

12. Laboratory Services

A. Prescription safety glasses

Safety glasses are supplied to all people entering the biological specimen preparation (BSP) laboratory. The safety glasses available on the market range in price and quality. The selection criteria for safety glasses include:

- compliance with Australian Standard 1337 Eye Protectors for Industrial Applications
- functional fit for any workers in the laboratory who have a smaller face frame
- resistance to fogging up during use of heated water
- comfort.

Workers reported vision difficulties when using safety glasses in addition to prescription glasses. Workers were observed to remove the safety glasses when completing fine detail work, such as using sharps, labelling specimens, or cutting and skinning.

To avoid injury and improve safety, Queensland Museum trialled supplying prescription safety glasses for 6 months from July to December 2024. The trial was restricted to workers at a single site who perform tasks with a mandatory requirement to wear safety glasses. At the conclusion of the trial, the following factors were analysed:

- cost of supply of prescription vs non-prescription safety glasses
- improved compliance with the requirement to wear protective glasses
- feedback from workers regarding the comfort

Twenty (20) pairs of safety glasses were consumed in three (3) months of normal BSP laboratory operation at a cost of \$432. The cost to supply prescription safety glasses totalled \$600. The prescription safety glasses were issued individually and kept with workers' personal effects.

Workers reported great satisfaction at being able to select the frames of their safety glasses to suit their face and have the lenses meet their vision requirements. The use of the prescription safety glasses avoided workers needing to wear their normal prescription glasses underneath large and uncomfortable safety glasses. In addition to improved worker satisfaction the following benefits were noted:

- Workers who wear prescription safety glasses were observed to wear them continuously while in the BSP laboratory. There were no instances where workers were observed in the operational area without their prescription eye protection.
- Significantly fewer pairs of safety glasses were consumed during the trial period than the previous 6-month period.
- While previously the laboratory supply of safety glasses often depleted faster than anticipated, workers now spent less time locating unopened boxes of safety glasses, resulting in reduced frustration.

At the conclusion of the trial, the use of prescription safety glasses was extended to all sites.

B. Supply of laboratory coats and linen

Workers are provided with laboratory coats to prevent hazardous material (e.g. chemicals or biological matter) from being transferred to clothing, which can result in this material leaving the laboratory. Laboratory coats are put on before entry to operational areas and worn during all laboratory activities. Laboratory coats are removed when exiting the operational area.

There are two main types of laboratory coat: those that fasten at the back; and those that fasten in front with domes or buttons. Back-fastening laboratory coats minimise the incidence of biological matter being deposited on clothing, but feedback from workers who have used the back-fastening coats was that they experienced discomfort at the neck and wrists from the tight-closing collar and cuffs. Front-fastening coats can gape at the domes or buttons, increasing the transfer risk for hazardous material, but the issue of gaping was resolved by supplying robust aprons to wear over the front-fastening coat.

Coats need to be available in a variety of sizes to accommodate the different sizes of workers, and their comfort and preference. Workers should be supplied with sample sizes and asked to select the size that would best fit and be most comfortable. Sufficient coats must be available for each worker during everyday use. Three coats are required per person: one for current use, one as back-up in the cupboard, and one that is being laundered.

To minimise the cost of absorbent material, a BSP laboratory can use cotton or linen towels in operational areas. Large cotton towels and small linen towels can dry surfaces and absorb spills, as well as provide a stable base underneath cutting boards and as a landing point for knives and sharps.

C. Laundering

Coats and towels become contaminated with biological matter and must be laundered by a sterilising laundry process, which is available only through professional laundering services. These services launder at temperatures and with chemicals sufficient to sterilise coats laboratory coats and towels used by BSP workers.

Professional laundering services also provide a linen hire service, allowing clients to specify the quantity and type of coats and linen required per week. These services collect dirty linen when clean linen is supplied.

The dirty linen can be heavily contaminated and drip biological matter through the cotton laundry bag. If laundry is heavily contaminated, it will need to be held within an impervious bag that will prevent drips and spills. The professional laundering service can supply plastic bags that are used inside the cotton laundry bags. The plastic bags dissolve when exposed to the heat and chemicals used to clean and sterilise.

Dirty linen is collected in laundry bags and moved from the laboratories to a secure bin at the loading dock, where it is collected by the laundering service. Workers use a trolley to move the dirty linen to the holding point to avoid manual handling strain.

A 600-litre bin is sufficient to hold dirty linen from multiple laboratories. When the spring-loaded base is fitted to the bottom of the bin it lifts the heavy laundry bags to the top of the bin and workers avoid having to reach to the bottom of the bin to retrieve the last bag.

Clean linen is delivered to the loading dock within clean laundry bags and laboratory coats on hangers. To avoid contamination, a separate clothes rack should be used to receive clean linen.

D. Clinical Waste Collection

The BSP laboratory generates general waste and clinical waste. Clinical waste includes biological matter and consumables that are contaminated with potentially infectious biological matter. These consumables include disposable gloves, sharps containers and equipment that cannot be decontaminated.

Professional clinical waste collection services collect clinical waste from site and transport it to a facility for incineration.