Camden Medical Precinct

DRAFT OPERATIONAL WASTE MANAGEMENT PLAN

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Waste Management Plan

SECTION 1 - Introduction

This Waste Management Plan describes the proposed policies and procedures for ***Camden Private Hospital.*** It provides goals & targets to ensure ongoing improvements in all aspects of waste management, including the generation, handling, storage and disposal of all forms of waste. This facility is committed to minimising waste, in accordance with the NSW Government Waste Reduction and Purchasing Policy.

This plan is based on the relevant legislation relating to Environmental Protection, and Occupational Health & Safety. As legislation and policies are constantly revised, this plan should be reviewed annually.

To be effective, this plan must be widely promoted throughout the hospital.

1.1 Aims

- To protect public health and safety.
- To provide a safe work environment
- To minimise the environmental impact of waste generation treatment & disposal.
- Reduce waste handling & disposal volumes/costs without compromising health care.

1.2 Objectives

- To adopt and implement the Waste Management Plan throughout the hospital.
- To monitor performance and review the Waste Management Plan at least annually.
- Adopt a waste minimisation policy, which incorporates realistic purchasing guidelines.
- Develop concise waste segregation principles and promote practical guidelines for re-usable products.
- Foster commitment from all staff and management to actively participate in waste avoidance, reduction, reuse and recycling programs.
- Introduce a continuing waste management education program for all staff to increase awareness of Work Health & Safety issues and waste minimisation principles.
- Adopt policies and procedures to minimise the environmental impact of waste treatment and disposal.

1.3 Evaluation

- Outcome : Nil incidents of breach to public safety, Nil staff incidents relating to waste collection, storage and disposal, Benchmarking data within target range for waste minimisation.
- Impact : Staff awareness for waste management plan, staff compliance with waste management plan.
- Process : Implementation of the waste management plan.

SECTION 2 – Definitions

Hospital Waste can be divided into nine broad categories, clinical, cytotoxic, pharmaceutical, chemical, radioactive, recyclable, organic, liquid and general wastes.

2.1 Clinical waste

Clinical waste is waste which has the potential to cause sharps injury, infection or offence. When packaged and disposed of appropriately, there is virtually no public health significance. Clinical waste contains the following:

- sharps;*
- human tissue (excluding hair, teeth and nails);
- bulk body fluids and blood;**
- visibly blood stained body fluids and visibly blood stained disposable material and equipment;
- laboratory specimens and cultures;

*Sharps: Any object capable of inflicting a penetrating injury, which may or may not be contaminated with blood and/or body substances. This includes needles and any other sharp objects or instruments designed to perform penetrating procedures.
** Bulk: Free flowing liquids normally contained within a disposable vessel or tubing, not capable of being safely drained to the sewer.

2.2 Cytotoxic Waste

Cytotoxic waste means material contaminated with residues or preparations containing materials toxic to cells, principally through action on cell reproduction. This includes any residual cytotoxic drug, and any discarded material associated with the preparation or administration of cytotoxic drugs.

2.3 Pharmaceutical Waste

Consists of pharmaceuticals or other chemical substances specified in the Poisons List under the Poisons and Therapeutic Goods Act 1966. Pharmaceutical substances include expired or discarded pharmaceuticals, filters or other materials contaminated by pharmaceutical products.

2.4 Chemical Waste

Chemical waste is generated from the use of chemicals in medical applications, domestic services, maintenance, laboratories, during sterilisation processes and research. It includes mercury, cyanide, azide, formalin, and glutaraldehyde, which are subject to special disposal requirements. Chemical wastes included in the Dangerous Goods Regulations and Poisons and Therapeutic Goods Act are also included in this stream.

2.5 Radioactive Waste

Radioactive waste is material contaminated with radioactive substances which arises from medical or research use of radionuclides. It is produced, for example, during nuclear medicine, radioimmunoassay and bacteriological procedures, and may be in a solid liquid or gaseous form and includes the body waste of patients under treatment. Reference should be made to the *Radiation Control Act 1990* and the Radiation Control Regulation 1993.

Radioactive waste, once lead shielded and allowed to decay to a safe level as set by the Regulatory authority, is no longer deemed to be radioactive waste. Certain radioactive wastes are classified as hazardous waste in the Waste Regulation.

2.6 Recyclable Products

Items which are composed of materials or components, capable of being remanufactured or reused. Items are considered recyclable if facilities are available to collect and reprocess them.

2.7 Organic Products

This includes wood, garden waste, food and vegetable scraps and natural fibrous material which are biodegradable.

2.8 Liquid Waste

Liquid wastes are defined in the Waste Regulation. These wastes include grease trap waste, used lubricating oil and waste normally discharged to the sewer.

2.9 General Waste

Any waste not included above. Which is not capable of being composted, recycled, reprocessed or re-used. This stream includes incontinence pads, sanitary waste and disposable nappies.

SECTION 3 - Organisational Issues

3.1 Employer's Legal responsibilities

Employers have a number of legal responsibilities, which include:

- Developing and maintaining a safe work environment and safe work practices;
- ensuring hospital activities do not breach environmental standards prescribed in the State and Federal legislation;
- Providing staff training and education for the safe handling of waste.

Refer to the legislation list in Appendix1.

3.2 Employees Responsibilities

Employees also have responsibilities, which include:

- Complying with safety instructions and use of safe work practices for their own protection and for the protection other staff and the public.
- Actively supporting environmental initiatives introduced by the Waste Management Committee.
- Be aware and comply with the requirements for the handling of chemical substances according to Material Safety Data Sheets (MSDS).

Refer to Legislation list in Appendix 1.

3.3 Licensing Requirements (where applicable)

[A license is required under the Waste Minimisation and Management Regulation where a 'YES' answer is recorded for any of the following].

