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# The Rules of Bracket Flipping and Switching

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**Flipping a bracket 180° or switching it between the right and left sides can be useful in altering the prescription for biomechanical purposes. Kravitz and colleagues have reviewed the bracket-selection aspect of this topic as it pertains to canine substitution cases.[1] The present article further clarifies the effects of bracket flipping and switching on torque and tip. The values shown here are based on the MBT* prescription and should be modified appropriately for Roth or Damon** prescriptions.**

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## "Flip, Don't Switch"

To remember how to reverse a bracket's torque without altering its tip, orthodontists have learned the rule "flip, don't switch." A bracket is commonly flipped 180° to add labial root torque to a blocked-out lateral incisor or to add palatal root torque to a maxillary canine in substitution cases. Flipping reverses the torque, but does not alter the tip (Fig. 1). For example, an upper right lateral incisor bracket has 10° of palatal root torque and 8° of distal root tip (*+10° torque, 8° distal tip*). When the bracket is flipped, its prescription changes to 10° of labial root torque, but the distal root tip remains the same (*–10° torque, 8° distal tip*).

The right and left upper lateral incisor brackets are often switched for Phase I treatment to add mesial root tip to the lateral incisors, so that their roots avoid the mesioangularly erupting maxillary canines. Switching the right and left brackets within the same arch reverses the tip, but does not alter the torque (Fig. 2). Specifically, moving an upper left lateral incisor bracket *(+10° torque, 8° distal tip)* to the right lateral incisor changes the prescription to *+10° torque, 8° mesial tip;* the palatal root torque remains the same.

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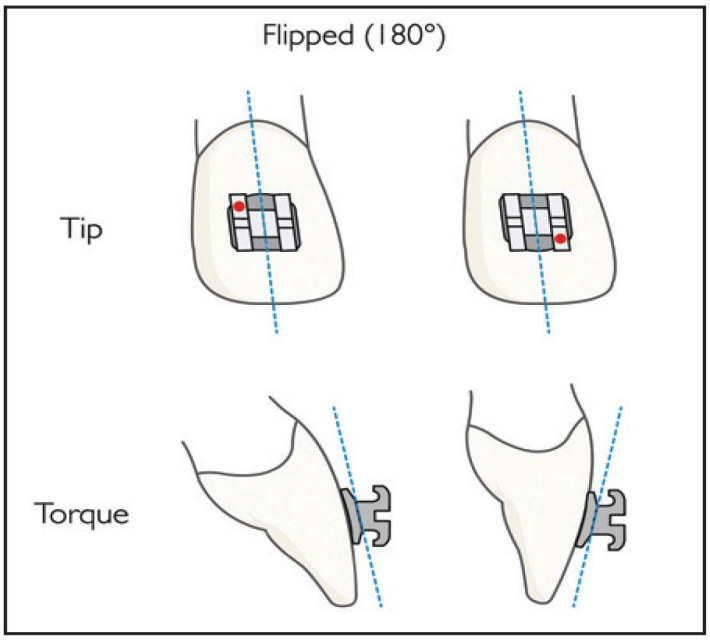


**Fig. 1 Flipping upper lateral incisor bracket reverses torque, but does not alter tip.**

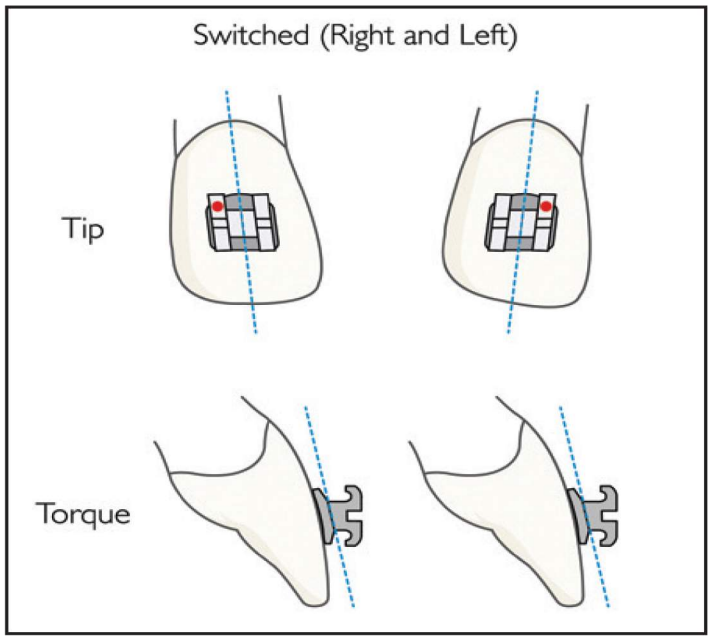


**Fig. 2 Switching upper lateral incisor brackets within same arch reverses tip, but does not alter torque.**

## Flipping and Switching Between Arches

The rule "flip, don't switch," applies only within the same arch. A flipped and switched lower second-premolar bracket can be used on a substituted upper canine to provide palatal root torque and maintain distal root tip, as described by Dr. Marco Rosa (Fig. 3). Flipping the premolar bracket reverses the root torque, but switching does not reverse the tip because of the change in arches. Therefore, the prescription changes from *−17° torque, 4° distal tip* to *+17° torque, 4° distal tip.*

