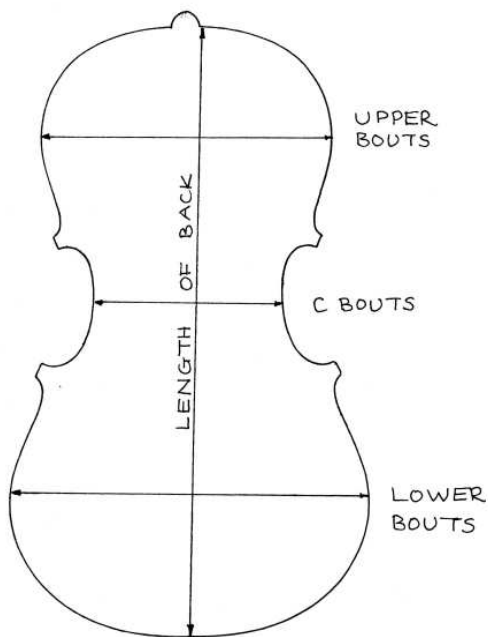


## Violas: Sizes and Proportions

Talk given at Viola Day for Teachers held at Chetham's School of Music on 30 January 2004  
By Helen Michetschläger

Most adults play on violas with a length of back of between 15 ½ and 16 ½ inches (39.3 and 42 cm). This measurement is what we call the size of the viola. Adults with small hands and children may play on smaller instruments, and some tall and powerful people like even larger violas.

### 1. Body Measurements

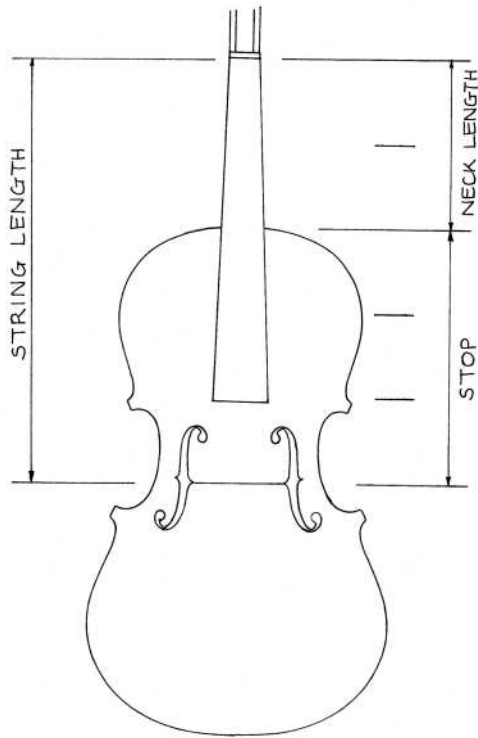


The length of back is measured with a flexible tape measure over the arching, from the edge of the button at the top to the centre of the bottom, as indicated in the diagram above. The widths of the back are also measured as indicated, at the widest point for the upper and lower bouts and the narrowest point for the C bouts, also over the arching.

### 2. Stop, neck length and string length

Another important consideration for viola players is the string length, which is measured from the end of the fingerboard (at the joint with the nut) to the top of the bridge.

This is, in turn, comprised of two important measurements, the stop length and the neck length.



The neck length is measured from the top end of the fingerboard (at the joint with the nut), along the side of the neck to the edge of the front.

The stop length is measured from the edge of the front, over the arching to the centre of the bridge feet. The centre of the bridge feet usually fall on an imaginary line joining the inner nicks of the soundholes.

The proportion of neck length to stop length is normally 2:3 as it is on a violin (ie the measured distance of the stop length is divided by three, and the product multiplied by two to give the neck length. So a stop length of 210mm divided by 3 gives 70mm, which multiplied by 2 gives a neck length of 140mm).

If the stop length is long, the neck of a viola can sometimes be slightly shorter than indicated by the 3:2 ratio in order to reduce the overall string length.

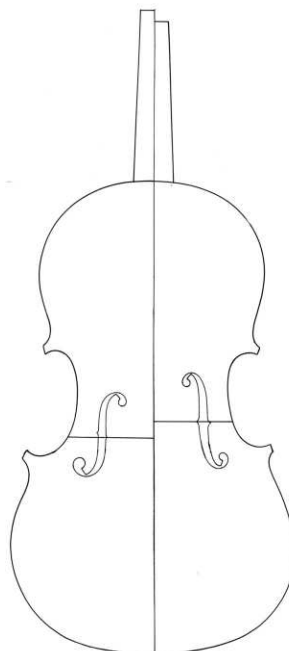
It's worth noting that the string length does not correspond exactly to the sum of the neck length and stop length. It's usually about 1% longer, caused by the backward tilt of the neck.

### 3. Variables in string length

One big difference between violins and violas is that the string length for any given size of viola is not consistent, in the way that you would expect all full-size violins to have more-or-less the same string length and therefore feel similar to play.

#### **A&H Amati viola**

Length of back 16 ¼ inches  
(41.2cm)  
Stop 225mm  
Neck length 150mm  
String length 379mm



#### **Paolo Maggini viola**

Length of Back 16 ¼ inches  
(41.2cm)  
Stop 210mm  
Neck length 140mm  
String length 354mm

The diagram above gives an example; the left-hand instrument, a 16 ¼ inch (41.2cm) viola by A&H Amati has a string length of 45.4cm, whilst the right-hand instrument, a viola of exactly the same length of back by Paolo Maggini has a string length of 35.4cm, a whole 2.5cm shorter, and consequently very much easier to get round. It's also quite possible for a small viola to have a longer string length than a larger instrument.

#### 4. Child-sized Violas

The sizing of very small violas for children usually corresponds to that of small size violins, although some manufacturers also like to use fractional sizes which are different from the corresponding violin sizes. The table below gives the comparative sizes and string lengths you would expect to find on child-sized to 15-inch violas. Here you can expect slightly more standardisation than with larger violas.

It's important to use the appropriate size of string for any given size of viola. Strings are designed to respond at a given playing length, and overlong strings will sound unfocused and unresponsive as well as being difficult to fit into the pegbox. The table below gives details of string lengths for smaller sizes of viola and an indication of appropriate strings for each size of viola.

Viola size	Length of back (inches)	Length of back (centimetres)	Corresponding violin size	String length (centimetres)	Suitable strings
eighth	12 ½	31.7	half	28.8	Corelli Crystal 210
quarter	13 ¼	33.6	three-quarter	30.7	Corelli Crystal 220 Pirastro Tonica viola ½ - ¾
half	14 – 14 ¼	35.5-36.1	full	32.8	Corelli Crystal 230 Thomastik Dominant viola ½ D'Addario Helicore short length Pirastro Tonica viola ½ - ¾
three-quarter	14 ¾ - 15	37.5 - 38	-	34.0	Corelli Crystal 240 Thomastik Dominant viola ¾ D'Addario Helicore medium length Higher-tension standard viola strings such as Pirastro Evah Pirazzi and Tonica can also be successfully used