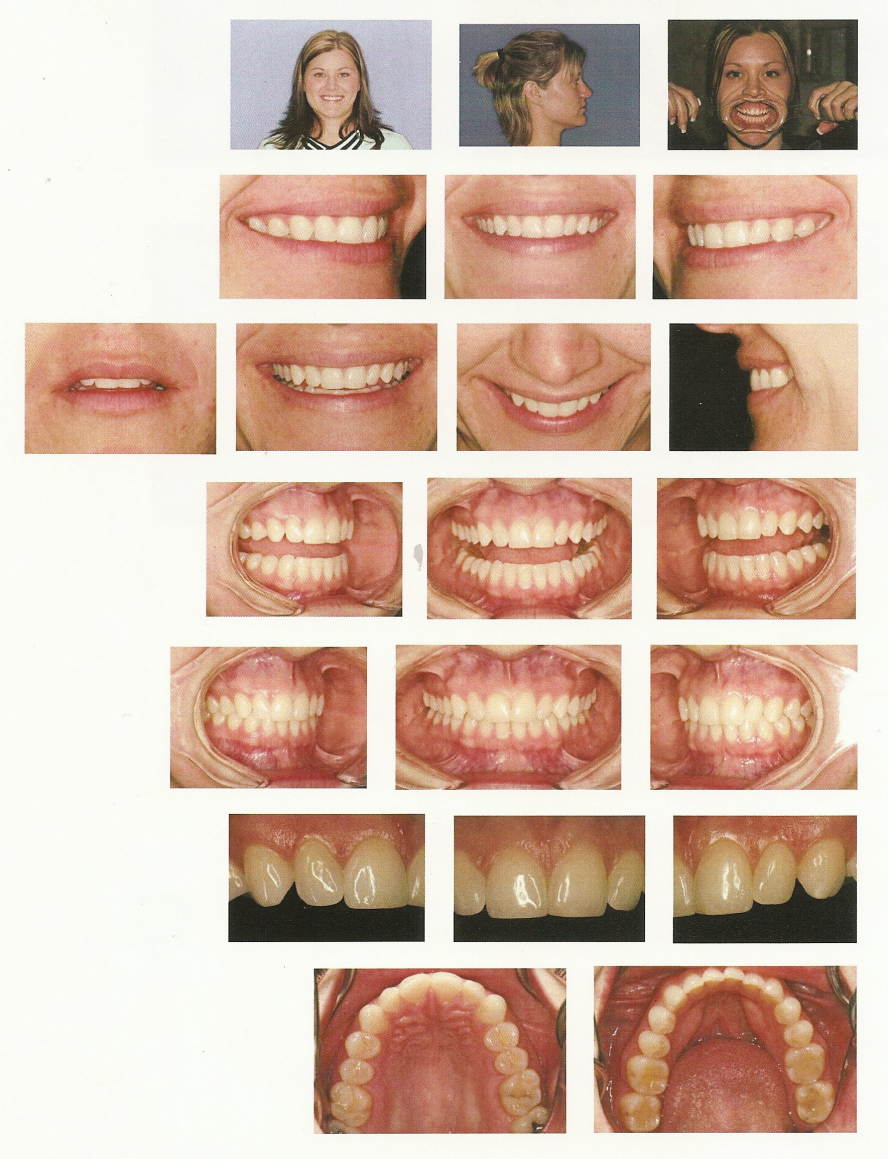
#1) Provide every requirement

If can't provide every requirement then substitute;

1. Patient may be substituting with tongue
2. Removable appliance
3. Partial denture

Or eliminate the need;

1. Splinting (wire) with a tooth that is stable



*Add functional photos for functional problem cases:

- Left lateral excursion with teeth in contact
- Right lateral excursion with teeth in contact
- Protrusive edge to edge with teeth in contact

Treatment planning checklist

1. Go tooth by tooth
2. Evaluate occlusal planes and facial asymmetries
3. Choose position of mandibular incisal edge
4. Choose position of maxillary incisal edge
5. Choose vertical dimension of occlusion on anterior teeth by providing equal intensity contacts
6. Eliminate all posterior interferences
7. Harmonize anterior guidance (do not steepen)
8. Final functional-esthetic check

Step One: Go tooth by tooth: with casts, restorative chart, periodontal probings and photos, mark hopeless teeth, questionable teeth, and teeth that need to be restored (crowned or onlayed) due to weakness or breakdown.

