

# IMPROVING THE INTONATION OF YOUR STRING STUDENTS THROUGH SIGHT, SOUND, AND TOUCH

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D'Addario Orchestral Strings



[www.StringEdTech.com](http://www.StringEdTech.com)

# OVERVIEW

- Philosophy
- Causes of intonation problems & strategies to correct
  - Aural
  - Technical
  - Physical
- Technology to assist

# PHILOSOPHY

- Importance of intonation on performance
- Misconceptions of intonation problems
- Teaching aural skills from day one
- The teacher determines the expectation for intonation
- What research has shown us



# SOUND

- Audiation (Gordon, 1993)
- “Say” note names
- Listen for what is correct & incorrect intonation
- Pitch matching & echoes from day one

# REFERENCE PITCHES & DRONES

- Sustained pitches
  - Beat elimination – explain/demonstrate to students
- Tetrachords & Scales
- Tunes & Performance repertoire
- Improvisation
- Word of caution about loud reference pitches

# SOUND

- Detune the instrument's open strings for scales/simple tunes
- Accompaniments
  - Puts a melody in harmonic context
  - EEi, accompaniments with different harmonic analysis
- Instrument harmony
  - Double stops - checking with open strings
  - Partners "double stops"
- Listen for sympathetic vibrations/ringing of instrument



# TUNING IN ORCHESTRA

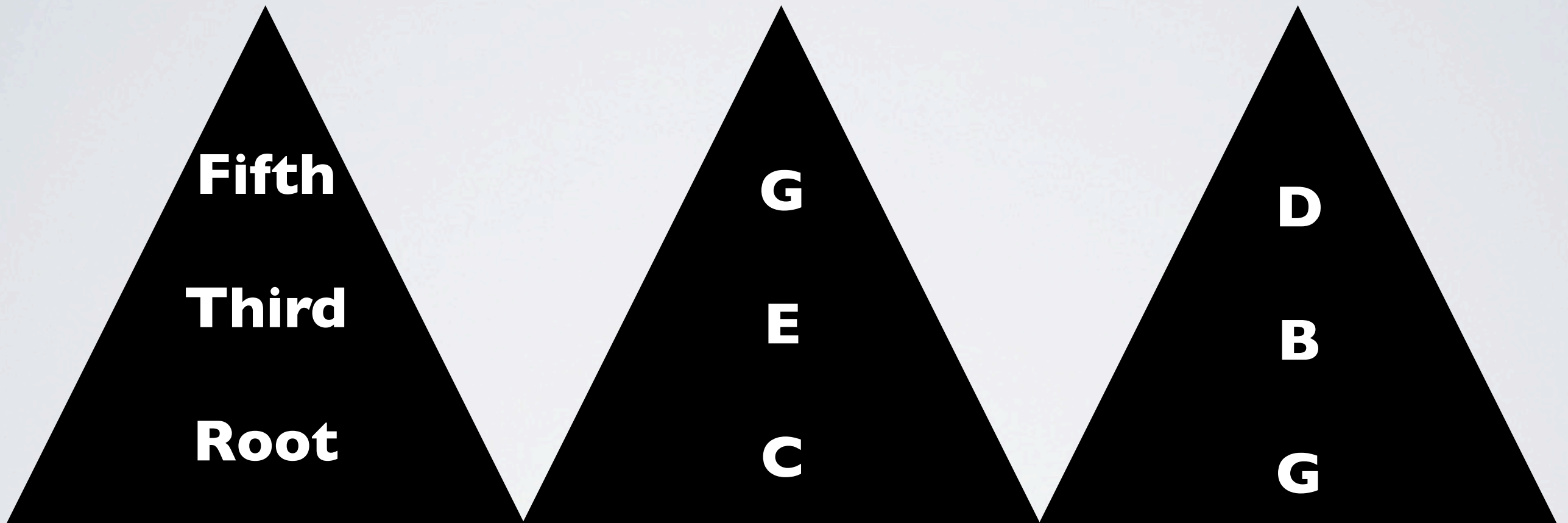
- Tuning Sequence
- Build chords
  - Root, Third, Fifth (& Seventh)
  - Change chords
- Chorales
  - *371 Bach Chorales*, published by DeHaske, distributed by Hal Leonard
  - *Bach & Before*, published by Kjos
  - *Bach Chorales for Strings*, Southern Music

# OPEN STRING TUNING

- 1. Listen
- 2. Internalize
- 3. Tune



# TUNING CHORDS



Tonic

Dominant

# AURAL THEORY TRAINING

- Intervals
  - Higher/lower game
  - Half/whole step identification
  - Advanced interval identification

# TECHNICAL ISSUES

- Instrument position
- Left Hand
- Right Hand



# INSTRUMENT POSITION

- Violin/Viola
  - “The Frankenstein” – too far forward
  - “The sagger” – instrument not parallel to ground
- Cello/Bass
  - Endpin/instrument too low
  - Neck too far away from head

# VIOLIN/VIOLA LEFT HAND

- Straight wrist
- Left hand shape sequence
  - 1. turn head, 2. bend first finger, 3. twist
- Left arm position
  - Swing, maintain hand shape

# CELLO LEFT HAND

- First finger placement/touch
  - reach back to nut with first finger
- Left elbow
  - Bridge taps
  - Flying pizzicato
  - “Grab a Coke”



# DOUBLE BASS LEFT HAND

- Left hand shape
  - “Inhale and hold”
    - Fingers over face, thumb in ear
- Left elbow height
  - Bridge taps
  - “Grab a Coke”

# TO TAPE OR NOT TO TAPE?



How many? For how long?  
What is the purpose of finger tapes?

