

PRACTICAL CLINICAL COURSES
A Service of the Gordon J. Christensen
Career Development Program

R1330
Ruddle on Shape•Clean•Pack

Produced by
ADVANCED ENDODONTICS
Clifford J. Ruddle, DDS (Founder/Director)

Materials Included:

C.E. Instruction Sheet
Product/Supplier Lists
Clinician Responsible
Goals & Objectives
Overview
Supplemental Materials
AGD Post-Test

Gordon J. Christensen
PRACTICAL CLINICAL COURSES

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Clifford J. Ruddle
ADVANCED ENDODONTICS
Sources of Products Discussed in
R1330 Ruddle on Shape•Clean•Pack
Presented by: Clifford J. Ruddle, DDS

ITEM	DESCRIPTION	BRAND / COMPANY
Edge-Ease	X-ray Comfort Cushions	Strong Dental / Schein
Rubber Dam	Handidam (one size)	Aseptico / Dentsply Tulsa Dental
Rubber Dam Frame	Ostby Type - Part no. 547-3539	Hygenic / Schein
Rubber Dam Clamps	Molars (26, 8A), Anteriors (9), Bi's (9)	Ivory or Hu-Friedy / Schein
Hot Pulp Test Tip	For thermal testing	SybronEndo or Schein
Mirror Handle w/Ruler	Item #100-8125	Schein
Stropko Irrigator	Tri-plex syringe adapter	Dr. John Stropko
Metalift	Crown & Bridge Remover	Classic Practice Resources
Endo Access Kit	Assorted Burs & X-Gates	Dentsply Tulsa Dental
Burs...Transmetal	1958 or 2158 FG	Brasseler
...Round Surgical Length	FG 2, 4 Carbide	Brasseler
...Tapered Diamonds	Round End (6856L-014) / Needle (859-010)	Brasseler
IRRIGANTS / DEVICES:		
Irrigating Syringes	3cc, 23 gauge (notched tip)	Monoject / Schein
Navi-Tip	29 gauge (notched tip), 21 mm	Ultradent
NaOCl Warmer	Sm. hotplate for warm water bath	Mr. Coffee
Water Beaker	2651A (3x3) -- For NaOCl syringes	Profex Medical Products
RC Prep or Glyde	Viscous chelator	Schein
Syringe for RC Prep / Glyde	1cc Plastic #0124	Ultradent
Tip for syringe	White Mac #0661	Ultradent
17% EDTA	Aqueous chelator	Roth International
Xylol/Chloroform	Clean excess sealer off walls	Schein
HAND INSTRUMENTATION:		
Files / 10, 15	K-Files	Dentsply Maillefer
Files / 20, 25, 30	Flexofiles	Dentsply Maillefer
Files / 35, 40, 50, 60	SureFlex	Dentsply Maillefer
ProTaper Hand Files	Snap-on handles (SX, S1, S2, F1, F2, F3)	Dentsply Tulsa Dental
Bird Beak Plier	For precurving NiTi hand files	Hu-Friedy / Schein
Endo Ring	Blue Ring w/Foam Inserts	Jordco / Schein
ROTARY INSTRUMENTATION:		
ProTaper Rotary Files	SX, S1, S2, F1, F2, F3, F4, F5	Dentsply Tulsa Dental
ProFile .04 Tapers	Sizes 35-50	Dentsply Tulsa Dental
X-Gates	Single Instrument (Gates Gliddens 1-4)	Dentsply Tulsa Dental
Gates Glidden Drills	Stainless Steel Sizes 1-6	Dentsply Maillefer
Slowspeed Electric H.P.	Gear Reduction / DTC Motor	Dentsply Tulsa Dental
Slowspeed Electric or Air	Gear Reduction	KaVo America

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(Continued)

ITEM	DESCRIPTION	BRAND / COMPANY
OBTURATION:		
Gutta Percha	Fine-Medium / Medium or ProTaper Matching	Dentsply Tulsa Dental
Pulp Canal Sealer - EWT	Powder & Liquid	Kerr / Schein
5004 Touch 'N Heat	Heat Source 0.5mm plugger tip	Kerr / Schein
Pluggers	Sizes 8-12 Posterior	Schilder / Dentsply Maillefer
Calamus Flow	Gutta Percha Delivery System for backpacking	Dentsply Tulsa Dental
Calcium Hydroxide	Interappointment dressing	Pulpdent Corp / Schein
EQUIPMENT:		
EndoActivator System	Sonic Handpiece Driver & Activator Tips	Dentsply Tulsa Dental
Ultrasonic Unit (Piezoelectric)	P5 Ultrasonic Generator	Dentsply Tulsa Dental
Ultrasonic Instruments	ProUltra ENDO 1-5, SINE 1-6	Dentsply Tulsa Dental
Electronic Apex Locator	Root ZX	J. Morita
Microscope	A variety of choices	Zeiss
Dental Mobile Cart	Customized Endodontic Cart	ASI Medical
Digital Xray System	Digital Radiography	Schick Technologies
Dental Anatomy Website	Patient Education Tool	ToothAtlas.com