Step Two: Evaluate maxillary, mandibular occlusal plane, facial asymmetries, and skeletal abnormalities: use photographs (full face, profile, and smile shots) and mounted casts.

Step Three: Choose vertical and horizontal position of mandibular incisal edge (wax or reposition teeth into ideal position - casts and photos as reference)

a.) Acceptable
b.) Unacceptable

If "unacceptable" refer to 4 treatment options:

1. Reductive reshaping (equilibration)
2. Reposition teeth (orthodontics)
3. Restore (additive reshaping)
4. Reposition bone (orthognathic surgery)

Step Four: Choose vertical and horizontal position of maxillary incisal edge (utilize photos: rest, "e" position, smile from 3 views, full face, profile smile, and tipped down smile - this is a Key Step when cosmetic dentistry is driving the case.) Wax or reposition teeth to establish ideal esthetic vertical and horizontal incisal edge position.

a.) Acceptable
b.) Unacceptable

If "unacceptable" refer to 4 treatment options:

1. Reductive reshaping (equilibration)
2. Reposition teeth (orthodontics)
3. Restore (additive reshaping)
4. Reposition bone (orthognathic surgery)

Step Five: Choose vertical dimension of occlusion and provide occlusal stops

Procedure:

- Unlock the centric relation lock and slide the cast together into maximum intercuspation.
- Drop the anterior guide pin down to contact the table on the front of the articulator and secure that in position.

- Close the cast together to contact the first tooth contact and observe the distance of separation between the pin and table. THIS IS THE AMOUNT OF ROOM AVAILABLE FOR REDUCTION TO RETURN TO VERTICAL DIMENSION OF OCCLUSION. DECIDE ON VERTICAL DIMENSION OF OCCLUSION YOU WISH TO WORK AT.

Choose:

- Reductive reshaping (Equilibrate casts back to original vertical)
- Additive reshaping (adding to posterior teeth in restorative process, can be helpful when adding length to max anteriors. This will maintain a shallow anterior guidance. Remember that lengthening anterior teeth will often steepen the guidance and infringe on the envelope of function. Look for evidence of horizontal parafunction (anterior wear) on photographs and casts)

If "unacceptable" refer to 4 treatment options:

1. Reductive reshaping (equilibration)
2. Reposition teeth (orthodontics)
3. Restore (additive reshaping)
4. Reposition bone (orthognathic surgery)

Note: rarely you may need to open the pin further than the first point of contact in CR for prosthetic convenience. These cases are usually full mouth rehabilitations and will require time for the occlusion to "settle" – long term provisional restorations may be indicated.

Provide equal intensity stops

If reductive equilibration is the choice: Equilibrate all premature interfering contacts to return the pin to contact with the anterior guide table and to establish uniform CR stops all the way around the arch, INCLUDING the anterior teeth (Note: the only time we do not provide stops on the incisors is when they are not contacting and stable in maximum intercuspation).

If additive equilibration is the choice: Wax the posterior teeth (one arch or both arches) to provide uniform anterior and posterior stops.

If "unacceptable" refer to 4 treatment options:

1. Reductive reshaping (equilibration)
2. Reposition teeth (orthodontics)
3. Restore (additive reshaping)
4. Reposition bone (orthognathic surgery)

Note: We should now have uniform centric relation stops with a good cusp fossa relationship on each posterior tooth and a stable holding contact on each anterior tooth. If consider sawing and moving the tooth, or waxing to restore teeth. Be sure to create ideal lower anterior incisal edge position (step four), as well as ideal maxillary anterior lingual contour-through shaping, or waxing.

Step Six: Eliminate balancing and working interferences

- By unlocking the CR lock and guiding the cast in left, right and protrusive excursions, marking with a red ribbon.
- Lock cast back in CR and mark with a black ribbon to read your CR stops which have been previously established.
- Now eliminate all RED skid marks that do not directly super-impose over black centric relation stops which you have established on all posterior teeth.
- What remains should be only centric relation stops posteriorly and red guiding marks on anterior teeth (lines on the front, dots in back).