Hospital generates more than 2 tonnes of clinical (Hazardous) waste per year	YES
Hospital stores more than 500kg of clinical (Hazardous) waste at any one time	YES
Hospital transports more than 40 kg clinical (Hazardous) waste	YES
Hospital is licensed as a treatment facility	YES
Hospital requires a license	YES

3.4 Waste Management Committee

A proposed WHS committee performs the functions of the waste management committee.

3.4.1 Terms of Reference

The Committee may co-opt any other relevant personnel to address specific issues. A Nominated Waste Management Coordinator/chairperson will be selected and the Meeting Frequency is likely ***2nd Monthly***

Table 1: Waste Management Committee Members (OH&S Committee)

Position	Name	Contact Number	Responsibility
Secretary			Minute keeping.
			Advise on infection control

Infection Prevention and Control			issues. Liaison with the infection control committee. Liaison with Council. Advise on disposal issues and services external to the hospital. Independent Audits of the hospital.
Risk Manager / Clinical Development Coordinator			Advise on WHS matters. Liaison with WHS Committee. Provide orientation training for new staff, and arrange in-service training for all relevant staff.
All areas			Report on product usage/ wastage & other supply issues. Liaison with unit managers.
Engineer/ Maintenance			Advise on structural and maintenance issues relating to the storage, treatment & disposal of waste. Monitor water and energy usage.
Domestic services			Supervision of Wardsman & cleaning staff. Maintain daily records of waste generation.
Nursing representative			Advise on nursing matters

Table 2: Objectives of the Waste Management Committee

Committee Objectives	Name/Position	*Completion
Seek a commitment from Management to comply with all relevant Legislation (Appendix 2)		
Consult with Management on waste handling & storage issues relating to the design and layout of buildings, renovations & extensions		
Conduct a waste audit and prepare a comprehensive report of current waste generation, segregation, handling, storage and disposal practices and costs		
Develop OH&S strategies for injury prevention, and for reporting, treating and follow up of injuries associated with waste handling		
Provide appropriate Personal Protective equipment and offer staff vaccinations		
Develop spill management strategies for all waste categories		
Implement an ongoing waste management training program which caters for all staff including management.		
Implement a waste avoidance & minimisation program incorporating the Waste Reduction & Purchasing Policy [WRAOO – refer to Table 3]		
Implement a Recycling program and increase recycling by at least 10% in the first year (Table 4)		
Promote waste management principles throughout hospital (signs, posters, notice boards, bulletins, competitions etc)		
Improve waste segregation practices (increase compliance by 10% in the first year (Tables 5, 6 & 7)		
Liaise with council, private waste contractors and Area Health Services with regard to the transport and disposal of waste external to the hospital.		
Conduct a Waste Management audit annually and review the Waste Management Plan		
Conduct ongoing audits of waste (refer Section 4.1). Ensure information is relayed to staff		

3.5 Purchasing Policy

Philosophy

Both the Supply/Purchasing Department and the Leadership and Management Committee are committed to waste avoidance and waste minimisation. Where the use of disposable products is unavoidable, their environmental impact should be assessed. In addition to infection control, occupational health & safety, value for money, and environmental concerns will be taken into consideration when evaluating products. Existing research and evaluation information from other hospitals/Areas will also be considered.

Preference shall be given to products and packaging which are: -

- manufactured from recycled raw materials (provided they are cost/performance competitive) *
- manufactured from renewable resources
- re-usable (particularly non clinical products)
- totally or partially recyclable or with recyclable components, eg toner cartridges, provided however that collection & recycling facilities are available.

* Where recycled products are rejected due to inferior performance, the manufacturer or supplier shall be provided with adequate feedback, and encouraged to improve the quality, performance and reliability of the product.

Where appropriate, tender documents shall require manufacturers, suppliers and distributors to:

- correctly specify the materials used (MSDS), their origin, the recommended method of disposal/re-use/recycling, and the likely impact on the environment.
- avoid the use of materials known to be toxic to the environment including chlorofluorocarbon (CFC) products and/or byproducts, phosphates and heavy metals.
- keep packaging to the minimum necessary for the safe transport and delivery of the product.
- specify whether packaging is recycled, recyclable, re-usable or biodegradable.
- accept return of used packaging.
- clearly specify the energy rating on appropriate appliances and fittings.

Where appropriate and cost effective, re-usable items should be purchased in preference to non re-usable items. Items, which are intended for re-use, should be able to withstand the appropriate cleaning, disinfection or sterilisation process. Products should be supplied with detailed manuals outlining cleaning procedures.

- When comparing re-usable items with non-re-usable items, a life cycle analysis should be conducted and should include (but not be limited to):-product cost
- product lifecycle analysis
- labour
- transport
- cleaning
- energy (gas electricity etc)
- water
- disposal
- maintenance

Table 3: Product Evaluation

.....Date:...../...../20.....

{* Add or delete as appropriate}

Product	In Contract Y/N	Cost Centre/ Department	Quantity/ Year	Cost/ Year	Recycle %	% Capable of using recycled or recyclable components	Recyclable	Disposable	Reusable Alternative Available	
							Market Available? Y/N	Bio-degradable %	Y/N	Cost $*
Photocopy paper						NA			NA	NA
Office communication paper						NA			NA	NA
Office stationary						NA			NA	NA
Computer paper						NA			NA	NA
Photocopiers										
Printers										
Facsimile										
Toner Cartridges						NA			NA	NA

Product	In Contract Y/N	Cost Centre/ Department	Quantity/ Year	Cost/ Year	Recycle %	% Capable of using recycled or recyclable components	Recyclable	Disposable	Reusable Alternative Available	
							Market Available? Y/N	Bio-degradable %	Y/N	Cost $*
Printer Ribbons						NA			NA	NA
*Soil amenders						NA			NA	NA
*Soil mixes						NA			NA	NA
*Mulches						NA			NA	NA
*Concrete used in road & path construction						NA			NA	NA
*Concrete used in Building construction						NA			NA	NA
*Concrete drainage materials						NA			NA	NA
Other										

Product	In Contract Y/N	Cost Centre/ Department	Quantity/ Year	Cost/ Year	Recycle %	% Capable of using recycled or recyclable components	Recyclable	Disposable	Reusable Alternative Available	
							Market Available? Y/N	Bio-degradable %	Y/N	Cost $*

3.6 Education and Training

The Hospital will compile an education package covering the knowledge and application of the core principals for waste management.