# THE RIGHT HAND

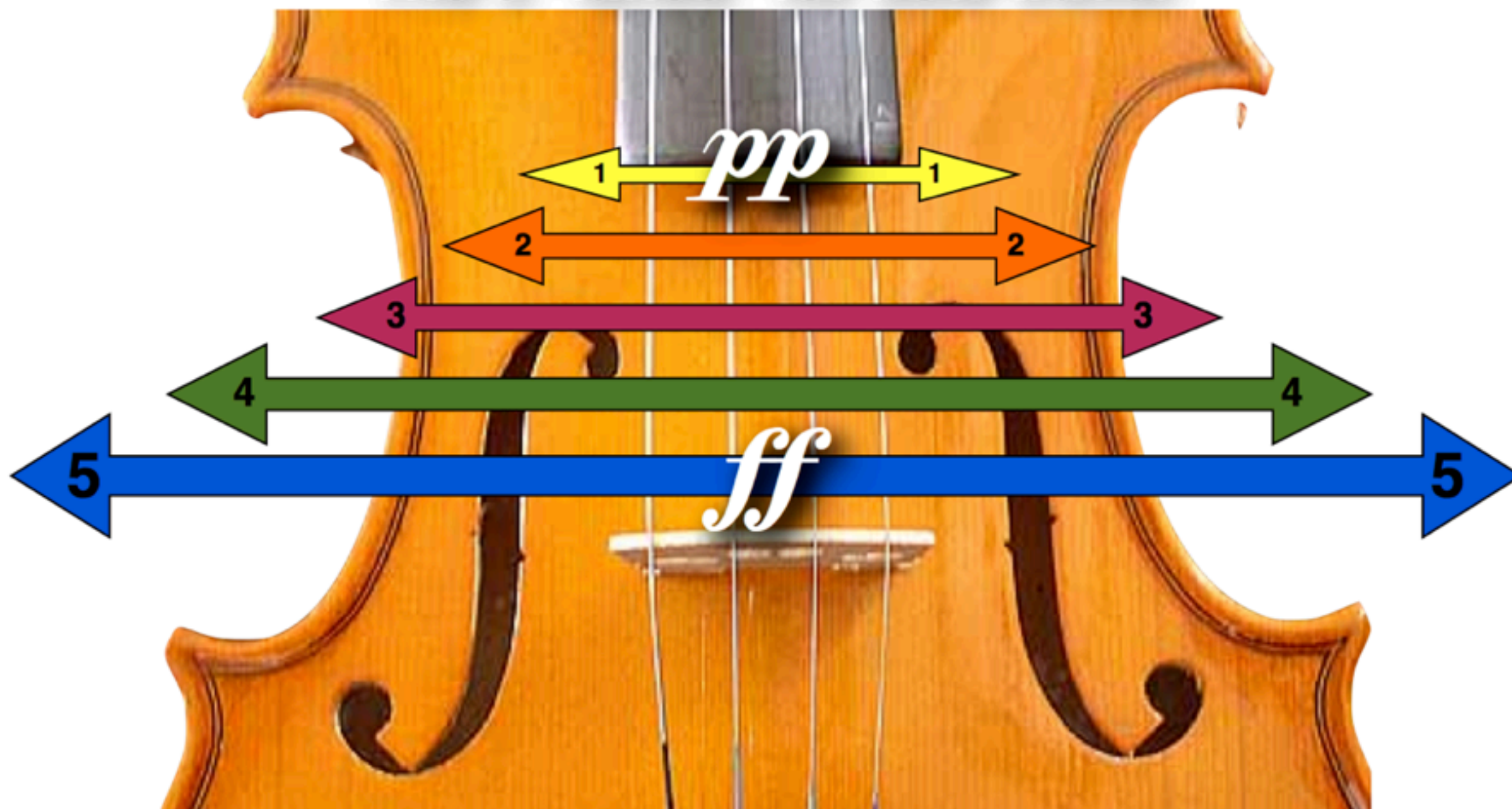
- The bow effects intonation too!
- Balancing point of contact, speed, weight, etc.
- Bowing “PAWS”



# *Point of Contact*

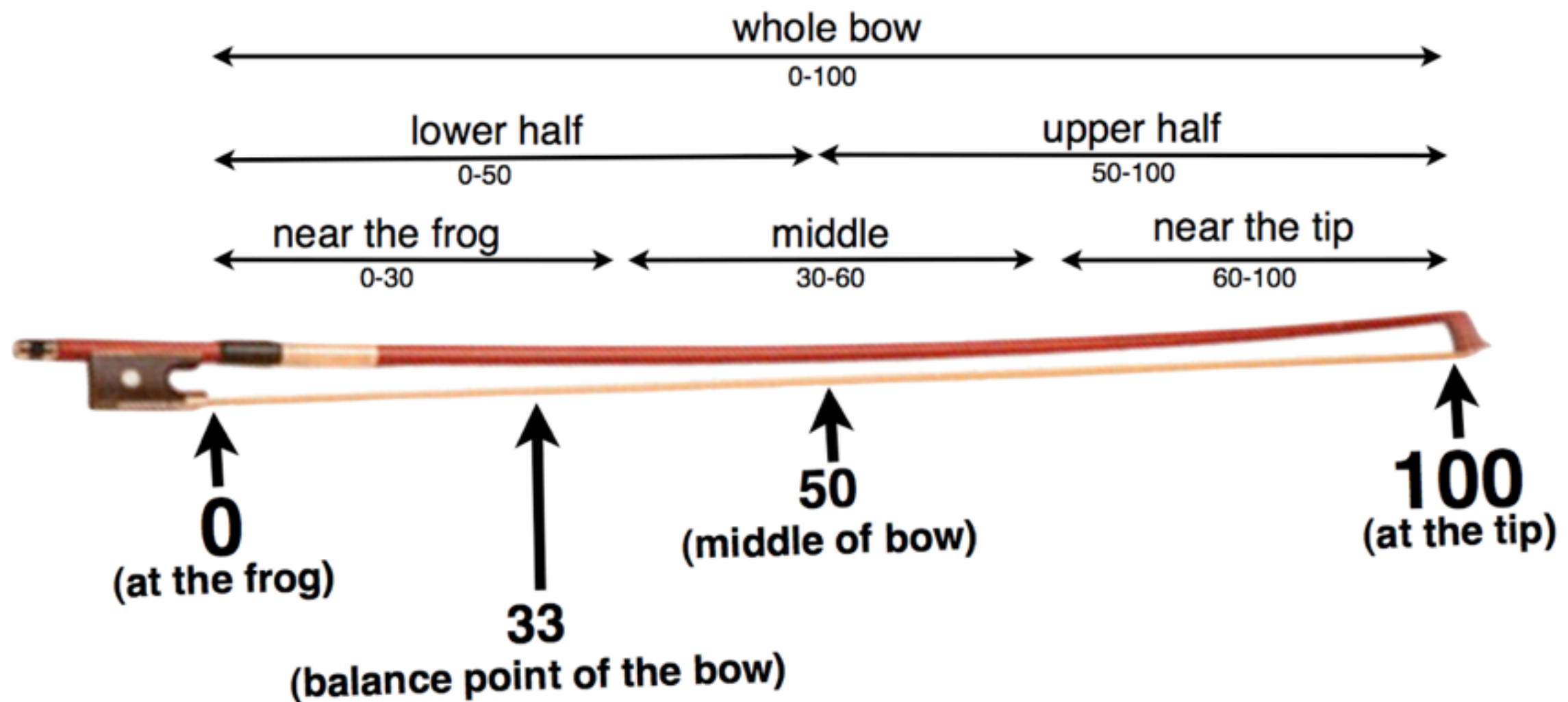
(placement of the bow on the string)

The 5 “lanes” for bow travel



# Area of the Bow

(the part of the bow used)

