What are the risks associated with the use of a heart pacemaker and welding?
Frequently Asked Questions

If the pacemaker user has any doubts about his or her working environment this should be taken up with the hospital that fitted the unit. To confirm whether or not there is a problem, the hospital could be asked to fit the user with a Holter monitor. This is similar in size to a 'Walkman' tape player and is a form of portable ECG machine. It is worn by the user for a period of 24 hours and will monitor and record the functioning of the heart. This would enable any effect of the environment on the operation of the pacemaker to be detected.

As a general rule, working close to sources of electromagnetic radiation from 'conventional' welding equipment e.g. MMA (SMA), MIG/MAG (GMA or GIF (GTA) equipment, is unlikely to present much of a risk to a pacemaker user although it is advisable to reduce the exposure as much as possible. Welding cables should not be wrapped around the arm or draped over the shoulder and should be kept as far away from the user as possible. Where possible, twist the welding cables together, and ensure that the pacemaker user is not stood in a current loop, with the torch on one side and the return cable on the other.

Working in the vicinity of equipment which produces very strong electro-magnetic fields such as resistance welders or power sources which produce pulsing magnetic fields, particularly where the pulsing rate matches or is close to the pulse rate of the pacemaker user, can be a hazardous situation. In the presence of a pulsing magnetic fields, the pacemaker can be fooled into thinking that the heart is beating normally and does not need assistance. In this case it will switch off with the risk therefore of a cardiac arrest and collapse. Removal from the magnetic field will result in the pacemaker returning to its normal, programmed condition. Exposure to very strong magnetic fields can clear the memory of the pacemaker. With more modern pacemakers, it is likely that they will reset to a default condition and pulse continuously until reprogrammed.