The person responsible for coordinating and running training activities is the Clinical Development Coordinator. Orientation courses for new employees and refresher courses are to be run whenever there is a change in process, and / or at least annually.

The Hospital will compile an education plan for this facility that incorporates sessions to:

- Senior management
- Current Employees
- New Employees (orientation)

The following topics are to be covered by all staff:

- Safe work practices
- Staff awareness of policies at orientation
- Legislation & licensing
- Provision and safe use of PPE
- Infection Prevention and Control
  - Vaccination recommendations
  - Standard precautions
  - Additional / transmission based precautions
  - Hand Hygiene procedures
- Waste stream definitions
- Costs and benefits of waste minimisation
- Reduce/reuse/recycle
- First aid / Blood and Body Fluid Injury management
- Spill management
- Manual handling
- Environmental impacts of waste disposal

A publicity campaign has been designed to reinforce the principals of the waste management plan ie:

- posters
- brochures
- notice boards
- with pay slips
- phone “on hold messages”
- newsletters
- waste awareness days
- competitions
- email message

SECTION 4- Waste Management Strategies

4.1 Waste Minimisation

4.1.1 Waste Avoidance

Avoidance initiatives introduced last year:
New Avoidance initiatives proposed this year:

4.1.2 Reuse Strategy

The Hospital does not re-use single use items that have penetrated the skin
Reuse initiatives introduced last year:
New Reuse initiatives proposed this year:

4.1.3 Waste Reduction

Waste reduction initiative introduced last year: Continues use of general bins in maternity for sanitary items to reduce clinical waste.
New Waste Reduction initiatives proposed this year: Staff Education

4.1.4 Recycling

Recycling initiatives introduced last year: Cardboard recycling bins introduced. Newspaper/paper bins and glass bottle recycling bins introduced in July 04
New Recycling initiatives proposed this year: Bottle, can recycling. Increase paper recycling.
The following Table 4 refers to the recycling program.

Table 4: Recycling
Date:...../...../20.....

Product	Quantity Per Year Kg	Collection		Storage Location	Recycler	Removal Frequency	Income (where applicable)
		Where	Frequency				
Office Paper		All areas	Daily	External bins			N/A
Magazines & newsprint		All areas	Daily	External bins			N/A
Packaging &cardboard		All areas	Weekly	External bins		As required	N/A
Telephone directories		All areas	Annual	External bins			
Toner cartridges		Stores	As required	Stores		As required	N/A
Printer ribbons							
Aluminium		All areas	Daily	External bins			
Glass		All areas	Daily	External bins			
PET bottles		All areas	Daily	External bins			
Steel cans		All areas	Daily	External bins			
Lead		N/A					
X Ray film	N/A	Radiology	As Required	Radiology		As required	N/A
Silver (from X Ray)	N/A	Radiology	As required	Radiology		As required	N/A
Batteries							
Others							

4.2 Audits

Auditing is an essential management tool for measuring the level of compliance with the Waste Management Guidelines. Audits can also identify opportunities for water and energy conservation. The audit comprises three components:

			Conducted
1.	Segregation audit	Date	[....01 /..... 10/....15]
2.	Energy audit.	Date	[..... 01/.....09 /....15.]
3.	Water audit.	Date	[.....01./....10../...15.]

4.2.1 Segregation Audit

Both clinical waste and general waste should be inspected to accurately determine the level of segregation. Other categories of waste and recyclable materials can also be audited (except hazardous, cytotoxic and radioactive waste). Audits are conducted by SteriHealth.

4.2.1.1 Requirements

The Audit should be carried out in a well ventilated, well-lit area with smooth, impervious floors. A stainless steel table or suitable platform such as a mortuary table with elevated sides to retain liquids should be used to sort waste. Hand washing facilities should be available.

Staff performing the audit should wear adequate personal protective equipment AND should be adequately vaccinated (including Hepatitis B). A note taker will be required to record and take photographs if necessary. Photographs or video recordings can be valuable in illustrating and highlighting problem areas.

Ensure that the origin of the waste is clearly identified by name (ie theatre, Ward name) or by numbering, colour coding, or bar coding. The date collected should also be clearly marked on the containers.

4.2.1.2 Equipment

- Scales suitable for weighing all waste.
- A supply of suitable containers to receive waste and recyclables once segregated.
- Knife or scalpel for opening bags.
- Long handled tongs or tweezers for removing items of waste.
- Supply of sodium hypochlorite bleach (4%) with mop and bucket.
- Thick rubber gauntlet gloves, mask, apron, face shield and waterproof boots.
- Thick plastic sheeting to line table surface.

4.2.1.3 Procedure

If waste volumes are small, it may be possible to inspect all bags/containers, however where this is not practical, a minimum of 10% of all bags should be selected at random for inspection. If one day's waste is to be inspected, ensure that additional waste from previous days are not included (eg. Monday may include weekends waste) and note whether the day selected is representative.

First record the weight of each bag/container on the audit form (attached). Carefully open the bag and place each item into the appropriate category (Clinical, General or Recyclable - refer to the attached guide to the classification of waste). Re-weigh each category and record the results on the audit form. Total each column and calculate the percentage of Clinical waste, general waste and recyclable material.

Note: If recyclable items are identified in the clinical waste, they should not be removed for recycling if visibly contaminated with blood or body fluids.