For any questions regarding the products and/or techniques presented, please contact:

ADVANCED ENDODONTICS • CLIFFORD J. RUDDLE DDS
 122 S. Patterson Avenue, Ste. 206, Santa Barbara, CA 93111 • (800) 753-3636 • www.endoruddle.com

Clifford J. Ruddle
ADVANCED ENDODONTICS
Sources of Suppliers Discussed in
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COMPANY	TOLL FREE	FAX	PHONE	WEBSITE
Advanced Endodontics	800-753-3636	805-965-8253	805-964-8838	endoruddle.com
Aseptico	800-426-5913	360-668-8722	425-487-3157	aseptico.com
ASI Medical	800-566-9953	303-766-8584	303-766-3646	asimedical.net
Bisco	800-247-3368	800-959-9550	847-534-6000	bisco.com
Brasseler	800-841-4522	888-610-1937	912-927-8671	brasselerusa.com
C. K. Dental Specialties	800-675-2537	714-639-6991	714-639-6990	ckdental.net
CareCredit	800-859-9975	800-333-3196	--	carecredit.com
Classic Practice Resources	800-928-9289	888-841-5384	225-928-0799	metalift.com
Dentco	800-454-9244	914-948-1711	914-682-6600	dentcorp.com
Dentsply Maillefer	800-924-7393	800-924-7389	--	maillefer.com
Dentsply Tulsa Dental Spec.	800-662-1202	918-493-6599	918-493-6598	tulsadental.com
Designs for Vision	800-727-6407	631-585-3404	631-585-3300	designsforvision.com
Ellman International	800-835-5355	516-569-0054	516-594-3333	ellman.com
Endoco	800-388-7868	866-683-6679	901-683-6677	endoco.com
Global Dental Products	--	516-785-7885	516-221-8844	gdpdental.com
Global Surgical	800-767-8726	636-861-2969	636-861-3388	globalsurgical.com
Hu-Friedy	800-483-7433	800-729-1299	877-321-4333	hu-friedy.com
J. Morita USA	888-566-7482	949-465-1095	949-581-9600	jmoritausa.com
KaVo America	800-323-8029	847-550-6825	847-550-6800	kavo.com
Life Core Biomedical	800-348-4368	952-368-3411	952-368-4300	lifecore.com
Link Ergonomics	800-424-5465	417-206-4622	417-206-4600	linkdental.com
Marquis Dental	800-359-3206	303-344-5232	303-344-5222	perio-aid.net
Moyco Precision Abrasives	800-331-8837	215-362-3809	215-855-4300	moycotech.com
Mr. Coffee	800-672-6333	--	--	mrcoffee.com
Profex Medical Products	800-325-0196	901-454-9850	901-452-7485	profexmed.com
Quality Aspirators	800-858-2121	972-298-6592	972-298-2669	qualityaspirators.com
Ranfac	800-272-6322	508-584-8588	508-588-4400	ranfac.com
Roth International Ltd.	800-445-0572	312-733-7398	312-733-1478	rothendo.com
Henry Schein	800-372-4346	800-732-7023	775-327-3200	henryschein.com
Schick Technologies	877-724-4254	718-482-2030	718-937-5765	schicktech.com
SmartPractice	800-522-0800	800-522-8329	602-225-0595	smartpractice.com
Stropko, Dr. John	--	480-563-7881	480-515-4933	stropko.com
SybronEndo	800-346-3636	714-516-7936	714-516-7979	sybronendo.com
ToothAtlas.com	--	650-854-2568	650-233-0200	eHuman.com
Ultradent	800-552-5512	800-842-9024	801-572-4200	ultradent.com
Zeiss	800-442-4020	925-557-4101	925-557-4100	zeiss.com
Zimmer Dental	800-854-7019	760-431-7811	760-431-9515	zimmerdental.com

PROGRAM

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CLINICIAN RESPONSIBLE:

Clifford J. Ruddle, DDS

Founder and Director, Advanced Endodontics

GOALS & OBJECTIVES

At the completion of this video presentation, participants should be able to accomplish the following:

1. Identify the biological and clinical factors that influence success.
2. Treat root canal systems while avoiding frequently made mistakes.
3. Discuss the 3-step endodontic exam and how to identify pulpally involved teeth.
4. Compare access preparations with and without the utilization of the microscope.
5. Use ultrasonic technology to identify canals and finish the access preparation.
6. Describe the preparation sequence and how to establish working length.
7. Secure canals by creating a predictable glide path for rotary files to follow.
8. Shape root canals utilizing scientifically proven NiTi rotary and manual file systems.
9. List the most important features influencing rotary file performance.
10. Hydrodynamically activate intracanal reagents to “clean” root canal systems.
11. Fill root canal systems using advanced warm gutta percha obturation techniques.
12. Appreciate the importance of achieving the “rest of the seal” for coronal restoration.

