CAD/CAM Dentistry for the General Practitioner

What to Know Before You Leap
•REMEMBER THIS!!!
Why consider CAD/CAM dentistry?
Why consider CAD/CAM dentistry?

• Same day dentistry
I hate dentitht
Ma tung ith numb
Why consider CAD/CAM dentistry?

- Same day dentistry
- Control of your restorations
Replicate Nature
Why consider CAD/CAM dentistry?

• Same day dentistry
• Control of your restorations
• Marketing and Referrals
Why consider CAD/CAM dentistry?

• Same day dentistry
• Control of your restorations
• Marketing and Referrals
• Fixed lab bill
Fixed Lab Bill

• Expenses with in-office CAD/CAM are high but, mostly fixed

• Traditional lab bills rise on a per unit basis

• Once “breakeven point” is reached, CAD/CAM profitability increases with every unit
Lab vs. CAD/CAM cost

Breakeven Point
Current In Office Systems

- Cerec AC with Bluecam
- Cerec AC with Omnicam
- E4D by D4D Technologies
- Carestream CS 3500
Current In Office Systems

- Cerec AC with Bluecam
- Cerec AC with Omnicam
- E4D by D4D Technologies
- Carestream CS 3500
- 3Shape Trios- not yet but,............
Cerec AC with Bluecam

• Requires powdering teeth
• Chairside crowns, bridges, custom abutments
• CT integration and implant surgical guide milling
Cerec AC with Omnicam

- No powdering
- Video capture in color
- Chairside crowns, bridges, custom abutments
- CT integration and implant surgical guide milling
E4D by D4D Technologies

• No powdering!
• New Nevo camera faster and more portable
• Chairside crowns, inlays, onlays, veneers
Carestream CS 3500

- No powdering
- Chairside crowns, inlays, onlays, veneers
- No bridges or implant applications......for now
- USB connect- ultra portable
- Awaiting FDA approval
Things to consider...
Things to consider...

• Volume
Volume

• How many units of CAD/CAM dentistry will you produce each month?
Volume

• Can all ceramics replace the PFM?
Volume

• Can all ceramics replace the PFM?

Maybe
Reduction Guidelines

• 1.5 mm occlusal, 1.0 mm axial

• These are the same as a PFM unless you are a chronic “under-reducer”

• Catastrophic failure vs. veneering porcelain failure
Not every situation is suitable for CAD/CAM use

- Poor isolation
- Tipped, worn, malpositioned teeth
- Inadequate occlusal reduction
- Dark stumps that can’t be blocked out
Breakeven Point

Lab bill + costs of a 2\textsuperscript{nd} appt = Loan payment + maintenance + blocks

(assumes same doctor time each way)
<table>
<thead>
<tr>
<th># units per month</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
<th>14</th>
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<td>1250</td>
<td>1375</td>
<td>1500</td>
<td>1625</td>
<td>1750</td>
<td>1875</td>
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<td>2250</td>
<td>2375</td>
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<td>2nd visit cost of $50</td>
<td>500</td>
<td>550</td>
<td>600</td>
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<td>total monthly cost (using lab)</td>
<td>1750</td>
<td>1925</td>
<td>2100</td>
<td>2275</td>
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<td>2625</td>
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<td>cerec expendables ($30)</td>
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<td>330</td>
<td>360</td>
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<td>420</td>
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<td>monthly payment</td>
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<td>my half for 1st year</td>
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The Wildcard

Will you do more dentistry as a result of having cad/cam?

- More referrals?
- Higher acceptance?
- More dentistry per visit?
Will you do more dentistry as a result of having cad/cam?

- More referrals?
- Higher acceptance?
- More dentistry per visit?

165 units → 255 units
Things to consider...

• Volume
• Capacity
Capacity

- Chairs will be tied up longer
- Extra operators
- Assistants
Things to consider...

• Volume
• Capacity
• Workflow
Workflow

• Scheduling

• Delegate

• Material Choice
Current Materials

- Lithium Disilicate (ex. IPS Emax) only material approved for conventional cementation; requires firing in oven 360 MPa
- Leucite-Reinforced Ceramic (ex. IPS Empress) 160 MPa
- Feldspathic Ceramic (ex. Vita Mark II) 160 MPa
Current Materials

- Resin-Reinforced Ceramic (ex. 3M Lava Ultimate and Vita Enamic)
- Composite (ex. 3M Paradigm MZ100)
- Composite Temporary bocks (TelioCAD)
Can zirconia be milled in office?

• Yes!!! But, zirconía requires firing in a specialized oven for several hours

• Requires multiple visits
Workflow

• Prep and digitally impress
• Design
• Mill
• Stain/Glaze OR Polish
• Bond/Cement
Workflow

• Prep and digitally impress
• Design
• Mill
• Stain/Glaze OR Polish
• Bond/Cement
Material?  Stain or polish?

Time?  Bond/Cement?
Plan for efficiency!!!!!!
Things to consider...

- Volume
- Capacity
- Workflow
- Commitment
Commitment

• Financial

• CAD/CAM dentistry is more demanding clinically

• Continuing education
30 Years of CAD/CAM
Commitment

• Moore’s Law - predicts a doubling of computing power every 2 years

• All technology has a finite lifespan

• Innovation doesn’t come free!

• Term of loan vs. useful lifespan
Commitment

• Financial
• CAD/CAM dentistry is more demanding clinically
• Continuing education
What does the future hold?

• Increasing ease and efficiency
• Better and more realistic imaging
• Decreased cost
• Smile design
• Functional articulation
• Materials galore
• Cone beam integration
• Implant applications
Should You Leap?
Thank You!

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