Table 5: Waste Classifications for Waste Segregation Audit

Note: - This list is not all inclusive. The table acknowledges the existence of disposable items, but does not endorse their use.

Clinical	Domestic	Recyclable
Bandages & dressings contaminated with blood	Food scraps AND disposable food containers	Glass
Blood stained gloves	Gloves (NOT stained with blood)	Paper
Blood stained disposable surgical hardware	Disposable food utensils	Aluminium (cans, foil etc)
Used needles & syringes	Flowers (if not compostable)	Cardboard
Used drainage & suction containers (full/empty)	Plastic bottles (non-recyclable)	Steel cans
Theatre gowns soiled with blood	Disused office supplies	Milk cartons
Bulk blood & body fluids (not capable of safe disposal to the sewer)	Personal items	PET (polyethylene Tetrachloride) Plastic bottles
Treated Pathology waste (used culture plates/tubes etc)	Un-used medical supplies	HDPE (High Density Poly-Ethylene) Plastic bottles * [2]
Blood stained disposable bed liners	Bed liners (not visibly blood stained)	Cooking oils & fats
Blood stained disposable napkins/ incontinence pads	Disposable napkins (NOT visibly blood stained)	Polypropylene bottles *[5]
	Oxygen masks & tubing (clean)	X-ray film
	Bed pan covers (clean)	
	Sterile wraps	
	Dressing / Treatment trays	
	Paper tissues & hand towel	
	Wrappings	
	Drained IV bags & tubing	

Key: □*□ denotes recycling symbol.

Table 6: Waste Audit Form

GENERAL /CLINICAL WASTE (circle appropriate type) AUDITOR:.....RECORDER:.....Date:...../...../20.....

Waste Origin Eg. Path lab, Maternity	Total Weight (kg)	Clinical		General		Recyclable		Comments (a) Clinical (b) General (c) Recyclable
		Weight	%	Weight	%	Weight	%	
								a)
								b)
								c)
								a)
								b)
								c)
								a)
								b)
								c)
								a)
								b)
								c)
TOTAL								

Table 7: Data Analysis from Waste Audit

Date:……/……/20…..

Waste	Daily Volume (kg)	Estimated Annual Volume (kg)	Average Volume/ Bed Day	Average Volume/ Staff	Cost/kg
Clinical					
General					
Recyclable					

4.2.2 Energy and Water Audit

Energy and Water audits are planned for BWA hospital in 2006. Results will be shared with all Healthe Care hospitals and strategies devised to reduce power usage and minimise water usage.

SECTION 5 - Waste Handling, Containment and Transport

The Hospital will have an adequately trained team responsible for the handling, internal transport, spill management and disposal of clinical and related wastes.

5.1 Review

The Waste Management Committee review of the collection process including manual handling and transportation is due annually.

The review to include the following areas:

- transport via least sensitive routes; (Where possible, however, limited routes to external bins limited)
- collection process and frequency;
- handling;
- placement of mobile garbage bins, bags and containers;
- location of waste storage area;
- contractor collection points.

5.2 Waste Handling

Sharps are handled in accordance with the Infection Control Policy.	YES
Manual handling is in accordance with the National Code of Practice for Manual Handling	YES
Hand washing and hand care is in accordance with the Infection Control Policy	YES
Management of Needle stick Injuries is in accordance Infection Control Policy.	YES

Table 8: Clinical Waste

Brisbane Waters Private Hospital Contract: 97016847 - 48					
Premises Location	**Location Description**	**Product Code**	**Product Description**	**Service Frequency**	**Quantity At Location**
1	All Levels	SUMA	Sanitary Disposal Service (Manual 26L)	4 Weekly	1

Sharps Containers

Generic hospital provides purpose designed sharps containers to ensure a safe system of work. The Committee will determined the size, design and location based on the risks associated with each invasive procedure.

Sharps container/s used : Daniels Sharpsmart
Size/s : S.32, S.22, S.14 – Disposable Sharps 1.5L – Cytotoxic Sharps – 10L and 19L
The containers are placed in a Sharpsmart transporter.
The containers are collected by SteriHealth.
Containers are not overfilled
Containers comply with Australian Standards
Kept out of children's reach (ie minimum 1.4m above floor)
Labeling does not occur, as tracking is not conducted.
Sealed before removal

Table 9: Sharps Containers

Date: 01/02/2015

Department (eg. Theatre)	**Location (eg. Panroom)**	**Collection Frequency/Time**	**Collection by Whom**	**Storage location**
All clinical areas	Treatment rooms	Daily 7.00am	Housekeeping	Clinical Waste

	Dirty utilities Treatment trolleys			Room
Theatres	Anaesthetic trolleys Dirty utilities Treatment trolleys Theatres	Daily or as required	Theatre wardsman	Clinical Waste Room

Table 10: General Waste

Date: 01/02/2015

Department (eg. Theatre)	**Location (eg. Panroom)**	**Daily Collection Frequency/Time**	**Collection by Whom**	**Storage location**
Wards	Corridors Clean utilities Dirty Utilities Patient Room and B'room Visitor/ Staff toilet	2 x 2 x 2 x 1 x 1 x 3 x	Housekeeping	General Waste Bins external to hospital.
General areas	Lounge Reception Visitor/Staff toilet	1 x 1 x 3 x	Housekeeping	General Waste Bins external to hospital.
Catering	Kitchen Pantries Cafeteria	3 x 3 x 2 x	Catering Housekeeping Catering/ Housekeeping	General Waste Bins external to hospital.
Theatres	Staff room Theatres Reception Change rooms	1 x 1 x 1 x	Housekeeping	General Waste Bins external to hospital.
Day Surgery	Reception Treatment rooms Recovery Kitchen	1 x 1 x 1 x 1 x	Housekeeping	General Waste Bins external to hospital.
Consulting Suiite	Corridors	1 x	Housekeeping	General Waste Bins external to hospital.