Changing arches cancels the effect of switching (Fig. 4). Switching between arches is employed with lower molar tubes when finishing to a Class II molar relationship, taking advantage of the prescription's 0° offset.[2] For example, if a lower right second-molar tube is placed on the upper left first or second molar, the lower molar tube's original prescription remains the same.

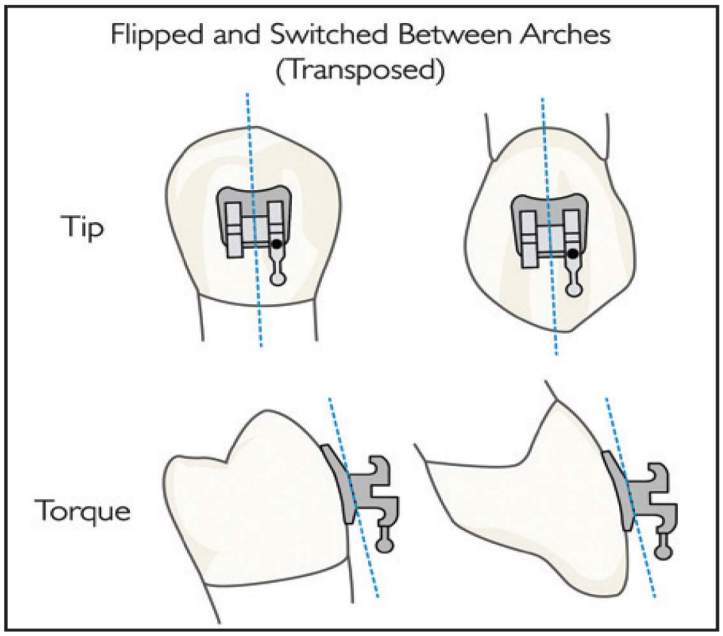


**Fig. 3 Flipping and switching lower second-premolar brackets between arches reverses torque, but does not alter tip, as shown by placement on substituted upper right canine.**

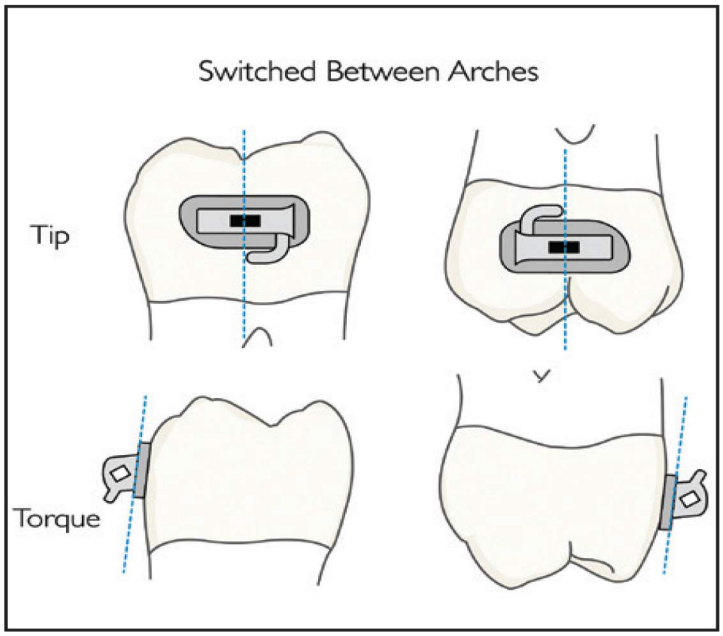


**Fig. 4 Switching lower right second-molar tubes to upper left first and second molars takes advantage of tube's 0° offset.**

## BASIC RULES OF FLIPPING AND SWITCHING

1. "Flip, don't switch" applies only within the same arch.
2. Flipping always reverses the torque.
3. Switching within the same arch reverses the tip.
4. Switching between arches does not alter the prescription.

### REFERENCES

1. Kravitz, N.D.; Miller, S.; Prakash, A.; and Eapen, J.C.: Canine bracket guide for substitution cases, J. Clin. Orthod. 51:450-453, 2017.
2. McLaughlin, R.; Bennett, J.; and Trevisi, H.: *Systemized Orthodontic Treatment Mechanics*, Mosby, St. Louis, 2001.