Finger spacing

The higher up the string you play (i.e. the shorter the string) the closer together the notes are to each other. This is not a subject that only complete beginners need to address. Playing, say, in 3rd position, with the same spaces between the fingers as if in 1st position, is one of the single most common causes of less-than-perfect intonation.

Perhaps this apparently obvious, elementary factor is so easily overlooked because it is associated with very high positions where, at the top of the string, the fingers are literally all on top of each other. Yet the difference in spacing between playing in 1st position and playing in 4th position is already striking:

(a) Play a major third in 1st position. Keep both fingers on the string. Move up to 4th position, keeping the fingers exactly the same distance apart. Now the same spacing plays a perfect fourth.

(b) Play a major second in 1st position. Move up to 8th position. Now the same spacing plays a major third.

In Example 1 the major third between the first and third fingers in 1st position is much wider than in 3rd position. Make sure that the third finger C on the E string is not too high.

In Example 2, the E at the end of the first bar, in 5th position, feels surprisingly close to the second finger D when both notes are in tune. It is all-too-easy to place this finger too sharp, out of tune with the open E.
A simple way to check the tuning is to play the phrase in first position and see if there is a difference:

Spacing exercise

- Play entirely on the A string, continuing each sequence further up the string. Feel the clear difference in spacing with each progressive step higher. Repeat the same patterns on the other strings.

This exercise produces immediate and obvious results. Play a scale, for example A major in three octaves. Listen carefully and note how easy (or not) it is to play in tune. Then practise this exercise for five or ten minutes. Then play the scale again. It will have improved significantly and probably far more than if you had practised the scale itself for the same amount of time.