

## Q.A. Collectible

*Sponsored by CRCPD's Committee on Quality Assurance  
in Diagnostic X-Ray (H-7)*

### Automatic Dental Film Processors

In 1992, the H-7 Committee revised a popular 1984 Q.A. Collectible entitled *Rapid Dental Film Processing Devices*. Since then, manufacturers have marketed new processor models that may be encountered in dental offices. With everyone's heightened awareness of the impact of poor processing on image quality, the Committee moved to update the 1992 listing and issue this new Collectible.

If:

- (a) radiographic image quality is poor (low density or inadequate contrast); and/or
- (b) the measured ESE<sup>1</sup> is higher than it should be; and
- (c) one has verified that the x-ray machine is operating correctly (HVL compliant, kVp accurate, and reproducibility within limits), and
- (d) the darkroom fog test is negative (no light leaks and correct safelight is installed),

then film processing may be the problem. For automatic dental film processors that accept cephalometric and/or panoramic film sizes, a STEP<sup>2</sup> test may be performed. If a STEP test cannot be done, processing parameters such as chemical type and age, replenishment frequency, selected transport time, and temperature must be examined. Surveyors may be able to use guidelines for some of these parameters on the chart provided.

Where information is available, we have also included footnotes providing information on how to adjust processor transport time and temperature. If inadequate processor conditions are found, the inspector can give this information to the registrant for correction of film problems. Inspectors should not adjust the processor themselves.

The information contained herein is for guidance. The implementation and use of the information and recommendations are at the discretion of the user. The mention of commercial products, their sources, or their use in connection with material reported herein is not to be construed as either an actual or implied endorsement by CRCPD.
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<sup>1</sup> DENT. *Evaluation of Radiation Exposure from Diagnostic Radiology Examinations – Technique/Exposure Guides for Dental Bitewing Projection*. HHS Publication FDA 85-8245. August 1985

<sup>2</sup> O.H. Suleiman, F.G. Reuter, R.G. Antonsen, B.J. Conway, R.J.Slayton. *The Sensitometric Technique for the Evaluation of Film Processing (STEP)*. *Radiation Protection Dosimetry* 49 (1/3), pp 105-106, 1993.

## DENTAL AUTOMATIC PROCESSOR GUIDE

Make	Model	Transport Time(min)	Adjustable?	Temp (°F)	Adjustable?	Recommended Chemistry	Change Solutions	Replenish Solutions	Film Sizes
Air Techniques	Peri Pro	7	No	Room 70 to 80	No	Peri Pro	2 Wks or 300-350 films	Dly	Intra-oral
Air Techniques	Peri Pro II	6.25	No	75	Yes	Peri Pro	As above	As above	Intra-oral
Air Techniques	Peri Pro III	5	No	75	No	Peri Pro	As above	As above	Intra-oral
Air Techniques	All Pro	5	No	80	Yes <sup>3</sup>	Air Tech	3 to 4 Wks <sup>4</sup>	Dly / 90 films	Intra-oral, panoramic
Air Techniques	AT2000	2.0 – 6.5	Yes	82	Yes	Air Tech	3 – 4 Wks	Auto	All
Air Techniques	AT2000+, AT2000XR	2.0 – 6.5 5.5 Recom.	Yes	82	Yes	Air Tech	3 – 4 Wks	Auto	All
AFP (Dent -X)	8DE	2 – 7	Yes	86	Yes	RP	Mthly	Auto	All
Dent-X	9000	2, 4.5, 6 <sup>5</sup>	Yes	83	Yes	Dent-X	Mthly	Auto	All
Dent-X (Philips)	810, 810 XL, 810 Basic	2, 4.5, 6	Yes <sup>6</sup>	83	Yes <sup>7</sup>	Dent-X	Mthly	Dly <sup>8</sup>	All
Dent-X (Philips)	410	6.5	Yes	83	Yes	Dent-X	Mthly	Dly	Intra-oral
Gendex	GXP	2.5, 5.0	No	82	No	Gendex	Mthly	Auto	All
Xonics / Litton / Hope	P4, P6	4.3	No	80	Yes <sup>9</sup>	Xonics A & B Auto	Mthly	Dly / auto	P4: Intra-oral only P6: Intra, panoramic
Xonics / Litton / Hope	P10	4.3	No	80	Yes <sup>10</sup>	Xonics A & B	2 – 4 Wks	Button type 1 push/8 films	All
Velopex	Intra-X	4.0	No	77	Yes	Velopex	2 Wks	Dly	Intra-oral
Velopex	Extra-X	4.0	No	79	Yes	Velopex	Mthly	Auto	All

<sup>3</sup> Screw at back of machine next to plugs and name plate

<sup>4</sup> Manual replenishment change = 3 wks. Optional auto replenishment change = 1 Month.

<sup>5</sup> Two min for Endo, 4.5 min normal processing, 6.0 min when processor is still warming up

<sup>6</sup> Front (knob) of time/temp control

<sup>7</sup> Front (screw) of time/temp control

<sup>8</sup> Six ounces each morning and another six ounces if heavy volume

<sup>9</sup> Screw next to light at bottom of processor, feed end

<sup>10</sup> Under upper dryer assembly (lifts off). Thermostat control to right of fuse and developer light.

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