

Four Bicuspid Extraction – Deep Bite

Suggested Treatment Protocol

Phase	Archwires	Objectives	Duration in Weeks	Interval in Weeks	Notes	Early Light Elastics Begun at Initial Bonding ¹	Guideposts for Next Phase
I. Initial Light-Wire	Damon Optimal-Force Copper Ni-Ti[®] .014 U/L PRN, .013 U/L if crowding is severe or periodontal support is compromised	<ul style="list-style-type: none"> • Begin leveling and alignment • Initiate arch development without RPEs or W-arches • Resolve 90% of rotations • Extrude buccal segments • Begin vertical correction and PRN, A/P correction. 	10	10	Always place stops anterior to crowding. Use Bite Turbos (preferably behind U1s) to allow buccal segments to extrude. Disarticulation is also TMJ favorable.	Quail 3/16"; 2 oz – Shorty CL II L6 to U5 or PRN, L5 to U3 – Full time	When 90% of rotations are resolved. Do not rush this Phase. It must be possible to insert the first edgewise wires with minimal active engagement. If not, let the current wire work longer. Avoid the use of any wire “icing” product that would apply too high a force when the wire warms.
	.018 U/L		6 – 8	6 – 8	Elastics assist in eruption of teeth: lower posterior teeth (L6 to U5) if slightly CL II; lower anterior teeth (L5 to U3) if more CL II. Reverse curve Ni-Ti is not recommended on upper arch.²		
II. High-Tech Edgewise	Damon Optimal Force Copper Ni-Ti .014 x .025 U/L 10 weeks into this stage: Take Panorex & reposition brackets. Follow with .018 Cu Ni-Ti if brackets are drastically repositioned.	<ul style="list-style-type: none"> • Complete leveling and alignment • Continue arch development • Resolve remaining rotations • Begin torque control • Consolidate minor spacing 3 to 3 	10	10	Typically use power chain under wire to consolidate space 3 to 3. Once all spaces close, transition from power chain to .008 or .010 wire to lace anteriors together.	Quail 3/16"; 2 oz – Shorty CL II – L5 to U3 – Full time PRN, transition to Kangaroo 3/16"; 4.5 oz – Shorty CL II – L5 to U3 – Full time	When all brackets and teeth are aligned. It should be possible to insert the working wires with minimal active engagement. If not, the case is not ready for Phase III. Avoid “icing” products.
	.018 x .025 U/L or PRN, .018 x .025 L .017 x .025 Ni Ti [®] with 20° anterior torque U. ³ See Notes. Follow pretorqued wire with same wire in .019 x .025 for 6 to 8 weeks if more torque desired.		6 – 8 8 – 10	6 – 8 8 – 10	Pretorqued wires counter effects of CL II elastics to keep upper incisors from retroclining.		

¹In patients with very thin attached tissue, severe crowding or periodontal issues, waiting to start elastics until the second appointment may help prevent labial gingival recession. ²Preserving a satisfactory smile arc in a deep-bite case usually precludes using a reverse curve archwire on the upper arch that would flatten it – even in cases with excessive gingival display. 90% of the correction should come from extruding the buccal segments and bringing the molars up and forward. It may also be advisable to intrude lower incisors and extrude upper incisors to enhance the smile arc. ³Allowing staff to engage pretorqued wires is not recommended; wire orientation is critical and it is easy to reverse it inadvertently.

Four Bicuspid Extraction – Deep Bite (continued)

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Phase	Archwires	Objectives	Duration in Weeks	Interval in Weeks	Notes	Early Light Elastics Begun at Initial Bonding	Guideposts for Next Phase
III. Major Mechanics	Posted Stainless Steel .019 x .025 U/L	<ul style="list-style-type: none"> Take wax bite; coordinate patient-specific arch form Close extraction spaces Express majority of remaining torque Overcorrect A/P vertical 	20 – 30	8	To close spaces, end U/L wires distal to the 6s, leaving 2 mm of wire on which to engage Ni-Ti coil springs. Bend distal loop of springs 90°. Engage .010 ligature wire through mesial loop of spring and pigtail-tie over Post, activating about 10 mm. ⁵	<p>PRN, Quail 3/16", 2 oz or Kangaroo 3/16", 4.5 oz – Full CL II L6 to U Post – Full time</p> <p>PRN, after 3 weeks, have patient advance to Impala 3/16", 6 oz – Full CL II – L6 to U Post or Shorty CL II L 5 to U Post – Full time until overcorrected (edge to edge)</p> <p>Once overcorrected, have patient switch back to Quail or Kangaroo – Shorty CL II – L5 to U Post – Wear often enough to keep edge to edge and hold for 8 weeks</p>	When case is CL I and has been in an overcorrected position for 8 weeks.
	After Space Closure Damon Optimal Force Cu Ni-Ti .018 x .025 U/L – Extend wires to 7s. to align them.		8	8			
IV. Finishing	TMA [®] .019 x .025 U .017 x .025 L	<ul style="list-style-type: none"> Make final A/P, buccolingual, torque and occlusal adjustments. 	15 – 20	4 – 6 until sectioning wire, then 2	<p>To engage elastics. crimp surgical posts on TMA wires.</p> <p>PRN to perfect occlusion, cut upper wire mesial to the teeth that still require better articulation.</p> <p>Adjust posterior interferences with a high-speed handpiece and diamond bur, then polish, PRN.</p>	<p>PRN, Quail 3/16", 2 oz – or Kangaroo 3/16, 4.5 oz – Shorty CL II – L 5 to U Post – Often enough to prevent relapse</p> <p>Overlay Zebra 5/16", 4.5 oz Posterior V – U6 to L5 to U Post Full time until socked in, then 12 hours daily (after school & nights)</p> <p>PRN when sectioning wire, maintain Shorty CL II, PRN, but switch from Posterior V to Ostrich 3/4", 2 oz – Spaghetti U to L 7 to 3 – Twisted in between. In the anteriors, end on U Post mesial to 3s – Full time</p>	

⁴Lingual root torque fosters more efficient space closure by keeping roots away from the buccal plate. ⁵Most clinicians find little need for additional posterior anchorage because of the posterior transverse arch adaptation that the Damon System fosters through the first two Phases of treatment.