If "unacceptable" refer to 4 treatment options:

1. Reductive reshaping (equilibration)
2. Reposition teeth (orthodontics)
3. Restore (additive reshaping)
4. Reposition bone (orthognathic surgery)

Step Seven : Harmonize anterior guidance

- Now harmonize the anterior guidance to establish a smooth gliding movement of the casts left, right and protrusive. It is desirable to share this movement with as many teeth as possible.
- Consider waxing up teeth in order to create an ideal anterior guidance being careful not to STEEPEN THE ENVELOPE OF FUNCTION.
- Be sure the anterior guidance is not too steep and Envelope of Function is not constricted.
- Consider cross-over and other habits as revealed by wear facets.

Step Eight: Final functional-esthetic check

- Once anterior guidance has been harmonized, recheck for any balancing, working, or protrusive interferences and eliminate them. Smooth anterior movements.
- Make changes necessary changes to gingival plane, to establish ideal crown length from incisal edge to free gingival margin. Every tooth visible in a full smile should be considered.
- Consider width changes of anterior teeth to idealize golden proportion and width/length ratio.
- Wax incisal embrasure depth to align with shape the patient desires.

Since we want to visual the final product, we are able to decide, through model work and photo analysis, if we can successfully complete the case through equilibration, tooth repositioning (orthodontics), restorative dentistry, or orthognathic surgery. Regardless of treatment option, our goal is always to do the LEAST amount of dentistry to provide the patient with the requirements of occlusal stability, and satisfy the elective esthetic wants of the patient.

Five Observations for Difficult Cases

Precisely adhere to programmed treatment planning

- step-by-step process

Utilize the checklists (F/E, Study Model, Sequencing)

Wear usually does not cause a loss of V.D.O.

- V.D.O. can usually be slightly increased

Post. teeth can't wear from attrition in an ideal occlusion

-must start in a stable joint position.

Do not steepen or restrict the envelope of function

-attritional wear occurs when teeth are in the way

-shallow is better

Involve specialists (ortho, perio, O.S., lab) early in the planning

DO NOT SKIP STEPS!

Checklist for sequencing treatment

- [ ] 1. List all treatment
- [ ] 2. Designate each as Stage 1, 2, or 3
- [ ] 3. Prioritize and place in order within each stage
- [ ] 4. Combine appointments for efficiency and profitability
- [ ] 5. Add all notes for specialists and lab communication
- [ ] 6. Determine a fair fee

Stage Two Treatment

- Splint therapy if needed
- Equilibration
- Referral to specialists for treatment
- Provisionals

Re-evaluate to be sure completed satisfactorily and patient is ready for Stage III

Take new study casts, face bow, C.R. bite

Re-evaluate to be sure provisionals are approved by doctor and patient

Stage Two Treatment

- Splint therapy if needed
- Equilibration
- Referral to specialists for treatment
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Re-evaluate to be sure completed satisfactorily and patient is ready for Stage III

