

Pitch (Not-So) Perfect: The Flutist's Guide to Improving Intonation

This participatory workshop will provide flutists of all levels tips for reinforcing the fundamentals of tone development to build better intonation, along with practical exercises for improving their own intonation and the intonation within their flute sections.

I. Intro: “Flutes! Roll-In!” “Flutes! Roll-Out!” Pathways to Better Flute Intonation

- A. Importance of Critical Ears, Flute in Good Condition, Consistent Work, Time, and Patience
- B. General Pitch Tendencies of the Flute (Example 1)
- C. Common Causes of Intonation Problems on Flute/Tips for Adjusting (Example 2),

II. Develop Better Intonation: Reinforce Fundamentals of Tone Development

- A. Centered Body Posture & Balanced Hand Position for Resonance and Stability
- B. Benefits and Impact on Intonation
 - 1. Flute Alignment & Three Points of Balance
 - 2. Stable, Balanced Base in Seated & Standing Position, Seating Arrangements
 - 3. Alignment of Head, Neck, Upper Torso, Arms
 - 4. Balanced Hand Position
- C. Embouchure: Relaxed Corners, Low Lip Placement for Resonance and Flexibility
 - 1. Benefits of a Relaxed Embouchure vs. “Kiss-and-Roll”
 - 2. Exercises to Improve Embouchure and Lip Flexibility
 - a. Exercise: Two Lips-Independent Movement
 - b. Exercise: Pneumo Pro Visualize & Develop Flexible Angle of Air/Air Speed
 - c. Exercise: Pitch Bends with Tuner for Lip Flexibility & Ear Training
 - d. Exercise: Cheek Puffing for Relaxing Muscles in Face and Embouchure
- D. Free Breathing, Open Throat and Oral Cavity for Resonance/Consistency
 - 1. Benefits of the Three Dimensional Breath: Length, Width, Depth
 - a. Exercise: Using Breath Builder & Breathing Bags
 - 2. Shape of the Oral Cavity & Impact on Tone, Dynamics, & Intonation
 - b. Exercise: Long Tones Experiment with Vowel Shapes (ah, ay, i, eee, oh, oo)
 - c. Exercise: Using Vowel Shapes in Cresc/Dim Exercises to Maintain Pitch
- E. Consistent Air Speed and Flexible Angle of Air
 - 1. Exercise: Pinwheels/Breath Builder to Visualize/Develop Consistent Airspeed
 - 2. Exercise: Stick the Needle Exercise with Tuner to Maintain Consistent Airspeed
 - 3. Exercise: Harmonics and Octaves to Develop Consistent Air Speed, Resonance, Flexibility

III. Critical Ears and Listening: Improving Intonation Within Flute Section

- A. Pitch Tendencies: Know the Tendencies of Own Instrument in Each Register
 - 1. Exercise: Pitch Partners and Pitch Charts
 - 2. Exercise: Use Concept of “Harmonic Ladder” to Improve Pitch in All Registers and Dynamic Levels
- B. Sing! Listen to Develop the Ear & Improved Pitch Will Follow
 - 1. Exercise: Sing Intervals, Scales, Simple Melodies with Solfeggio
 - 2. Exercise: Play Intervals Against Drone: Unison, Octaves, Fifths, Major Thirds
 - 3. Exercise: Pitch Partner Duets: Listening for Difference Tones
 - 4. Exercise: Pitch Partner Duets: Playing Intervals for Just Intonation
- C. Flat or Sharp? That is the Question
 - 1. Exercise: InTune App: There’s an App for That!
 - 2. Exercise: Experiment with Extremes to Listen for “Beats”
- D. Alternate Fingerings: Make Life Easier

IV. Resources

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Example 1

General Pitch Tendencies of the Flute

- Low register is flat (First octave F through B)
- High Register is sharp (Third octave Eb through Fourth Octave C, Except Bb)
- Middle Register can be sharp (Second octave D, E, G; C# on the staff is very sharp)
- A cold flute will usually play flat and a very warm flute will usually play sharp
- Flute tends to play flat at softer dynamic and sharp at louder dynamic

Example 2 **Common Causes of Intonation Problems on Flute**

WHY IS PITCH FLAT?

PROBLEM	FIX
P, MP, PP Dynamic	Work to raise angle of airstream higher while maintaining fast air speed and keeping aperture small.
Cold Temperatures/Flute	Blow warm air through flute. Push headjoint in. Shorter tube=higher pitch
Size of Aperture Too Big	Work with coffee straws to develop sense for smaller aperture, tone exercises using harmonics and crescendo/decrescendos on one note.
Air Speed is Too Slow	Work to develop consistent air speed and support through use of pinwheels, breath builders, breathing bags, singing, and tone exercises using harmonics and intervals.
Air Speed is Inconsistent	Work to develop consistent air speed and support through use of pinwheels, breath builders, breathing bags, and tone exercises using harmonics and intervals.
Headjoint is Rolled In Too Much	Check alignment. Align center of embouchure hole with center of first key on flute.
Flute is Rolled Back Too Far	Balance flute on three balance points (right thumb, left knuckle, chin) and check alignment of flute keys in mirror. Keep flute keys parallel to the floor.
Angle of Head is Too Far Down	Balance head and keep chin and jaw in neutral position, not too low and not too high, use mirror, Bring Flute to You.
Too Much of Embouchure Hole is Covered	Strive to keep only 1/3-1/4 of embouchure covered, by placing embouchure plate as low on lip as possible for improved resonance and flexibility of embouchure.
Angle of Air is Aimed Too Low	Aim air stream higher, think “ooh” syllable inside mouth as in “moo” and work to improve embouchure flexibility using Pneumo Pro.
Tuning: Raise Overall Pitch	Push headjoint in. Shorter tube=higher pitch
Tuning: Raise Pitch on Individual Notes	Raise angle of the air stream by bringing lips forward and closer together over lip plate while thinking “ooh” syllable inside mouth as in “moo.” Avoid rolling out to adjust pitch. While rolling out will raise the pitch, it will also diminish quality of tone