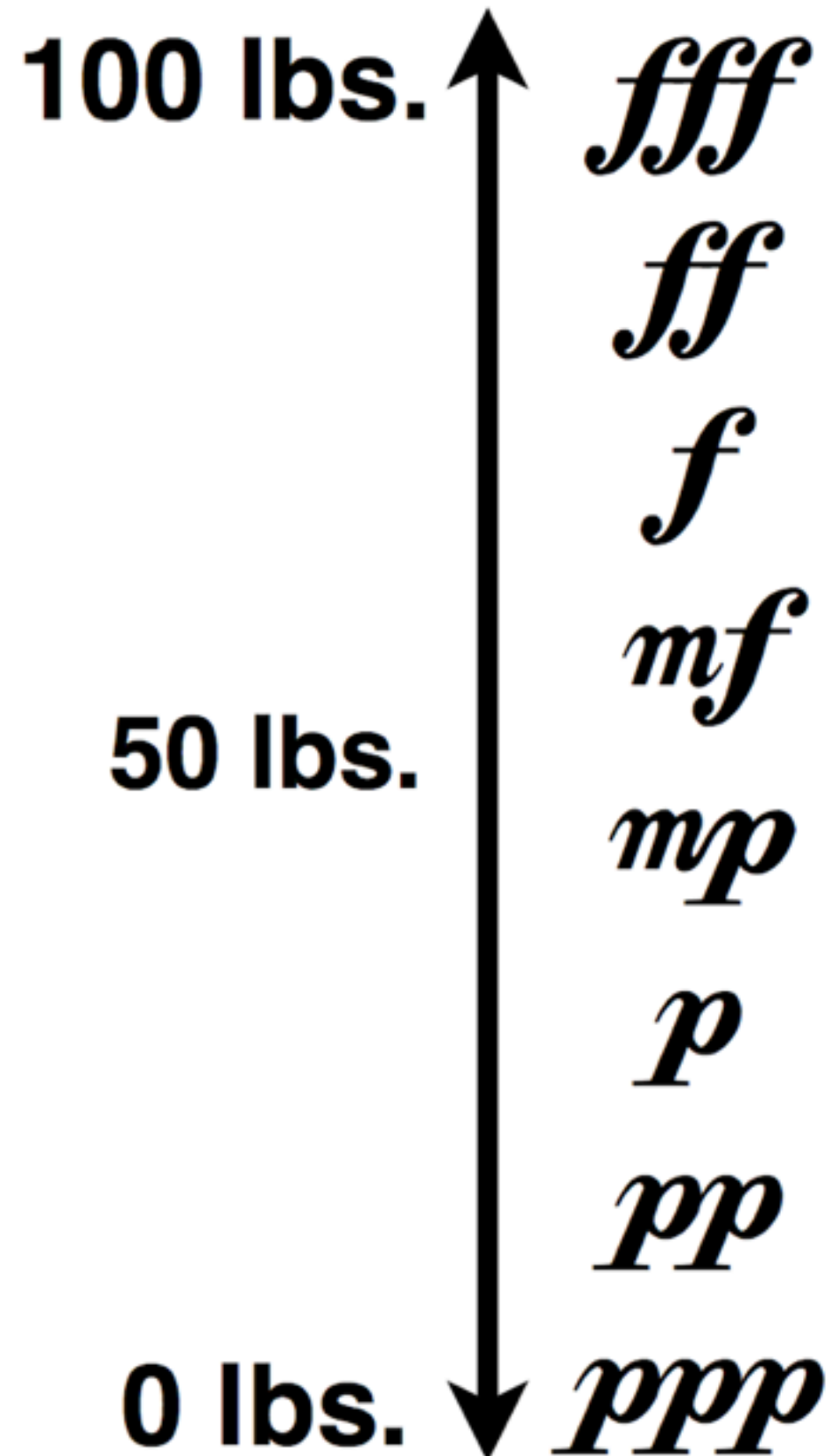


# *Weight*

\*the amount of pressure you put on the bow

\*use first finger to push the stick into the bow hair - “bite” the string

\*measured with “pounds”





# Speed

- \* the speed of the bow
- \* measured in “miles per hour”

- \* the *longer* the note, the *slower* the bow stroke
- \* the *shorter* the note, the *smaller* the bow stroke



**25 MPH**  
“Super Duper Slow Bow”



**75 MPH**  
“Bow”



**33 MPH**  
“Super Slow Bow”



**100 MPH**  
“Run”



**50 MPH**  
“Slow Bow”



**125 MPH**  
“Sprint”

# MECHANICAL PROBLEMS

- Fine Tuners – lubricate or replace
- Pegs - lubricate
- False Strings – compare with kid's sneakers
- Environmental factors



**Only \$39.99!!**

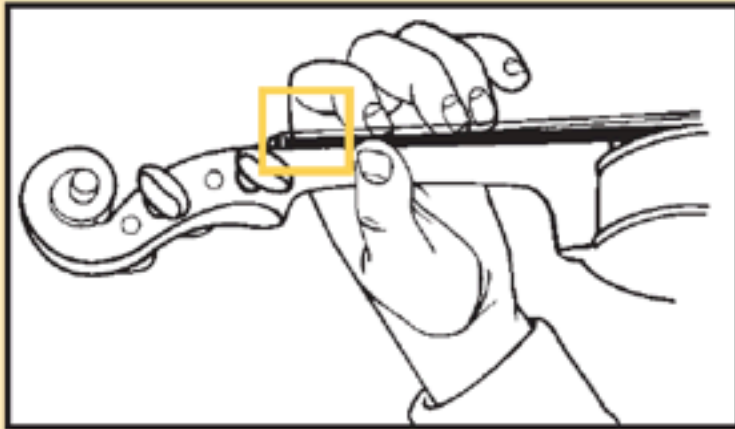
# PITCH ADJUSTMENT

- Students must understand how and when to physically adjust a pitch on the fingerboard
- Pitch adjustment exercises
  - “Hands together;”
  - Pitch bending - use a sustained tone on a keyboard and pitch bend wheel
  - “Follow me”
  - One finger tetrachords/scales
- Strategies to enhance listening: 1. Eyes Closed, 2. Play softer