OVERVIEW

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There is great controversy in endodontic opinion regarding virtually *every* procedural step comprising start-to-finish endodontics. This video offers high-level training for general dentists and specialists alike. Utilizing scientifically proven techniques, emphasis will be placed on the rationale for treatment, patient diagnosis, complete access, glide path management, and learning how to more effectively shape canals, clean root canal systems, and obturate in three dimensions. This program will teach safe, efficient, and predictably successful endodontic techniques that can be immediately implemented into your practice. Viewing is designed to improve your clinical results, professional satisfaction, and endodontic profitability.

Techniques in this video are demonstrated utilizing 3D graphics and animations, in plastic models, on extracted teeth, and on patients. All procedures have been performed to optimally transfer knowledge and maximize the learning experience.

SUPPLEMENTAL MATERIALS

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1. Berutti E, Chiandussi G, Gaviglio I, Ibba A: Comparative analysis of torsional and bending stresses in two mathematical models of nickel-titanium rotary instruments: protaper versus profile, *J Endod* 29:1, pp. 15-19, 2003.
2. Berutti E, Negro AR, Lendini M, Pasqualini D: Influence of manual preflaring and torque on the failure rate of protaper rotary instruments, *J Endod* 30:4, pp. 228-230, 2004.
3. Blum JY, Machtou P, Ruddle CJ, Micallef JP: The analysis of mechanical preparations in extracted teeth using protaper rotary instruments: value of the safety quotient, *J Endod* 29:9, pp. 567-575, 2003.
4. Goodman A, Schilder H, Aldrich W: The Thermomechanical Properties of Gutta Percha, IV. A Thermal Profile of the Warm Gutta Percha Packing Procedure, *Oral Surg*, 5:544, May 1981.
5. Gurney B F, Best E J, Gervasio G: Physical Measurements of Gutta Percha, *Oral Surg*, 32:260, August 1971.
6. Machtou, P, Ruddle CJ: Advancements in the design of endodontic instruments for root canal preparation, *Alpha Omegan* 97:4, pp. 8-15, 2004.
7. Marlin J, and Schilder H: Physical Properties of Gutta Percha When Subjected to Heat and Vertical Condensation, *Oral Surg*, 361:872, December 1973.
8. Martin D, Amor J, Machtou P: Mechanized endodontics: the protaper system, principles and clinical protocol, *Revue d'Odonto Stomatologie* 31:1, pp. 33-42, 2002.
9. Ruddle CJ: Ch. 25, Nonsurgical endodontic retreatment. In *Pathways of the Pulp*, 8th ed., Cohen S, Burns RC, eds., St. Louis: Mosby, pp. 875-929, 2002.
10. Ruddle CJ: Ch. 8, Cleaning and shaping root canal systems. In *Pathways of the Pulp*, 8th ed., Cohen S, Burns RC, eds. St. Louis: Mosby, pp. 231-291, 2002.
11. Ruddle CJ: Nonsurgical retreatment, *J Endod* 30:12, pp. 827-845, 2004.
12. Ruddle CJ: The protaper endodontic system, *Endodontic Practice* 5:1, pp. 34-44, 2002.
13. Ruddle CJ: The protaper technique, *Endodontic Topics* 10:187-190, 2005.
14. Schilder H: Cleaning and shaping the root canal, *Dent Clin North Am* 18:2, pp. 269-296, 1974.
15. Schilder H: Filling Root Canals in Three Dimensions, *Dent Clin North Am*, 11:723, 1967.
16. Shabahang S, Goon WWY, Gluskin AH: An in vitro evaluation of Root ZX electronic apex locator, *J Endod* 22:11, pp. 616-618, 1996.
17. Veltri M, Mollo A, Pini PP, Ghelli LF, Balleri P: In vitro comparison of shaping abilities of protaper and GT rotary files, *J Endod* 30:3, pp. 163-166, 2004.

POST-TEST

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1. In general, the direction of pulpal degeneration and disease flow is:
 - a. first seen as loss of the periodontal ligament.
 - b. coronal to apical.
 - c. seen first at the apex and progresses coronally.
 - d. random.