5.3 Waste Bags

Bags are not overfilled
Bags are held away from the body when being handled
Bags are sealed at the point of generation/collection
The bag are sealed by tying a knot
Waste bags are free of heavy metals (inorganic dyes)

5.4 Waste Trolleys & Mobile Garbage Bins (MGBs)

Are the trolleys used exclusively for waste transport? YES
Are trolleys lidded, leak proof and made of rigid material? NO
Trolleys are not overfilled NO
Do MGBs have lockable lids YES (Only confidential and some clinical waste)
Are the trolleys and MGBs colour coded and labelled in accordance with Appendix 4
NO (General waste bins are not opaque white)

Cleaning frequency:

- The following procedures are followed when cleaning trolleys and MGBs:
- Thoroughly scrub trolleys and MGBs with pH neutral detergent
- Clean or flush completely with bleach
- Trolleys and MGBs should be left to dry
- Cleaned trolleys and bins are to be stored separately from soiled containers
- Wear appropriate personal protective equipment
- Waste water must not be discharged to storm water or other systems designed to carry unpolluted water.

5.5 Tracking

It is proposed that a waste tracking system be employed at the site in order to monitor and improve.

5.6 Holding Areas

Clinical waste is stored in an enclosed structure with lockable door and smooth impervious floor.	YES
Approximate duration of storage: *Maximum 48 hours*	
"First in first out" policy	YES
Water supply available	YES (Fire Hose)
Suitable drainage provided (specify eg. sewer, septic tank)	YES (Sewer)
Permanent natural ventilation provided	YES
Adequate lighting provided	YES
Are spill kits located in the holding area	YES
Where are the spill kits located: Dirty Utilities	
Who holds the keys for the holding area: Housekeeping	
If an enclosed structure is not available, where is the location of holding area	N/A
Holding Area not accessible to the public:	NO
Is the holding area enclosed by a fence or other barrier	YES
Radioactive wastes with short half-lives are stored on the premises until radioactivity is undetected.	N/A
Separate radiation storage room?	N/A
Radioactive storage bin provided	N/A
Is a collection tank provided for liquid waste	YES (2000L)

5.7 Personal Protective Equipment (PPE)

The following protective barriers are available or accessible:

eye shields	YES	specify:	Glasses
gloves	YES	specify:	Latex gloves
gowns	YES	specify:	Theatres & Day Theatres(Linen & disposable)
masks	YES	specify:	Theatres & Day Theatre
aprons	YES	specify:	Disposable (Cleaners trolleys)
footwear	YES	specify:	Gum boots

The PPE worn when handling the following types of waste are:
General: Gloves
Clinical: Gloves
Cytotoxic: Gloves, glasses, gowns
Radioactive : N/A
Sharps: Gloves

5.8 Spill Management

5.8.1 Management of Chemicals and Hazardous Substances

Spill management procedures for Chemicals and Hazardous substances are outlined in the Material Safety Data Sheets. MSDS sheets are located in all areas that store or use chemicals and hazardous substances.
Safe Operating Procedures for Chemicals and Hazardous substances will be available in 2005.

5.8.2 Spill Kits

The person responsible for maintaining the kits is .....*Infection Prevention and Control Coordinator*
Commercially available kits supplied? ..... YES
What is the name of the Company: *Marwell Medical*
Spill kits for clinical waste are maintained in the following areas: *All clinical areas and clinical waste room*
Spill kits for cytotoxic waste are maintained in the following areas:
Spills kits for mercury spills are maintained in the following areas: N/A
A recommended equipment list for spill's kits is located in Appendix 3.
Chemical spill kits are located in Endoscopy and CSSD.

5.8.3 Management of Blood or body substance spills

Spot Cleaning

- Put on disposable gloves
- Wipe up spot immediately with a damp cloth, alcohol, or paper towel may be used.
- Discard contaminated materials in Clinical waste bag.
- Wash hands thoroughly.

Other spills

- Collect appropriate spill kit from designated location
- Wear disposable gloves, eyewear, mask and apron
- Remove the bulk of the blood and body substances with absorbent material
- Use pan and scraper to scoop up absorbent materials and unabsorbed blood or body substances
- Discard Clinical materials in Clinical waste bag for disposal
- Wash hands thoroughly
- Mop the area with a detergent solution
- Wipe the site with disposable towels soaked in a solution of 1% (10,000 ppm) available chlorine.
- Clean and disinfect pan, scraper, mop and bucket
- Re-usable eyewear and apron should be cleaned and disinfected after use
- Replace any used items and return the spill kit to the designated location

If a spill occurs on a carpeted area, mop up as much of the spill as possible using disposable towels then clean with a detergent.

Arrange for the carpet to be shampooed as soon as possible. (Circular 95/13).

5.8.4 Cytotoxic Spills

- Collect cytotoxic spill kit from designated location
- Put out a sign to notify of potential hazard.
- Wear appropriate PPE as outlined in WorkCover guidelines.
- Double glove with latex inner and heavy duty outer gloves
- Lay absorbent towels or mats over the spill
- Scrape up any broken glass and absorbent materials and place in cytotoxic waste bag
- Mop the area with warm water and detergent
- Remove shoe covers, outer gloves, disposable overalls, mask and goggles and place in waste bag/container
- Seal waste bag and place in cytotoxic waste bin or have it collected in the usual manner.
- Replace any used items and return the spill kit to the designated location

5.8.5 Formaldehyde Spills

- Shut off all sources of ignition
- Ventilate area as much as possible
- Collect Clinical waste spills kit from designated area
- Wear goggles or face shield for spills or leaks where concentrations of formaldehyde in air are great enough to cause eye irritation.
- For higher concentrations wear an approved supplied air helmet or self contained breathing apparatus with full face piece.
- If leak or spill is small, dilute with plenty of water and run to waste
- For large spills, absorb in a suitable material (dry sand, earth, vermiculite) and dispose as approved by local Council
- Mop or wipe over spill area with warm water and detergent
- Replace any used items and return the spill kit to the designated location