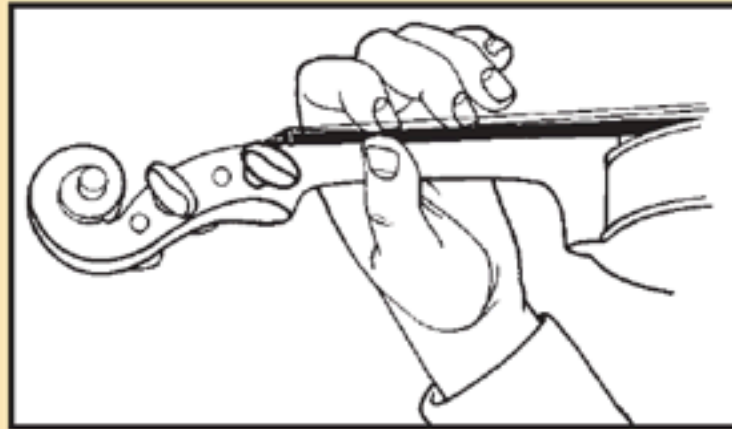


# BLOCK FINGERING

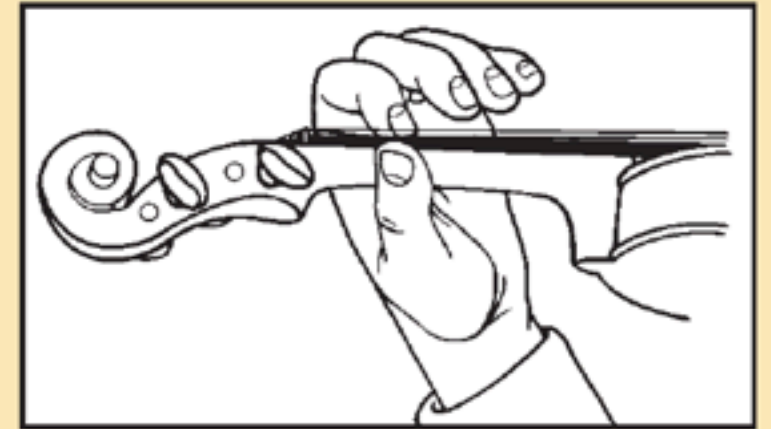
**G** is played with 3 fingers on the D string.



**F#** is played with 2 fingers on the D string.