2. It is fundamental to associate radiographic lesions of endodontic origin as arising secondary to pulpal breakdown and forming:
 - a. in the furcations of multirrooted teeth.
 - b. internally within the pulp.
 - c. adjacent to the portals of exit.
 - d. proximal to any given root.

3. The major cause of failure of completed root canal treatment is:
 - a. underfilling.
 - b. overfilling.
 - c. microbial leakage.
 - d. filling flush with the foramen.

4. Endodontic diagnostic procedures may be divided into three parts:
 - a. percussion test, the cold test, and the radiographic exam.
 - b. the cold test, the hot test, and the radiographic exam.
 - c. clinical exam, root canal treatment, and restoration.
 - d. clinical findings, pulp testing, and the radiographic exam.

5. The preferred sequence in pulp testing is to:
 - a. test the suspicious tooth first.
 - b. test presumably healthy teeth near the suspicious tooth first.
 - c. test contralateral, opposing, and adjacent teeth before the suspicious tooth.
 - d. test opposing and adjacent teeth first.

6. Thermal tests should be directed to the:
 - a. occlusal aspect of the tooth.
 - b. lingual aspect of the tooth.
 - c. cervical aspect of the tooth.
 - d. mid-facial aspect of the tooth.

POST-TEST (CONT'D)

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7. The maximum depth of insertion into a canal of the Gates Glidden #4 or the X-Gates is limited to:
 - a. the straightaway portions of the canal.
 - b. one bud depth.
 - c. two bud depths.
 - d. the clinician's decision.

8. In furcated teeth, the X-Gates or NiTi shaping file should be used:
 - a. with a drilling motion.
 - b. with a circumferential motion.
 - c. with a brushing motion away from the furcation.
 - d. with a pecking motion.

9. When cutting an access cavity through porcelain, the rotary cutting tool of choice is the:
 - a. #2 or #4 diamond round bur.
 - b. #2 or #4 carbide round bur.
 - c. transmetal bur.
 - d. surgical length tapered diamond bur.

10. Straightline coronal and radicular access is confirmed when:
 - a. 10 and/or 15 hand files stand straight and tall.
 - b. an explorer can be placed in an orifice.
 - c. a file can be placed to the working length.
 - d. a master cone can be fit to the working length.

11. Which of the following is not a specific technique mentioned for locating canals:
 - a. explorer pressure
 - b. the champagne test
 - c. anatomical familiarity
 - d. the dentinal line test

12. Endodontic treatment can be simplified by:
 - a. respecting and appreciating the biological and mechanical objectives.
 - b. dividing the entire procedure into a series of smaller steps.
 - c. pre-enlarging the coronal two-thirds first.
 - d. all of the above.

POST-TEST (CONT'D)

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13. Shaping procedures should be performed:
 - a. 1 mm short of the radiographic apex.
 - b. to the radiographic terminus.
 - c. short enough to insure that the file never exits the apical foramen.
 - d. with the largest file that will reach the apical one-third of the canal.

14. Scouting the apical one-third should be done with the following irrigant:
 - a. sodium hypochlorite (NaOCl).
 - b. a viscous chelator, like RC Prep, ProLube or Glyde.
 - c. an aqueous chelator, such as 17% EDTA.
 - d. all of the above.

15. An advantage of negotiating the apical one-third last is:
 - a. greater control of the files.
 - b. canal curvatures are more consistently maintained.
 - c. less chance of relocating the apical foramen.
 - d. all of the above.

16. Finishing the apical one-third with rotary instruments is generally indicated when:
 - a. a new and straight 15 file can gently slide to length.
 - b. working length and patency are established.
 - c. a working film confirms straightline access to the terminus.
 - d. the foramen has been enlarged to a size 40 file.

17. A unique design feature of the ProTaper rotary file line is:
 - a. changing D0 diameters between instruments.
 - b. changing tapers between instruments.
 - c. decreasing and increasing percentage tapers over a single file.
 - d. the cutting blades are active.

18. Key words for describing how to use the ProTaper shaping files include:
 - a. push, brush, pull.
 - b. insert, cut, withdraw.
 - c. float, follow, brush.
 - d. none of the above.

POST-TEST (CONT'D)

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19. An advantage of Kerr Pulp Canal Sealer (EWT) is:

- a. its viscosity can be controlled.
- b. it is essentially nonresorbable.
- c. it sets rapidly.
- d. all of the above.

20. In the vertical compaction of warm gutta percha technique, the Touch N' Heat unit can generate a heat wave through the master cone of:

- a. 3-4 millimeters.
- b. 4-5 millimeters.
- c. 5-6 millimeters.
- d. none of the above.

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