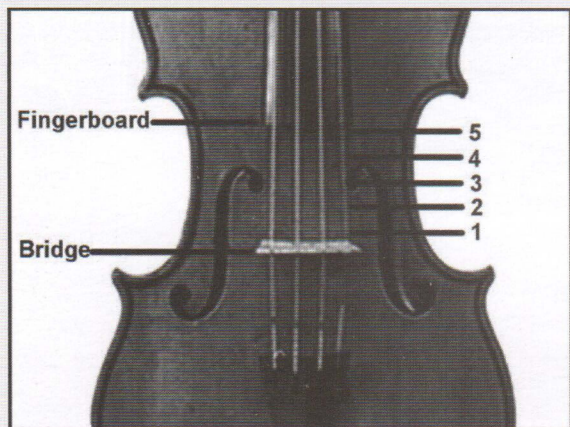


## Contact Point Technique

When I first describe contact points to my orchestra students, I ask them to give me one violin and five bows. Each contact point is the approximate width of the bow's horsehair (10 mm)<sup>1</sup>, and each one can be recognized using five violin bows lying on the string next to each other, between the bridge and the fingerboard. This will provide students with a visual aid, which they quickly understand and helps them remember where each contact point is, when they play. They can also take the measuring tool home with them—their bow.

Below is an illustration of the five contact points and their placement between the bridge and the fingerboard.



*Contact points on this author's violin<sup>2</sup>*

When the bow is near the fingerboard, the Helmholtz corner or 'kink' is more rounded, resulting in greater sonority. The notes do not include many higher harmonics.<sup>3</sup> When the bow is closer to the bridge, the Helmholtz 'kink' is sharper and the sound has more edge to it. The notes have more of the higher harmonics.<sup>4</sup> This is the scientific reason why master teachers use contact-point pedagogy to obtain the widest variation in dynamics.

The next step in understanding contact points is to "feel" the different tensions of the string that correspond with each contact point. Being able to isolate and perfect each contact point is not initially necessary. It is important for students to hear and understand the differences between playing at the two extreme contact points, i.e., playing on contact point No. 1 as opposed to playing on contact point No. 5. The more students are able to hear these unique characteristics in their sound, the better prepared they will be to apply this technique while playing.

### Contact point exercises

These exercises will give students the ability to produce the widest range of dynamics and tone colors while the string is vibrating in Helmholtz motion.

#### Exercise: Tour of contact points No. 5 and 1, using your index finger

- Ask students to place their index finger on contact point No. 5 on the G string and push it down to feel the flexibility in the string.
- Ask students to place their index finger on contact point No. 1 on the E string and push it down to feel the stiffness in the string.<sup>5</sup>
- Ask students if they think playing on contact point No. 5 will sound the same as on contact point No. 1.

After this exercise, I had a very talented young violinist say she thought that contact point No. 1 on the E string would cut her finger and then added, "Is this why, when I play there, my sound cuts through my sister's screaming at me to stop practicing?"

#### Exercise: Tour of contact points No. 5 and 1, using your whole bow

- Ask students to maintain the same bow pressure and the same bow speed while they travel from the frog to the tip for a count of four beats. (I count aloud during this exercise.)
- Have students play open D-string, placing their bow on contact point No. 5.
- Provide a visual aid showing where the contact points are between the bridge and the fingerboard.
- Ask students to watch their bow and be sure it remains on contact point No. 5 the entire time they play their open D string.
- Repeat this exact exercise with the bow on contact point No. 1 closest to the bridge.

Students can hear the difference in these two contact points. By having students play only using the two outer areas (contact point No. 1, and contact point No. 5) they will hear two very opposite and distinct tone qualities. The contact point closest to the fingerboard produces a soft, translucent sound, while the contact point closest to the bridge produces a loud, harsh (and cutting) sound.<sup>6</sup>

#### Exercise: Tour of contact points No. 5 and 1, at a faster bow speed

- Ask students to maintain the same bow pressure and the same bow speed while they travel from the frog to the tip for a count of three beats.
- Have students play open D-string, placing their bow on contact point No. 5.
- Ask students to watch their bow and be sure it remains on contact point No. 5 the entire time they play their open D string.
- Repeat this exact exercise with the bow on contact point No. 1, closest to the bridge.

Repeat this exercise again with two beats and then finally with one beat. The bow speed will change but the pressure on the bow must remain the same, as when the students played the initial exercise at a four-beat count.

## Exercise: Rhythms on each contact point

- Ask students to play a simple rhythm on contact point No. 5, maintaining a constant pressure and bow speed. Have them experiment with speed and pressure until they find the combination that produces the widest vibration in their string.
- Play this rhythm fast next to the bridge and slow next to the fingerboard.
- Once the speed and pressure on the bow are correct on contact point No. 5, play the same rhythm on contact point No. 4. Again experiment with changing the speed and pressure of the bow until the widest vibration in the string is produced.
- Play this rhythm fast next to the bridge and slow next to the fingerboard.
- Repeat this exercise on the remaining contact points, Nos. 3, 2 and 1. Then work backwards starting at contact point No. 1. Each time, play the rhythm fast next to the bridge and slow next to the fingerboard.<sup>7</sup>

These exercises are easy to implement at all levels and take very little time during an orchestra rehearsal or private lesson. Because this method is built on student-focused discovery learning rather than through modeling, there can be better retention. I have found that when I teach these contact point exercises to my young orchestra students, they are able to immediately apply the technique when they play.

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