**E** is played with 1 finger on the D string.



## 15. WALKING SONG

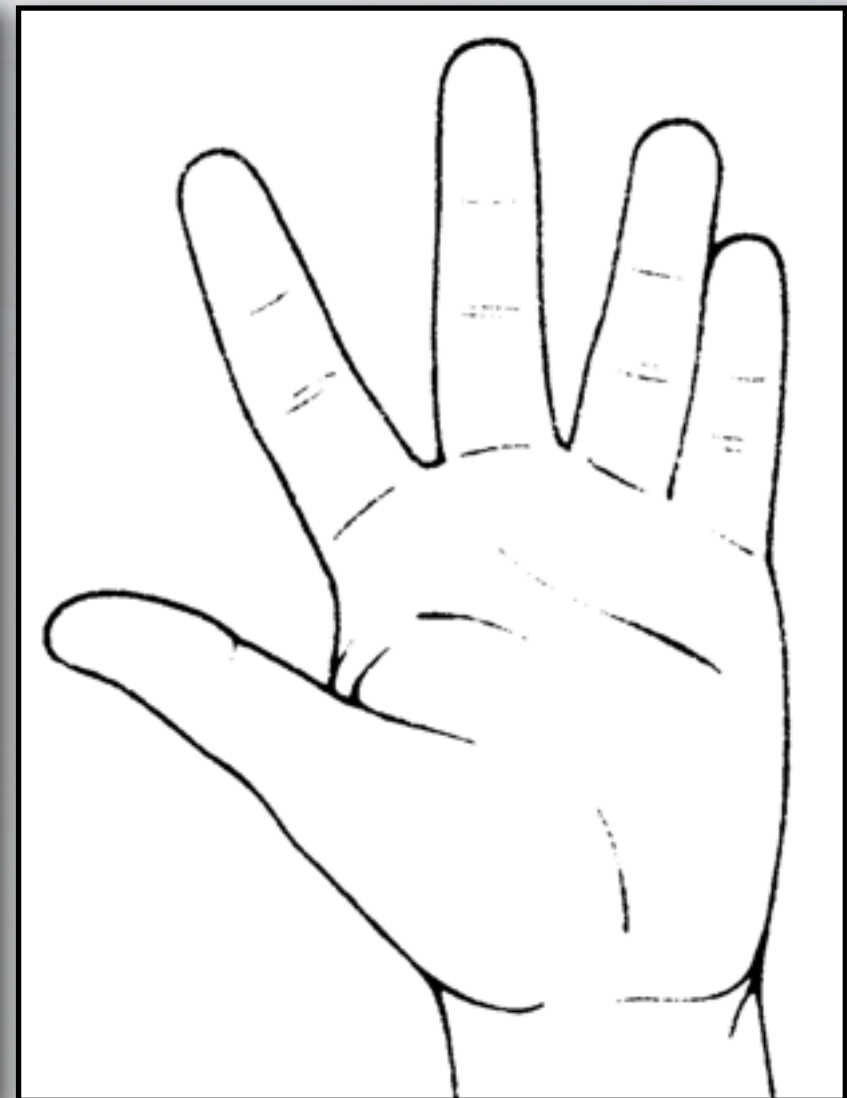
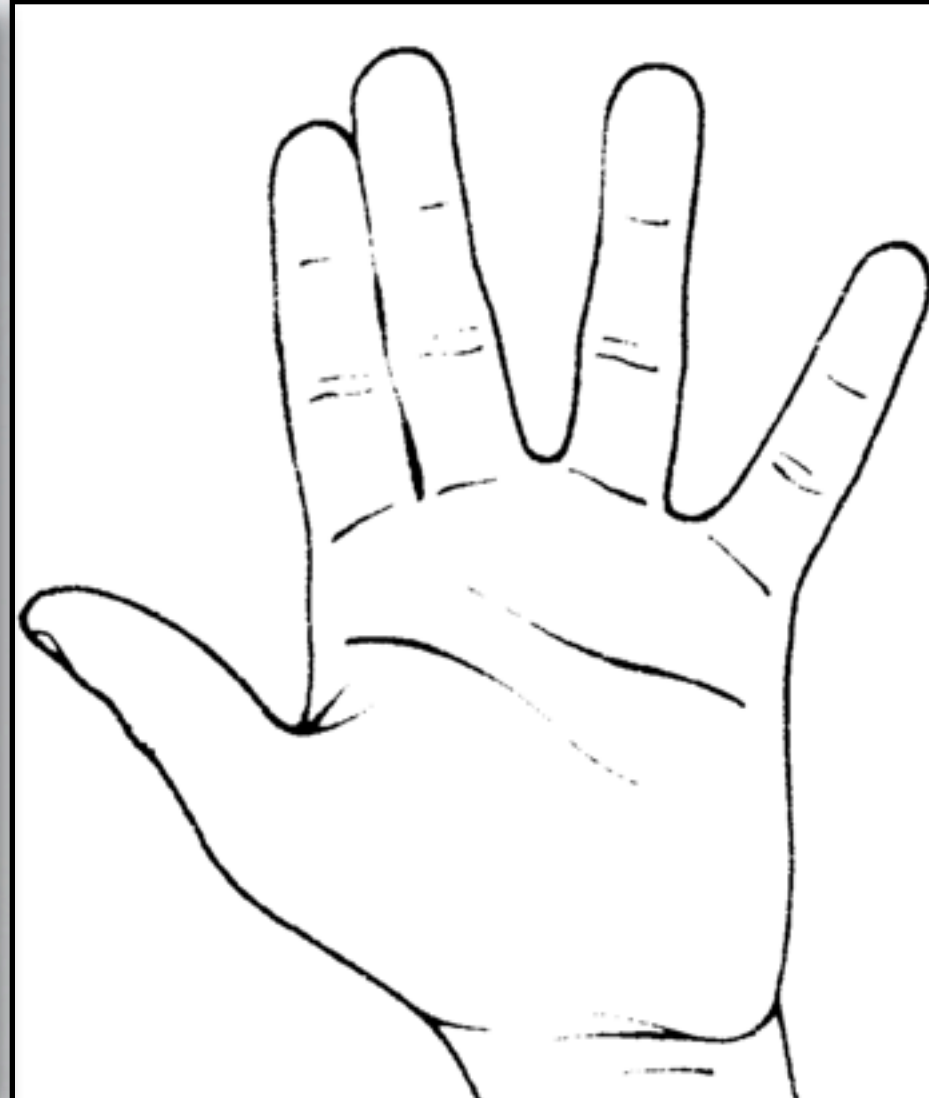
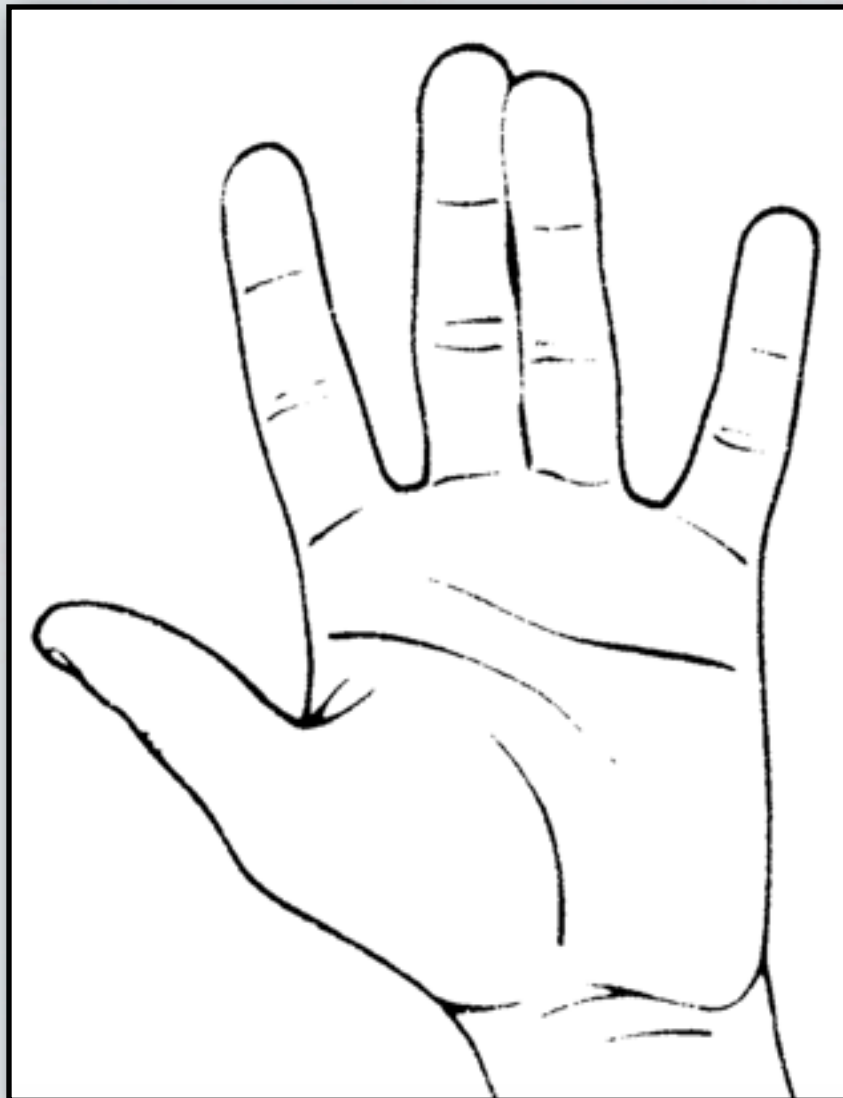
*pizz.* 3 2 1

