AFOEM Annual Training Meeting 2026
Worksite Visit Program

MELBOURNE ZOO

Visit Scenario

Site	Melbourne Zoo – Royal Park, Parkville
Section focus	Zoo Veterinary Hospital; Australian Natives – Macropod Section
Required PPE	Enclosed shoes; photo ID

Background

Melbourne Zoo (Zoos Victoria) is Australia's oldest zoo, established in 1862, housing over 320 species across 28 hectares in Royal Park, Parkville. The workforce of approximately 500 includes zookeepers, veterinarians, veterinary nurses, pathology technicians, maintenance workers, and education staff.

The Zoo Veterinary Hospital provides full clinical, surgical, anaesthetic, and radiographic services for all species on site. Animals from the macropod yard are regularly transferred to the hospital for procedures, treatment, and joey care. Veterinary nurses work across both the hospital environment and, when required, assist with field procedures in enclosures.

The macropod yard houses approximately 40 eastern grey kangaroos and wallabies. The section has an intensive annual birthing season during which joey births, pouch inspections, and enclosure cleaning of birth materials are routine keeper tasks.

Clinical Scenario

THE PATIENT	
Name	Sarah Mitchell
Age / Sex	31 years / Female
Occupation	Veterinary Nurse – Zoo Veterinary Hospital
Duration in role	4 years at Melbourne Zoo; 7 years as a veterinary nurse in total
Referred by	Zoo Workplace Health and Safety Manager

Sarah is a 31-year-old veterinary nurse who has worked in the Zoo Veterinary Hospital for four years. Her duties include nursing care and monitoring of hospitalised animals, anaesthesia support, wound management, and assisting veterinarians with procedures. During the macropod birthing season she assists with joey admissions to the hospital, participates in joey pouch procedures performed in the hospital setting, and has on several occasions assisted vets working in the macropod enclosure itself.

Five weeks ago, she developed a 10-day illness with high fevers, severe headache, myalgia, dry cough, and marked fatigue. She saw her GP, who diagnosed 'a viral illness' and prescribed rest. She did not receive antibiotics. She has since returned to work but reports persistent fatigue and difficulty concentrating, and feels 'not quite right.'

The WHS Manager has made contact with you because, in the same period, three other zoo workers have reported similar illnesses. The macropod mob had an intensive birthing season approximately seven to nine weeks ago. Sarah reports that PPE use during joey procedures in the hospital 'varies depending on who is rostering the session.'

Investigations

Results are provided without interpretation.

Sarah Mitchell – serology and investigations:

Investigation	Result	Reference Range
Q fever Phase 2 IgM (ELISA)	Positive	Negative
Q fever Phase 2 IgG (CFT)	1:128	<1:8
Q fever Phase 1 IgG (IFA)	Negative	Negative
ALT	118 U/L	<45 U/L
CXR	Patchy right lower zone opacity	Normal
FBC – WCC	10.8 × 10^9/L	3.5–11.0 × 10^9/L

Cluster summary – additional cases reported to the WHS Manager:

Only Sarah has been formally assessed to date.

Worker	Role	Symptom onset	Primary duties during birthing season
Case 1 (index)	Veterinary nurse – Zoo Hospital	Week 1	Admitted kangaroos from macropod yard; assisted with joey procedures in hospital setting
Case 2	Senior zookeeper – Macropod yard	Week 2	Daily enclosure cleaning; joey pouch inspections; birth material removal
Case 3	Zookeeper – Macropod yard	Week 3	Enclosure cleaning; assisted with difficult joey births
Case 4 (possible)	Maintenance worker	Week 4 – mild symptoms, not yet assessed	Enclosure infrastructure repairs during birthing season

Discussion Questions

Q1 You are about to visit the Zoo Veterinary Hospital and the macropod yard. Based on what you know about this workplace – what are the occupational health hazards, who is at risk, and by what exposure routes? Consider the full range of staff roles you will encounter.

Notes:

Q2 Interpret Sarah's investigation results. What is the diagnosis, and what does the serology pattern tell you about the stage of her illness? What is the significance of the fact that her GP did not make this diagnosis initially?

Notes:

Q3 You are presented with a cluster of four workers across two different roles – a veterinary nurse and three employees from the macropod yard. How do you approach this as a cluster investigation? In your answer, consider whether the exposure pathway is the same for both groups, and what that means for your investigation and your public health obligations.

Notes:

Q4 Outline a Q fever prevention program for Melbourne Zoo. Apply the hierarchy of controls, and describe the pre-vaccination screening protocol. In your answer, distinguish between what you would recommend for the veterinary hospital staff and what you would recommend for the macropod keepers – are the interventions the same?

Notes:

Q5 The zoo's veterinary hospital uses isoflurane via open mask for bird and reptile anaesthesia, and conducts animal radiography with staff-assisted restraint. Sarah is one of the nurses involved in both. What are the occupational health implications, and what would you recommend?

Notes:

Q6 Sarah asks when she can return to full duties, including assisting with joey procedures and working in the macropod enclosure. What guides your fitness-for-work assessment, and what is your plan?

Notes:

Prepare Before the Visit

- Q fever Phase 1 / Phase 2 serology – what each phase indicates and the significance of a rising Phase 1 titre
- Q-VAX pre-vaccination screening protocol – when vaccination cannot be given, and what happens if you vaccinate a sensitised individual
- Exposure pathways to C. burnetii in a veterinary hospital setting versus an outdoor animal husbandry setting – are they the same?
- How to approach a cluster investigation involving workers from different roles and different exposure environments
- Notification obligations for Q fever in Victoria – who notifies, to whom, and by when
- Occupational health risks of volatile anaesthetic gas exposure, particularly with open-mask techniques
- Radiation safety obligations for staff assisting with veterinary radiography
- Post-Q fever fatigue syndrome – how to counsel a worker and plan return to work