5.8.6 Glutaraldehyde Spills

- Ventilate area as much as possible
- Collect Glutaraldehyde spill kit from designated area
- Wear goggles or face shield
- Dilute with plenty of water and run to waste
- Mop or wipe over spill area with warm water and detergent
- Replace any used items and return the spill kit to the designated location

5.8.7 Mercury Spills

- Ventilate area of spill
- Collect mercury spills kit from designated area
- Wear impervious disposable gloves
- Pick up droplets using a pasteur pipette, eye dropper or suction bottle
- Store the waste in an unbreakable lidded container, preferably under a solution of sodium thiosulphate (photographic fixer).
- Decontaminate the area by sprinkling sulphur powder over the spill area. The volume of powder used should be at least twice the volume of the spill.
- Mix well by a brush, where possible
- Allow about half an hour for the formation of mercuric sulphide
- Sweep up the sulphur using the dustpan and brush, avoid generating dust
- Dispose of the dust in an impervious sealed container
- Seal and discard all cleaning equipment
- Replace any used items and return the spill kit to the designated location

For spills on carpeted area, follow the first five steps described above. For decontamination, the carpet has to be removed. Once the carpet is removed the decontamination procedures can be followed.

5.9 Transport

Transportation complies with the EPA's *Special conditions applicable to the transportation of trade waste being contaminated wastes generated in hospitals, health institutions and medical laboratories*.
All of Generic Hospital's Transporters and Contractors are outlined in Table 11 .

5.9.1 Community Health

Clinical Waste is not transported in the driver's compartment:		NO
Waste Containers:	Rigid and leak proof	YES
	Secure fitting lids	YES
	Securely mounted in the vehicle	YES
	Cleaned regularly	YES
	Clearly labeled	YES
Vehicles are always locked when unattended		YES
Vehicles carry a suitable spill kit		YES

Table 11: Likely Transporters and Contractors

.....Date:02/02/2008

Waste Type	Name of Contractor and/or Transporter	Address	Contact Phone	Trade Waste License No	Destination
Clinical	SteriHealth			Facility Licence : 3245 Transport Licence : 6156	
General	Cleanaway			006134	Kincumber Tip (Solid Landfill)
Sharps	SteriHealth			Facility Licence : 3245 Transport Licence : 6156	
Cytotoxic (including pharmaceutical)	SteriHealth			Facility Licence : 3245 Transport Licence : 6156	
Grease Trap	Transpacific				
Cardboard	Cleanaway			006134	Earthcare recyclers Somersby ⇐ Amcore to treat and recycle.
Confidential Waste	Shred-X				
Hazardous goods eg chemicals, paints, pesticides.	Redichem Transport Cleanaway Technical Service			006823 006124	Transport by Redichem to CTS for treatment and neutralisation.
Recycling	Earthcare				

SECTION 6 - Waste Treatment and Disposal

Brisbane Waters Private Hospital is responsible for its waste from generation to final disposal ("cradle to grave"). For this reason, documentation is kept on the date of disposal, the amount of waste disposed, where the waste is disposed and the contractors and transporters.

Table 12: Chemicals, Pesticides & Pharmaceuticals

.....Date:...../...../20.....

Chemical, Pesticide Pharmaceutical	Use	MSDS Available Yes/No	Storage Location	Disposal Method (Ie. sewer, landfill, incinerator etc)	Quantity & Frequency	Trade Waste License & Contractor receipt
–						

Table 13: Radioactive Waste (Not applicable to Brisbane Waters)

.....Date:...../...../20.....

Radioactive Material	Half Life	Storage Location	Storage Duration	Disposal Method	
				Where	How and By Whom

6.1 Radioactive Waste Disposal (If applicable)

The safe handling and disposal of radioactive materials is regulated by the relevant Government authority, and the Radiation Control Regulation, 1993.The current guideline being used by ***The Private Hospital*** is the NH&MRC *Code of practice for the disposal of radioactive wastes by the user*.

Is the facility licensed by the Environment Protection Authority YES NO
License Number: *[insert number here]*
Radiation Safety Officer: *[insert name here]*
Are any radioactive gases discharged? YES NO
Who maintains the system? *[insert name here]*
Are detailed records of disposal kept - covering the type of radionuclides, estimated activity, physical nature of material, date disposed and method of disposal YES NO

6.2 Disposal of Clinical Waste in Isolated Rural Areas (Not Applicable in Sydney)

Is the landfill licensed by the EPA to receive clinical waste	N/A
Is the waste covered immediately	N/A
Does the public have access to this part of the waste facility	N/A
Is the hospital given any written acknowledgment of receipt	N/A
Does the hospital keep records of amount and date of disposal	N/A
Do hospital staff supervise the disposal	N/A

6.3 Disposal of Products of Conception and Non-viable Foetuses

How are products of conception disposed:
Are parents permitted to take these products home NO
If yes, how are these products disinfected: *N/A*
How are these products packaged: *N/A*
Does the cemetery provide memorial services burial of these products: YES (Organised by parent/guardian)
Do any Funeral Directors participate in the provision of a memorial service YES (Organised by parent/ guardian)
If yes, which ones ; Local, depending on parent/guardian choice.