Source: Essential Elements for Strings. © Hal Leonard Corporation. Used with permission.

# INDEPENDENT FINGERING

- At the latest, start when you approach the teaching of “low 2”
- Opens up the door for vibrato
- Students will then begin to understand when to use block fingering and when to use independent fingering

# FINGER PATTERNS



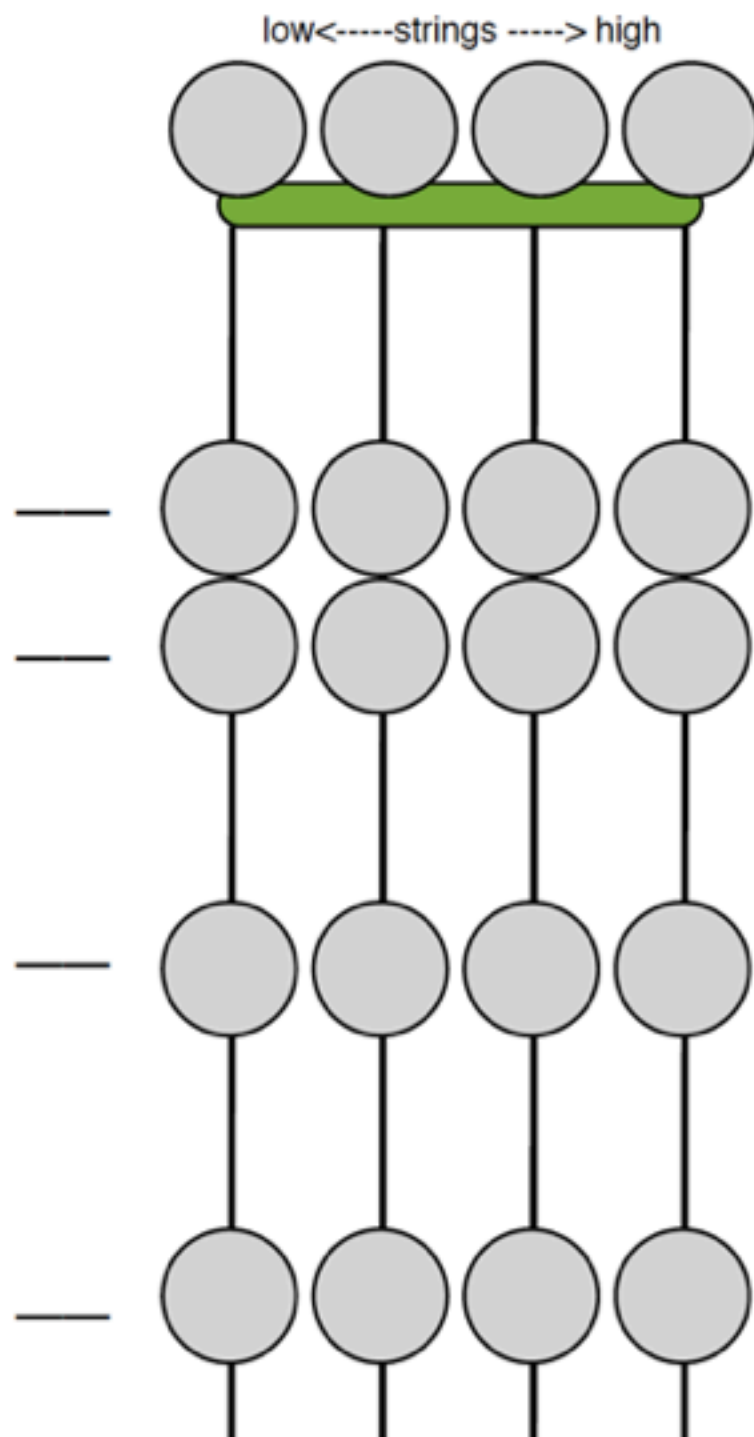
Source: Essential Elements for Strings. © Hal Leonard Corporation. Used with permission.



