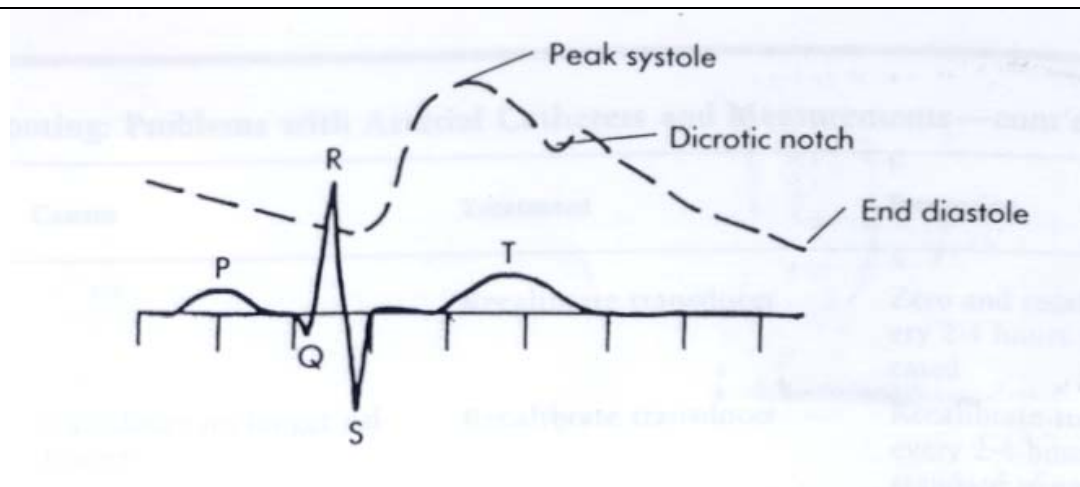


Appendix 1: The Normal Arterial Waveform (1)

The Normal Arterial Waveform:

Pumping by the heart results in the development of pressure in the aorta and the arteries. If the pressure in the aorta is recorded, a pressure wave can be observed. The arterial pressure wave reflects systole, aortic valve closure and diastole and these should be identifiable (see figure 1). The peak of the wave (Peak systole) occurs just after the QRS complex of the ECG and it corresponds to the systolic pressure. Aortic valve closure is reflected in the Dicrotic notch, which is followed by a down stroke (End systole) representing the decrease in arterial pressure during diastole. Many anatomical, physiological and technical factors can affect the waveform.

Figure 1: Normal Arterial Waveform (viewed alongside the normal ECG)

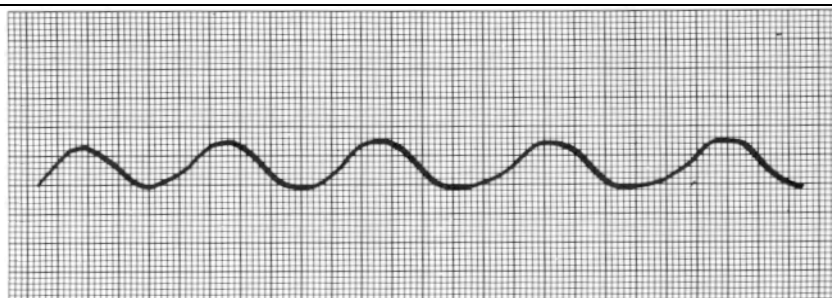


Technical Considerations

Dampened Trace:

A trace that appears 'dampened' will not show the Dicrotic notch and may give a falsely low reading. This may be due to partial occlusion of the arterial catheter, loose tubing connections or air in the transducer or tubing (see Figure 2)

Figure 2: Dampened Trace



Arterial Catheter 'Fling':

If the peak arterial pressure appears to overshoot, there maybe a falsely high arterial pressure reading. This can be due to the catheter 'flinging' inside the vessel or over filling of the transducer dome (see [Figure 3](#))

Figure 3: Arterial Catheter 'Fling'