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Stage Three Treatment

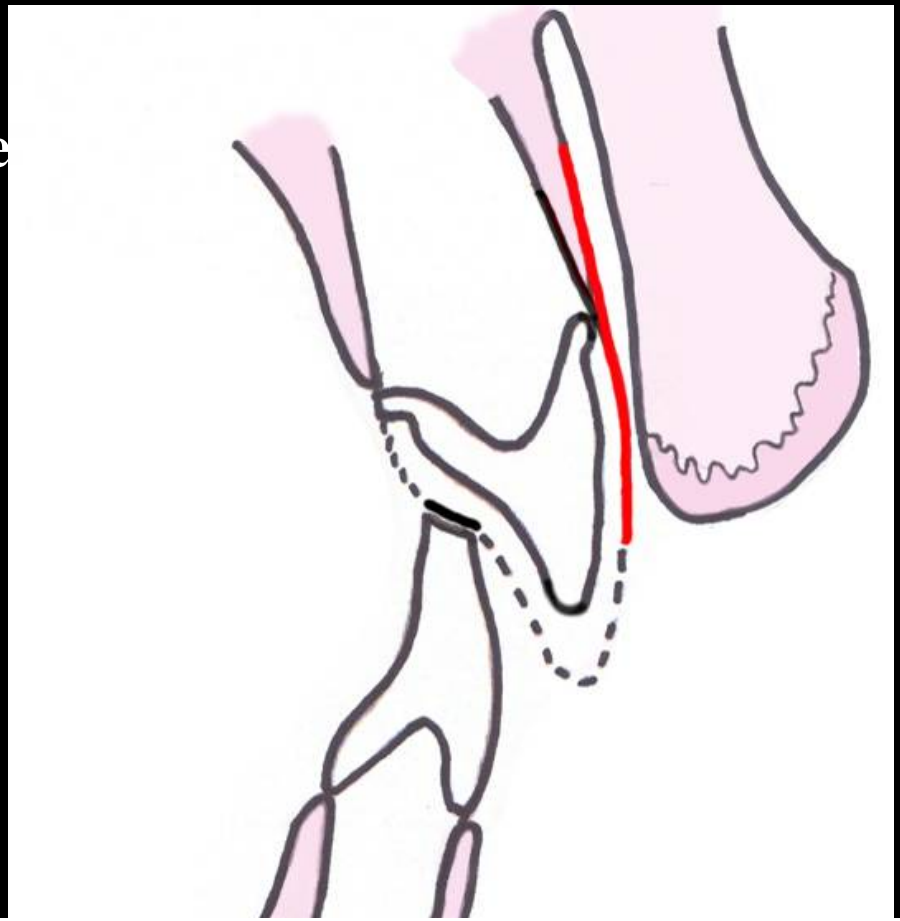
- Restorative dentistry
    1. Mandibular Anteriors
    2. Maxillary Anteriors
    3. Posteriors

Re-evaluate to be sure completed satisfactorily

How do you check the provisionals?

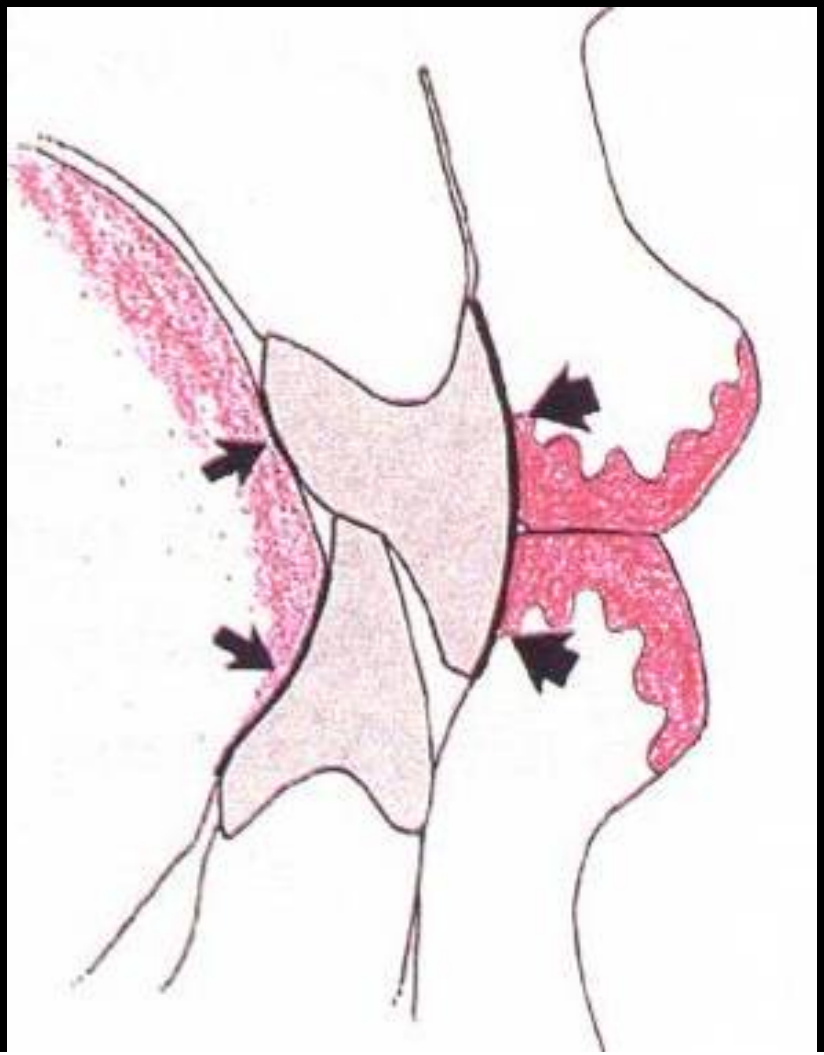
The same way!