6.4 Radiography Wastewater

A silver recovery unit is installed:	YES
If YES the Silver recovery unit is serviced by:	TBA
If NO used fixer and developer is removed by:	N/A
Waste is managed in accordance with the PURE Code of Practice (Appendix 1)	YES
Trade waste agreement with sewage authority	TBA

Table 14: Treatment and Disposal

…… Date: …./ ……/ …

Waste Type	Treatment		Disposal		Trade Waste Agreement/License No.
	Method	Contractor	Method	Contractor	
General Waste	Nil		Solid Land Fill		
Clinical Waste /Sharps /Cytotxic	Incineration with reduction in volume by 90%.		Remnant sterile ash is disposed at an EPA approved landfill. Gases are treated by an Air Quality Control System and released to the atmosphere.		
Pathology Waste	Incineration with reduction in volume by 90%		As above		
Confidential waste paper and	Shredded and recycled by Shred-X		Shredded and recycled		
Liquid Trade Waste	Dewatering & Tallow Extraction		Sewer		
Cardboard	Cleanaway		Shredded and recycled		

Table 15: Waste Management - Annual Report

.....Date:...../...../20.....

Waste	Quantity/Annum (litres or kgs)	Handling Costs (Container cleaning, replacement etc)	Transport Costs	Treatment Costs	Disposal Costs	Total Cost
General Waste						
Clinical Waste						
Sharps						
Radioactive						
Cytotoxic						
Chemical Waste						

Any problems experienced?

SECTION 7: Occupational Health and Safety

The Hospital's copy of the Occupational Health and Safety Act & Regulations is available at: *Executive Office and All departments*
An Accident/Incident Register is kept in Risk Manager office, and is maintained by *the Risk Manager.*

All waste handling injuries and incidents are investigated by Department Manager, Risk Manager and WHS committee where applicable immediately they are reported. Preventive action will be initiated as soon as practical and a report submitted to the Occupational Health and Safety Committee.

Waste handlers are represented on the Work Health and Safety Committee by ICC

All staff who handle waste and recyclable materials:

- Receive accredited training in basic infection control, personal hygiene, safe handling techniques, correct use of Personal Protective Equipment, spill management procedures and the requirements of theWork Health and Safety Act.
- Are issued with appropriate Person Protective Equipment and compelled to wear it while handling waste.
- Are issued with a comprehensive statement of duties and standard operating procedures manual.
- Have access to equipment and facilities which minimise manual handling and promote personal hygiene.
- Have access to and are familiar with Material Safety Data Sheets (MSDS) for all chemicals used.
- Are aware of the requirements of the Infection Control Policy
- Are offered Hepatitis B vaccination.

Collignon, PJ, Graham, E & Dreimanis, DE, 'Re-use in sterile sites of single-use medical devices: how common is this in Australia', *Medical Journal of Australia*, vol. 164, May, pp. 533-536.

Environment Protection Authority, 1990, Waste Audit Guidelines, Publication no. 277.

Environment Protection Authority, Healthier, Cleaner and Greener: Environmental Auditing Manual.

Environment Protection Authority, Waste Reduction and Purchasing Plan

NHMRC, 1996, Infection Control in the Health Care Setting, Canberra

NHMRC, 1988, National Guidelines for the Management of Clinical and Related Wastes, Canberra.

NHMRC, 1985, Code of Practice for the Disposal of Radioactive Wastes by the User, Canberra.

Northern Sydney Area Health Service, 1995, Procedures for a Memorial Burial for a Non-viable Foetus, North Sydney.

NSW Health Department, 1995, Infection Control Policy, Circular No. 95/13, Sydney.

NSW Health Department, 1992, Guidelines for the Handling, Storage and Disposal of Clinical and Related Wastes, Sydney.

NSW Health Department, 1998, Waste Management Guidelines for Health Care Facilities. 98/89.

NSW Occupational Health and Safety Act 1983, and its Regulations.

Sedgwick, Waste Management Numerical Profile

SHPA, 1990, 'SHPA policy guidelines for the safe handling of cytotoxic drugs in pharmacy departments', *Australian Journal of Hospital Pharmacy*, vol. 20, No. 5, pp. 391 - 394.

St John of God Hospital, 1994, Oncology Manual, Goulburn.

WorkCover Authority, 1995, Guidelines for Handling Cytotoxic Drugs and Related Waste in Health Care Establishments, 2nd edn, Sydney.

WorkCover Authority, Health & Safety Notes: Glutaraldehyde Safe Use, Sydney.

Appendix 1: Legislation

Health care establishments need to observe all public and occupational requirements. Compliance with standards set for the ambient environment as well as for effluent and emission limits, (NHMRC; 1995).

The following list of legislation may be applicable to most Hospitals.
Protection of the Environment Operations Act 1997
Dangerous Goods Act 1975
Dental Technicians Registration Act 1975 & Regulations
Environmentally Hazardous Chemicals Act 1985
Environmental Offences and Penalties Act 1989.
Local Government Act 1993 & Regulations
Medical Practices Act 1992 & Regulations
Nurses Act 1991 & Regulations
NSW Occupational Health and Safety Act 1983, Regulations and Associated Legislation
Public Health Act 1991
Radiation Control Act 1990
Water Board Act 1987
Waste Minimisation and Management Act 1995

Guidelines:-

- NHMRC, 1995 (draft), National Guidelines for the management of Clinical and related wastes.
- Sedgwick, 1995, Minimum Standards and Guidelines for Waste Management, NSW Health Department
- EPA, 1991, Special conditions applicable to the Transportation of Trade Waste being Contaminated Wastes generated in Hospitals, Health Institutions and Medical Laboratories.
- EPA, 1991, Special Conditions Applicable to the Storage of Trade Wastes being Contaminated Wastes Generated in Hospitals, Health Institutions and Medical Laboratories.
- NHMRC, 1985, Code of Practice for the Disposal of Radioactive Wastes by the User, Australian Government Publishing Service, Canberra.
- NHMRC, 1996, Infection Control In the Health Care Setting, Australian Government Publishing Service, Canberra.
- Photographic Uniform Regulations for the Environment (PURE), 1997, Code of Practice for Liquid Waste Management & Disposal (Photographic, Graphic Art and X-Rays).