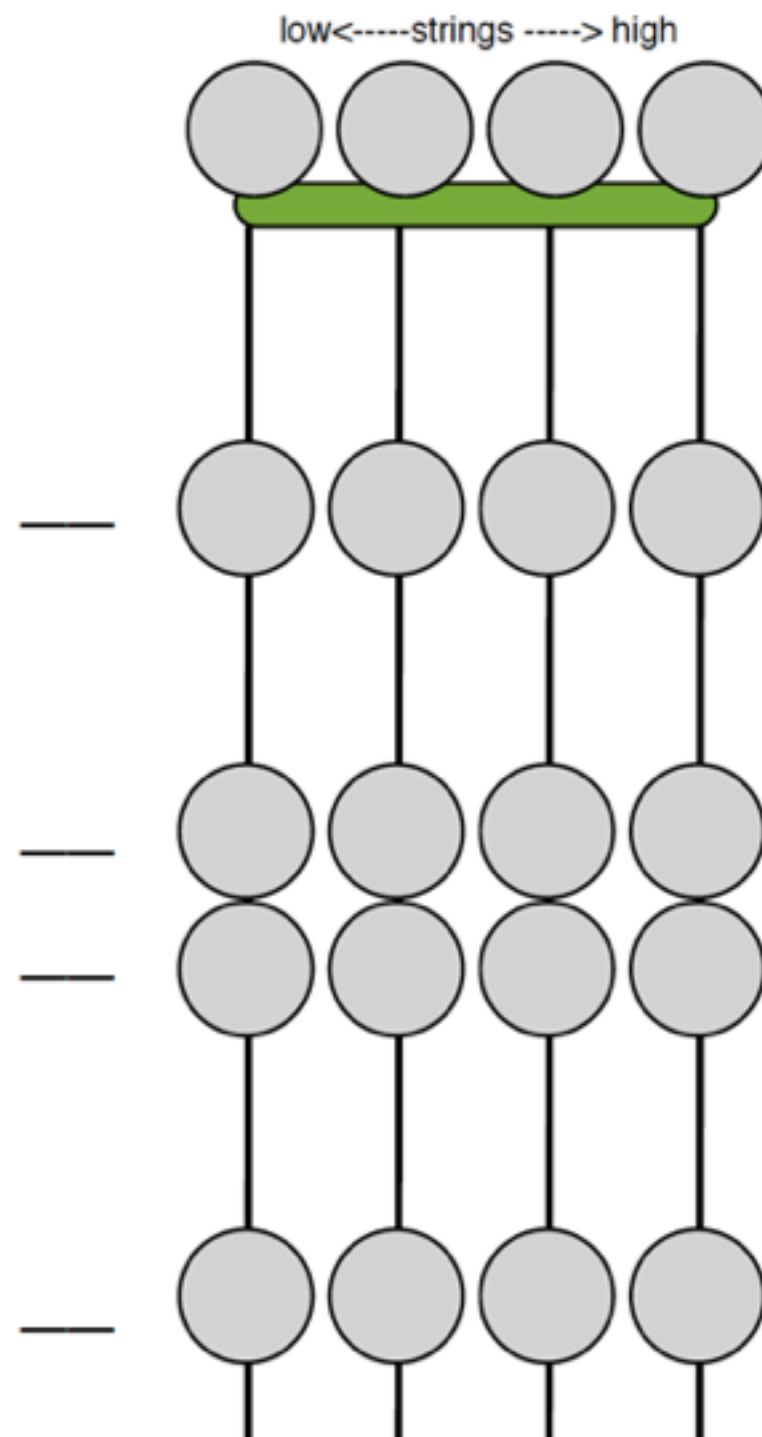
# UNDERSTANDING THE FINGERBOARD

# Violin & Viola Finger Patterns

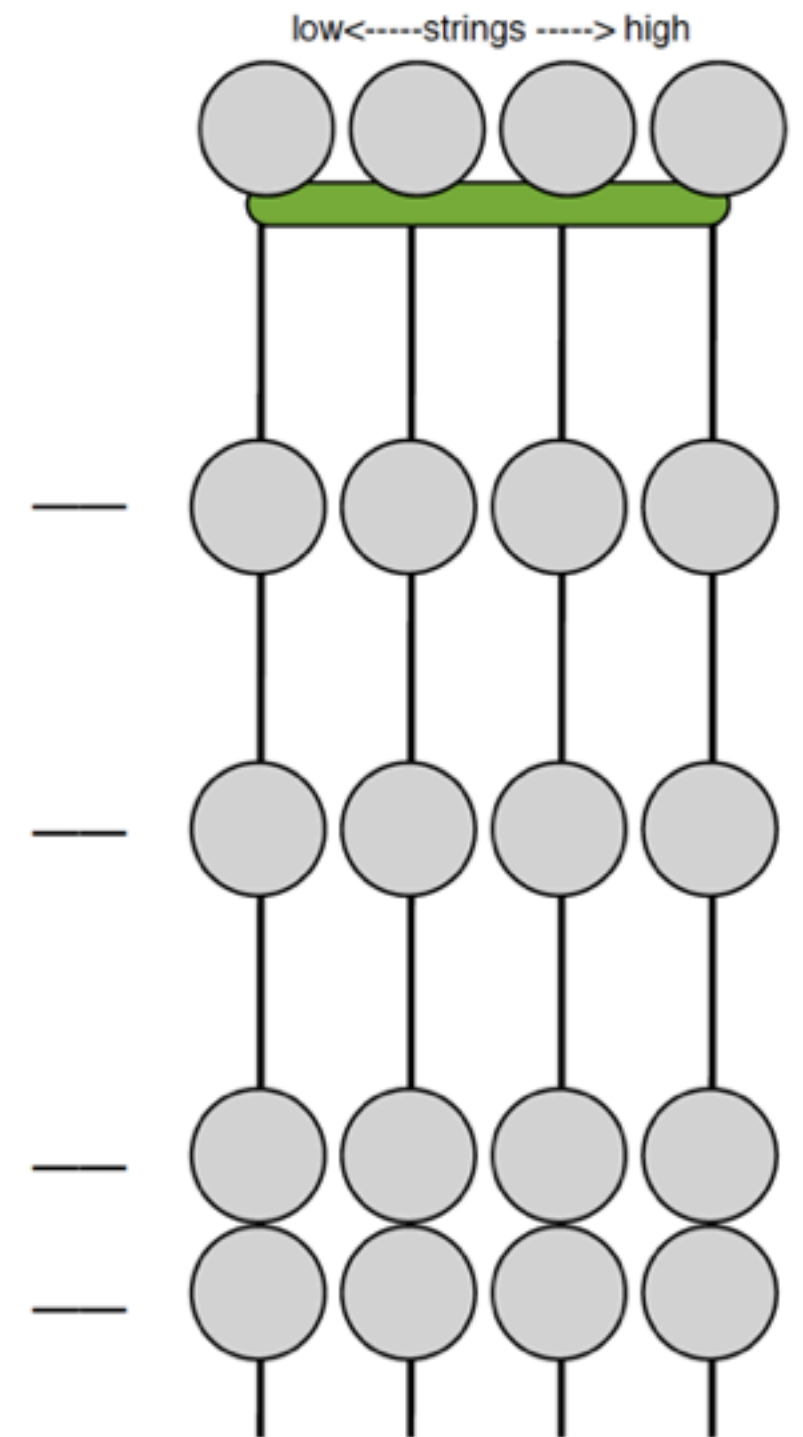
\_\_\_\_\_ pattern



\_\_\_\_\_ pattern

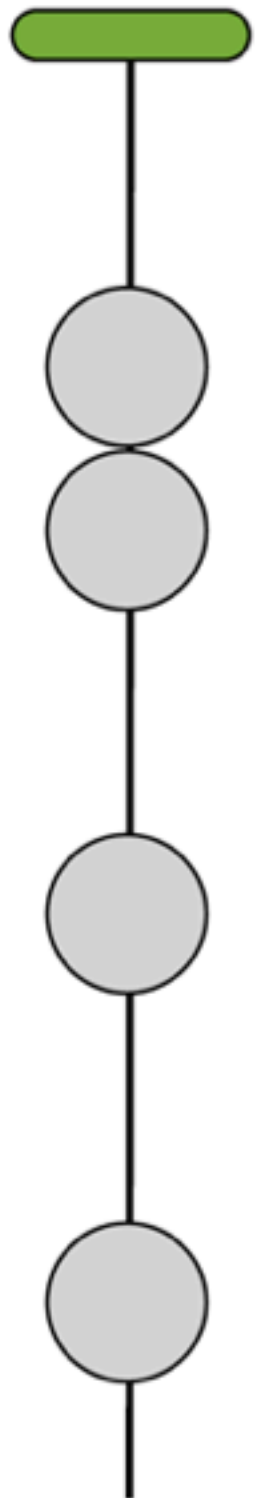


\_\_\_\_\_ pattern

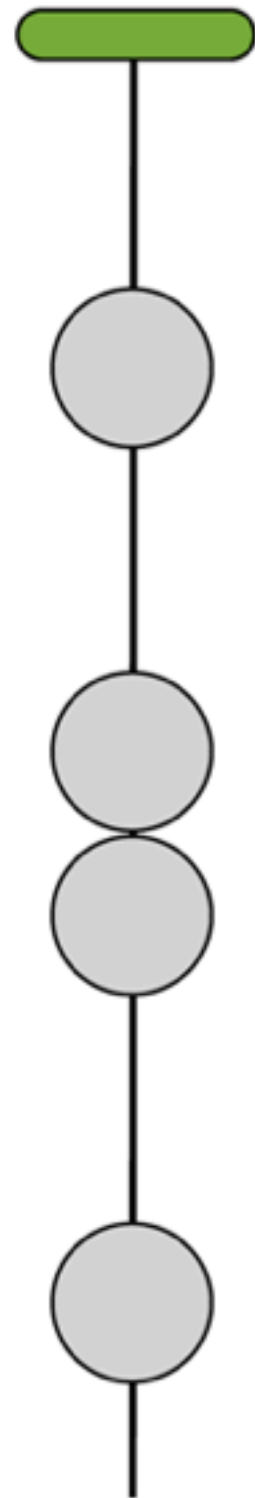


# Violin & Viola Finger Patterns

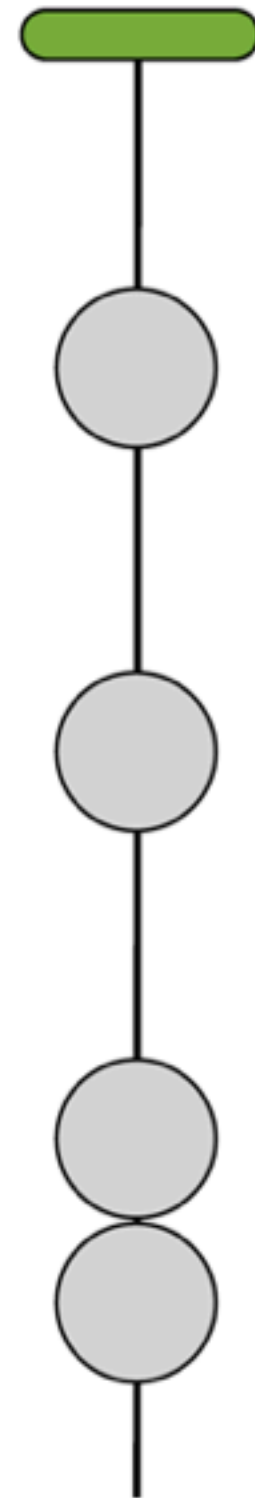
1-2 pattern



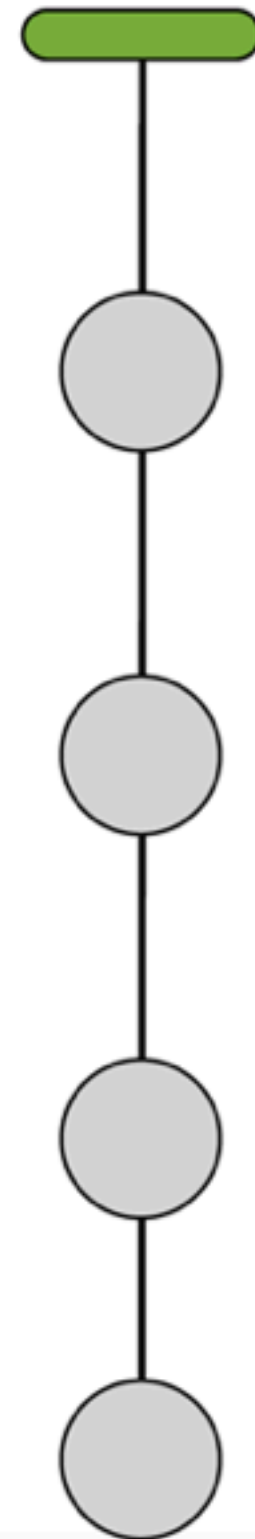
2-3 pattern



3-4 pattern



open hand





# COMMERCIAL DRONE RECORDINGS

- *Cello Drones* by Navarro River Music, also available on iTunes