- C.R. stops
- Facial emergence profile
- Incisal third facial contour
- Incisal length
- Envelope of function
- Check ALL excursions for fremitus (especially max. laterals)



All teeth are in the Neutral Zone

The **Functional Matrix** is the esthetic zone of functional harmony.



Ask yourself, "Is it stable?"

- Are the TMJ's stable?
- Are the muscles comfortable?
- Is the periodontium stable?
- Are the teeth stable?
- Are the teeth maintainable?
- Is the occlusion stable?

Three Keys to Verification

1. Be sure every communication is verifiable.
2. A system to return to you 2 – 3 days prior to placement.
3. Plan time to check.

Where do you want to be?

2% Masters
8% Adept
36% Students
54% Indifferent

As you approach cases systematically, you will become known for predictably solving them with success.

As your practice evolves

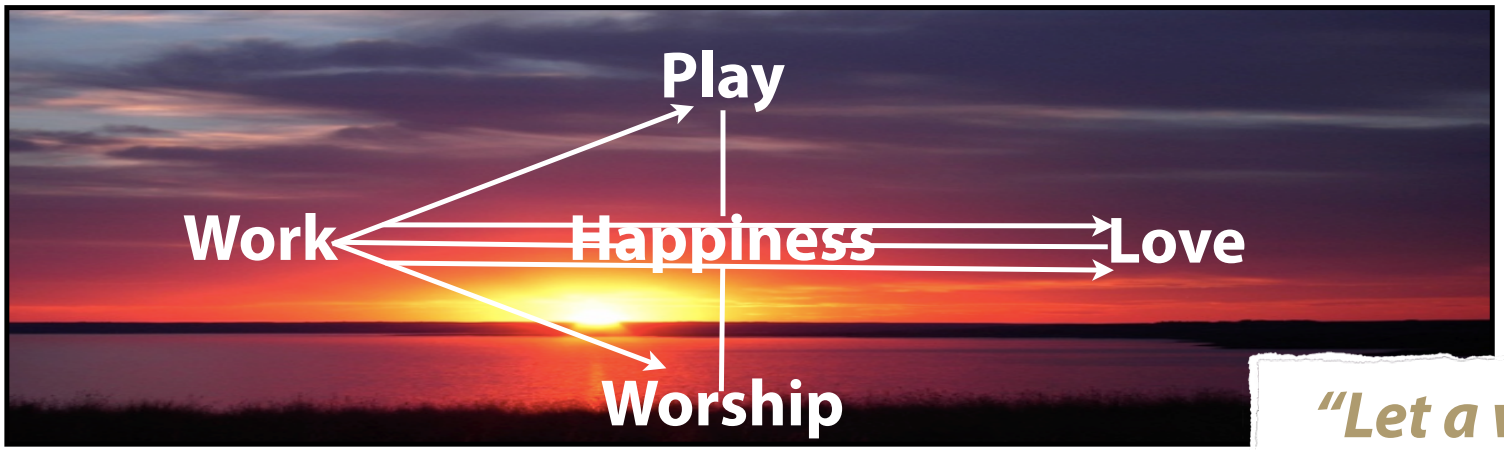
1) List all the procedures that you do in your office.

2) Prioritize all the procedures based on what you like doing.

3) Make a decision concerning the bottom of the list.

Refer or not refer?

Happier doing what you enjoy.
Be more productive.
Get more referrals.



"Let a well run practice be your path to a happy and balanced life."

Peter Dawson