White Paper

Requirements for Body Protected Areas in General Practice Medical Centres

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Update as of 21 May 2016
WorkSafe NZ have indicated acceptance of a more relaxed stance on the need for Body Protected Areas in general practice medical centres. This appears to be in response to a discussion with the Royal NZ College of General Practitioners, though we don't have specific details at this time. Worksafe NZ advise that the Electricity Regulations "while setting out the recognition of those Standards does not mandate compliance with them, nor establish them as minimum benchmarks". In keeping with this advice, we have amended this publication to indicate that Body Protected Areas are **recommended rather than required**. Meditest's opinion is that the use of Body Protected Areas is the best way to ensure safety when electrical appliances are used for medical procedures.

Medical procedures involving medical electrical appliances are recommended to be performed in a Body Protected Area. There is often confusion about what this means, so we have produced this document to provide some explanation. Please be aware that some of the information provided here has been simplified for ease of understanding and therefore the relevant standards and regulations should be referred to for specific details.

What is a Body Protected Area?
Any area within a medical facility where patients are treated, diagnosed or monitored using medical electrical appliances is recommended to be classed as a Body Protected Area. There are a number of requirements for such areas including that electrical outlets are protected by a 10mA RCD (a special type of safety switch).

What is an RCD?
An RCD (which stands for *Residual Current Device*) is a special type of safety switch that will quickly disconnect power in the event of a fault occurring that could cause electric shock. An RCD can protect against most but not all electric shocks, so is always used in conjunction with other good practice safety measures. RCDs are available with various trip current ratings. In New Zealand a general purpose RCD has a 30mA trip current, where a medical grade RCD has a 10mA trip current.

What is the legal basis for requiring Body Protected Areas? Are Body Protected Areas compulsory?
The specific requirements for Body Protected Areas are described in a joint Australian/New Zealand standard AS/NZS3003. The Electricity Safety Regulations 2010 cite this standard as a means of ensuring patient safety. Advice from WorkSafe NZ (May 2016) is that the use of the standard is not mandatory. However under the Health and Safety at Work Act, a PCBU (i.e. the manager or owner of the medical centre) needs to ensure a safe environment. AS/NZS3003 provides a recognised tool for doing this.

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What is the practical basis for requiring Body Protected Areas?
It is much the same as for testing of medical electrical appliances. Sick patients are more vulnerable to electric shock, often cannot move away if shock occurs and may have lowered skin resistance due to sweating, wounds or use of electrodes. The objective is to identify situations when electric shock may be occurring and immediately disconnect the power.

What are the key features of a Body Protected Area?
There are several requirements, but the important ones are:

- All socket outlets must be protected by medical grade RCDs. The RCDs must be within the Body Protected Area they service, they can't be in another room or on the switchboard.
- The area must be designated by a green Body Protected Area sign on the wall
- All appliances used within the area (both medical appliances and general appliances) must be tested to the AS/NZS3551 standard
- At least one socket outlet shall be provided for cleaning equipment and shall be marked 'Cleaning Purposes Only'. In some cases this can be outside the Body Protected Area.
- The area must be certified annually to the requirements of AS/NZS3003.

Which locations within a medical centre need to be Body Protected Areas?
Any area where patients are treated, diagnosed or monitored using medical electrical appliances is recommended to be a Body Protected Area. This includes treatment or procedure rooms, and may include consulting rooms where medical electrical appliances are used. Some larger facilities may have other specialised areas that should be Body Protected, such as an X-ray room or a plaster room.

How do I know if our treatment areas are Body Protected Areas?
A Body Protected Area is designated by a special green sign as below.

The sign is of a specified size, must be located in a visible location at a height of 2000mm from the floor to the top of the sign. The area to the top right of the sign gives the test date and signature of the certifying person. The certification is current for 12 months from the test date.

How often must a Body Protected Area be recertified?
A Body Protected Area must be recertified every 12 months. This involves checking that all the switch socket outlets and other electrical fittings and fixtures are in good condition, and that the RCDs trip at the correct current and within the correct timeframe. Part of the check ensures that all required labels markings and indicators are in place.

Our treatment room is not currently a Body Protected Area. What do we need to do?
There are a number of approaches to this, but for most existing buildings it is possible to establish a Body Protected Area to comply with the standard relatively easily. In many cases it is just a case of replacing the standard socket outlets with outlets that incorporate a built-in RCD of the correct type. In a new building the entire Body Protected Area could be protected by one RCD, but for existing buildings this might require substantial rewiring and the cost of using multiple RCDs will be less. There is of course the consideration of ongoing costs as each RCD will need to be individually tested on an

annual a basis. Your electrician can advise you on the best approach for your building. Once the RCDs are installed, a green Body Protected Area sign is placed on the wall and a label is affixed to it to indicate that the area has been tested and is compliant.

Who can install RCDs or undertake other work required for a Body Protected Area?
This work can only be undertaken by a Registered Electrician. Some electricians will be more experienced with the requirements for Body Protected Areas than others.

Who can certify a Body Protected Area?
The inspection and testing requirements for Body Protected Areas have been formulated so as an electrician's licence is not required, however it is essential that the person undertaking the tests has a comprehensive knowledge of the requirements of AS/NZS3003. Usually this means the person who undertakes testing will be a qualified biomedical technician or engineer, or a registered electrician with experience of medical locations.

Under what circumstances can medical electrical appliances be used outside a Body Protected Area?
1. In an emergency where a patient's life or safety is at risk. For example when an ECG is taken after a patient has collapsed.
2. In situations where it is known that treatment will be required outside a Body Protected Area, a portable or built-in RCD may be used. For example a therapeutic ultrasound used for sports medicine. Ideally battery operated equipment should be utilised in such situations wherever possible.
3. Where the use of an appliance has been assessed as low risk. Advice from WorkSafe NZ indicates that they do not necessarily expect all patient areas to be body-protected and that "the obligations for safety also ultimately fall to the PCBU under the HSW Act". They suggest that items such as examination lamps in consulting rooms would fall into this low risk category. Meditest advocates the use of medical grade RCDs with all medical electrical appliances, even if a formal body-protected area is not established.

What is the difference between a Body Protected Area and a Cardiac Protected Area?
A Cardiac Protected Area offers an even higher level of protection but is only required in areas where cardiac procedures are performed. For example a cardiac cath lab or an operating theatre where cardiac surgery is performed. Cardiac Protected Areas will not be found outside these specific locations.

Please note that this document is for guidance only and is not authoritative. Readers should undertake their own risk assessment of any particular installation.

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