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Example 2 Common Causes of Intonation Problems on Flute

WHY IS PITCH SHARP?	
MF, F, FF, FFF Dynamic	Work to lower angle of airstream, keep aperture slightly more open
Hot Temperatures/Flute	Pull headjoint out. Longer Tube=Higher Pitch
Air Speed is Too Fast	Work to develop consistent air speed and support through use of pinwheels, breath builders, breathing bags, and tone exercises using harmonics and intervals.
Lips and Embouchure Too Tight	Tone exercises to relax muscles in face and lips, cheek puffing
Flute is Rolled Out Too Far	Stabilize flute on three balance points (right thumb, left knuckle, chin) and check alignment of flute keys in mirror. Keep flute keys parallel to the floor.
Flute Placed Too High on Bottom Lip	Place flute lip plate in the curve of the chin and align edge of embouchure hole with edge of bottom lip where the skin of the chin meets the lip. Experiment with this position as players with fuller bottom lips will need to position the edge of the embouchure a bit higher. Goal is to have flute lip plate positioned as low as possible on bottom lip to improve resonance and flexibility of lips.
Headjoint Rolled Out Too Much/Too Much of Embouchure Hole is Uncovered	Strive to keep 1/3-1/4 of embouchure covered, by placing embouchure plate as low on lip as possible for improved resonance and flexibility of embouchure.
Angle of Air is Aimed Too High	Aim air stream lower by thinking of “oh” or “ah” syllable in mouth and keeping space between the back teeth, work to improve embouchure flexibility using Pneumo Pro.
Tuning: Lower Overall Pitch	Pull headjoint out. Longer Tube=Lower Pitch
Tuning: Lower Pitch on Individual Notes	Lower angle of the air stream by opening aperture in lips while thinking “oh” or “ah” syllable inside mouth, keep space in teeth. Avoid rolling in to adjust pitch. While rolling in will lower the pitch, it will also diminish quality of tone making it dull and pinched.

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IV. Resources for Directors (Example 3)

PITCH GAMES

InTune App (Apple Store)

A simple game that “tests and improves your pitch discrimination ability; test your ability to hear very close pitches, improve your ability to sing and play in tune, compete with your friends via Game Center.”

DRONES AND TUNERS

The Tuning CD by Richard Schwartz (Amazon.com)

Available as MP3 Download at A=440 or A=442

Tonal Energy Tuner/Metronome App

EXERCISES

A wealth of excellent materials for the development of tone and technique on the flute are available to teachers and students. The materials listed below are a small sampling of my favorites:

Flute/Theory Workout by Lisa Garner Santa, Matthew Santa, and Thomas Hughes (Self Published)

Long tone/scale workouts with accompanying CD add variety and fun to warm-ups with added benefit of working intonation at the same time.

The Flute Scale Book: A Path to Artistry by Patricia George/ Phyllis Louke (Theodore Presser)

Embouchure Flexibility/Harmonic Exercises: Chapter 3, 3.00-3.10

Flute 101, Flute 102, Flute 103: Mastering the Basics by Patricia George/Phyllis Louke (Theodore Presser)

The Physical Flute by Fiona Wilkinson (Waterloo Music)

Depth of Sound, pp. 20-23; Pitch and Dynamics, pp. 25-44

Practice Book Flute No. 4: Intonation & Vibrato by Trevor Wye (Novello)

Seven Steps to Better Intonation by Chris Potter (Falls House Press)

Tone Development Through Extended Techniques by Robert Dick (Multiple Breath)

ALTERNATE FINGERING GUIDES

Alternate fingerings are useful tools for improving intonation at a variety of dynamics and registers, especially the third octave. The resources listed below are two of the most comprehensive guides to regular fingerings, alternate fingerings, trills, and tremolos. Each of these resources provide detailed information about pitch tendencies of fingerings in each range and dynamic.

Alternate Fingerings for the Flute by Nestor Herzbaum (Self Published)

Modern Guide to Fingerings for the Flute by James Pellerite (Alfred Music)

NOT A FLUTIST? VIDEO RESOURCES FOR BAND DIRECTORS

U.S. Army Field Band Educational Clinic Series: Flute Fundamentals

www.armyfieldband.com/pages/education/flute.html

Real Flute Project with Nina Perlove

www.realfluteproject.com