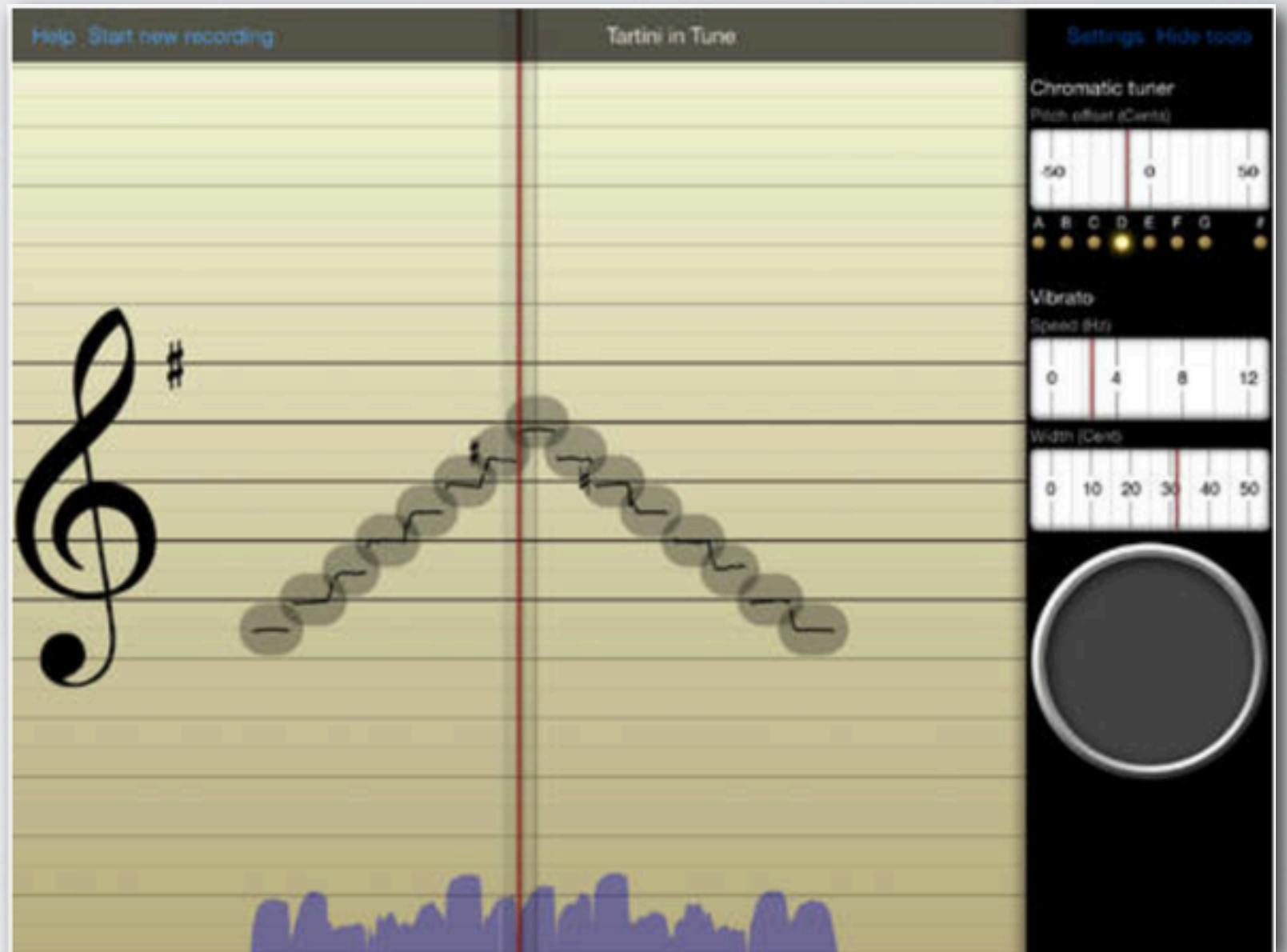
# COMMERCIAL DRONE RECORDINGS

- *The Tuning CD* by Richard Schwartz – available on Amazon and iTunes

# TARTINI IN TUNE



- iOS App for iPad
- \$2.99





# INTONIA DEMONSTRATION

- Mac/PC (Java app)
- Inexpensive
- Real-time feedback
- Pitch analysis
- Save recordings
- [www.intonia.com](http://www.intonia.com)



SPECIAL THANKS...



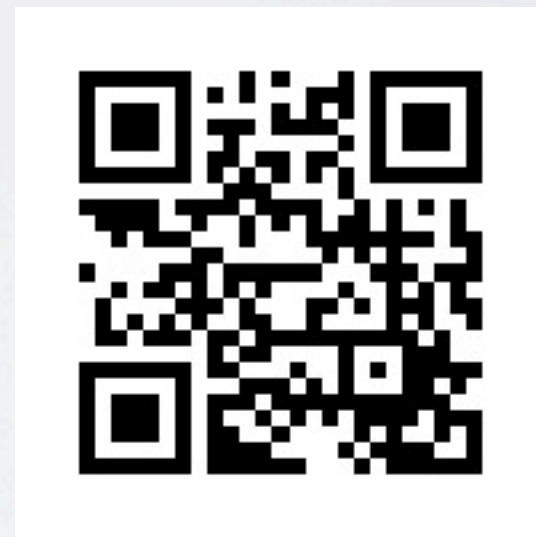
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