

# Sound / Tone Development

(orig. for cello)

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Before practicing the following, the student must be familiar with the preceding Open Strings/Rhythm Drills section. Experiment with the five variables of tone production: weight, speed, point of contact, tilt, and angle to the string. The goal is a relaxed but alert arm, that produces a strong, projecting tone. Practice the following on other strings. Advancing players: 1. Try also holding the bow with only the thumb, index, and 4th finger. Notice the difference. 2. Try also holding the bow backwards, at the tip. Notice the weight difference. Don't overdo!

## Son filé ("spun sound")

Musical notation for "Son filé" in 4/4 time. The exercise consists of three staves of music. The first staff shows a sequence of notes with dynamic markings: *ff*, *pp*, *ff*, and *pp* (subito). The second staff shows a sequence of notes with dynamic markings: *pp*, *ff* (subito), *ff*, *pp*, *pp*, and *ff*. The third staff shows a sequence of notes with dynamic markings: *ff*, *pp*, *ff*, *pp*, *pp*, *ff*, *pp*, and *ff*. The notation includes various bowing techniques such as accents, slurs, and dynamic hairpins.

## Alive 1st Finger

Musical notation for "Alive 1st Finger" in 4/4 time. The exercise consists of two staves of music. The first staff shows a sequence of notes with dynamic markings: *f*, *p*, *f*, *p*, *p*, *f*, *p*, *f*, *p*, *f*, *p*, *f*. The second staff shows a sequence of notes with dynamic markings: *f*, *p*, *f*. The notation includes various bowing techniques such as accents, slurs, and dynamic hairpins.

## Ghost Bowing

The following is a silent exercise. The bow must be drawn very slowly and steadily, 1 inch (2.5 cm) ABOVE the string. The goal is complete control of the bow's speed, elevation from the string, and (non-)point of contact. Notice the time signature.

Musical notation for "Ghost Bowing" in 16/4 time. The exercise consists of one staff of music. The notation shows a sequence of notes with a dynamic marking of *silent*. The notation includes various bowing techniques such as accents, slurs, and dynamic hairpins.

## The 'Russian Sound Builder'

Play as closely to the bridge as possible, as loudly as possible, and as slowly as possible. Relax from the shoulder. Keep constant the bow's speed, volume, and point of contact. Notice the time signature.

Musical notation for 'The Russian Sound Builder' in 16/4 time. The piece consists of two measures. The first measure starts with a square box above the staff, followed by a long note with a fermata. The second measure starts with an inverted triangle above the staff, followed by another long note with a fermata. The dynamic marking *ffff* is placed below the first measure.

## The Grasshopper

Short strokes (1 inch; 2.5 cm), using mainly fingers and wrist. Up-bow at the Frog, Down-bow at the Tip. Always *ff*. Practice also on scales. Do not allow the bow to splash and bounce on the string at the tip - control it.

Musical notation for 'The Grasshopper' in 4/4 time. The piece consists of two lines of four measures each. Each measure contains a single eighth note followed by a quarter rest. Above each note is a square box (Frog) or an inverted triangle (Tip). The dynamic marking *ff* is placed below each note. The first line has alternating boxes and triangles, and the second line has alternating triangles and boxes.

## Bouncing Ball

Landing on the string loudly, relaxed from shoulder to wrist, describing circles in the air, bouncing off the string.

Musical notation for 'Bouncing Ball' in 4/4 time. The piece consists of two lines of four measures each. Each measure contains a single eighth note followed by a quarter rest. Above each note is a circle with a clockwise arrow. The dynamic marking *fff* is placed below the first measure. The first line has alternating circles and triangles, and the second line has alternating triangles and circles.

## Double the Bow

Musical notation for 'Double the Bow' in 4/4 time. The piece consists of two lines of four measures each. The first line contains a series of eighth notes, with the dynamic marking *ff sempre* below. The second line contains a series of half notes, with a square box above the first measure and an inverted triangle above the second measure.

## Retakes / Bow Lifts (all $\square$ or all $\nabla$ )

Musical notation for 'Retakes / Bow Lifts' in 4/4 time. The piece consists of two lines of four measures each. Each measure contains a single eighth note followed by a quarter rest. Above each note is a square box or an inverted triangle. The dynamic marking *ff* is placed below the first measure.

### Wrist Exercise

*molto accelerando (Largo - Allegro)* *molto ritardando (Allegro - Largo)*

### Voicing

*p* *p* *f* *p* *p* *p* *f* *p* *p* *p* *f* *p*

*f* *f* *p* *f* *f* *f* *p* *f* *f* *f* *p* *f*

### Biting Accents (1st finger must be very "alive")

### Missing fingers (lift selected fingers off the bow stick; feel the difference)

lift 1st finger    lift 2nd finger    lift 3rd finger    lift 4th finger    lift the thumb

*f* (4th finger behind frog)

### Role of the wrist and fingers in changing strings (use mostly finger motion - Collé)

at Frog

*f*

Right elbow stays in neutral position (as if playing D+A)

### Silent bow placement (PoB = Point of Balance) Challenge: close your eyes!!!

Frog    PoB    Frog    Middle    Frog    Tip    Middle    Tip

stay silent!!!

### The Seven Levels (Planes) of the Bow

Musical notation in 4/4 time showing seven levels of bowing. Level 1 is a whole note on G4 with a forte (f) dynamic. Levels 2-4 are quarter notes on G4, F4, and E4. Levels 5-7 are quarter notes on G3, F3, and E3. The piece ends with a repeat sign and a fermata on a whole note G3.

Play the following at the Frog, PoB, Middle, and close to the Tip:

Three staves of musical notation. The first two staves show eighth-note patterns starting with a forte (f) dynamic. The third staff is labeled 'Whole Bow' and features a series of slurs over eighth notes, with a fermata at the end.

### Balancing Double Stops

Two staves of musical notation. The first staff starts with a forte (f) dynamic and contains double stops on G4 and F4, moving to E4 and D4. The second staff continues with double stops on D4 and C4, moving to B3 and A3, with a fermata at the end.

### Bow Tilt

B = tilt stick toward Bridge; F = tilt towards Fingerboard. First measure is silent. Notice the role of the fingers/thumb.

Musical notation in 4/4 time for a bow tilt exercise. The first measure is silent. The notation consists of quarter notes with 'x' marks above them, alternating between 'B' and 'F' labels. The sequence is B, F, B, F, B, F, B, F, F, B, F, B.

### Bow Angle

B = pull wrist toward Bridge; F = push wrist towards Fingerboard. This is a silent exercise. Notice the role of the arm.

Musical notation in 4/4 time for a bow angle exercise. The notation consists of quarter notes with 'x' marks above them, alternating between 'B' and 'F' labels. The sequence is B, F, B, F, B, F, B, F, B, F, followed by a final whole note with the instruction 'play normally'.

### Bow Speed / Sounding Point

F = fast bow; S = slow bow. Keep the same dynamic, changing the Sounding Point.

Musical notation in 4/4 time for a bow speed exercise. The notation consists of quarter notes with 'F' and 'S' labels above them. The sequence is F, S, S, F, F, S, F, S, S, F, S, F, F, S, F, S, F, S, F, S, followed by a fermata on a whole note.

Add-A-Beat every four notes (Practice with the metronome ♩ = 60. Slower is better...)

*f sempre*

*etc., etc.*

write  
your  
own  
exercises