Australian Standards:-

- AS/NZS 3816:1998. Management of clinical and related wastes.
- AS/NZS 4261 - 1994. Reusable sharps containers for collection of sharp items used in human and animal medical applications.
- AS 4031 - 1992. Non-reusable containers for the collection of sharp medical items used in health care areas.
- AS 1251-1 1982. Polyethylene (polythene) Garbage Bags - Low Density. Withdrawn

NSW Health Department Circulars:-

- 95/49 30 June 1995 Guidelines and Competencies for the handling of cytotoxic drugs and related waste in NSW Health Care Establishments.
- 95/49 30 June 1995 Guidelines for handling cytotoxic drugs and related waste in health care establishments. 95/13 30 June 1995 NSW Health Infection Control Policy 88/192 21 September 1988. Guide to Incineration. Contaminated Waste Incinerator Specification Guidelines.
- 98/11 2 Febuary 1998. Management if health care workers potentially exposed to HIV, hepatitis B and hepatitis C.

Appendix 2: Needle Stick and Blood or Body Fluid Exposure

This is an example of a needle stick policy. If you have your own policy, please insert it here]

Staff Instructions - Needle stick injury and Blood or Body fluid exposure
Immediate Action
a) Penetrating injury/needle stick injury

- Induce bleeding by gently squeezing
- Wash promptly and thoroughly with soap and water

b) Mucosal Splash

- Rinse copiously with water
- If eyes are Clinical rinse while open with tap water or saline
- If blood gets in the mouth, spit out and rinse with water and spit out again. Repeat several times.

Report incident to Supervisor or out of hours Nursing Supervisor. Please complete incident form and WorkCover notification form. Return form to your Supervisor immediately. (WorkCover notification form has to be posted to WorkCover within 7 days)

Report to Accident/Emergency
It is important to report to Accident/Emergency in the first instance so that the RMO can make an assessment of exposure. This then determines whether you need to be prescribed the drug AZT Zidovudine.

For initial and/or subsequent blood screening you have the option of attending

- Accident/Emergency Department
- A Sexual Health Clinic
- General Practitioner.

When you are assessed by the RMO on duty, he/she will carry out the following:

- First Aid treatment if required
- Assess the significance of blood/body fluid exposure
- Assess your Hepatitis B vaccination status
- Counsel you regarding a number of issues concerning Hepatitis B/C, HIV
- Obtain your consent for blood tests
- Extract blood for, Hepatitis B antibodies (titre levels), Hepatitis C antibodies, HIV.

Hepatitis B vaccination/immunoglobulin
If you have not been vaccinated against Hepatitis B, the RMO will give an injection of Hepatitis B vaccine, and possibly Hepatitis B immunoglobulin. The Staff Immuniser should carry out Hepatitis B follow up vaccination. Results should be collected from Accident/Emergency within 24 hours. If your Hep B results show insufficient antibodies, Hep B immunoglobulin must be administered within 72 hours. If sufficient antibodies are present a Hep B vaccination booster will only be required. A Tetanus injection will be required if not received within the last 5-10 years.

HIV/Hep C results must be collected (in person) from the RMO within 7 days. Results must not be given over the phone.

Follow-up blood tests (after 1st initial blood test)
You will need further blood tests for

- Hepatitis B 3 months after injury (titre levels)
- Hepatitis C 3 months after injury, then 6 months
- HIV 3 months after injury, then 6 months

Counselling Services Available
Brisbane Waters Private Hospital, contact the Infection Control Coordinator OR Needle Stick Hotline

Appendix 3: Spill's Kits

[Some of these kits are commercially available or can be made up by your hospital]

Clinical Waste Spill kit could contain:

- broom
- mop and mop bucket
- a large (10 litre) reusable plastic container or bucket with fitted lid, containing;
- 2 plastic general waste garbage bags for the disposal of any general waste;
- 2 Clinical waste bags for the disposal of Clinical waste;
- a pan and scraper;
- 5 granular disinfectant sachets containing 10,000 ppm available chlorine or equivalent;
- disposable rubber gloves suitable for cleaning
- detergent
- disposable cloths and sponges
- disposable overalls
- heavy duty gloves suitable for handling Clinical waste
- eye protection
- a plastic apron
- a mask (for protection against inhalation of powder from disinfectants, or aerosols generated from the spills).
- incident report form
- waste spill sign

The Cytotoxic spill kit consists of:

- mop and mop bucket
- a large (10 litre) reusable plastic container or bucket with fitted lid, containing;
- 2 cytotoxic waste bags for the disposal of cytotoxic waste
- 2 pairs of disposable hooded overalls
- shoe covers
- long heavy duty gloves
- latex gloves
- a mask (for protection against inhalation of powder from disinfectants, or aerosols generated from the spills).
- splash goggles
- absorbent toweling / absorbent spill mat
- incident report reform
- waste spill sign
- 5 granular disinfectant sachets containing 10,000 ppm available chlorine or equivalent;
- a pan and scraper.

The Mercury spill's kit consists of:

- 2 unbreakable lidded containers
- spill sign
- pasteur pipette
- eye dropper
- sodium thiosulphate
- mask (for protection against inhalation of powder or aerosols generated from the spill)
- dust pan and brush
- sulphur powder
- incident form

Appendix 4: Colour Coding

Prescribed Colour and Symbols for waste bags and containers

Type of waste	*Colour of bags / Containers*	*Colour of Letters*	*Symbols*
Clinical	Yellow	Black	
Cytotoxic	Lilac	Violet	
Radioactive	Scarlet	Black	
General Waste	opaque white	no colour	no symbol

Recommended Government Colour Coding for Recycling

NSW Government Colour Coded Recycling System for Workplaces & Public Places	
Aluminium Cans	Yellow
Brown Glass	Brown
White Glass	White
Green Glass	Light Green
Mixed Glass	Red
Compostables	Maroon
Good Quality Paper	Blue
Newspapers, magazines	Green
Plastics (PETE)	Orange