Specimen Collection Procedure

1. Guiding Principles

Pathology is a critical part of the diagnostic and forensic process. Pathology and forensic specimens provide essential information that assists patient management including determining appropriate treatment, which influences clinical outcomes of patients.[3]

Positive and unambiguous identification of patient specimens is integral to the accuracy and reliability of pathology and forensic analysis.[3]

Unlabelled, mismatched or mislabelled specimens are the main source of pre-analytical errors in the laboratory and these errors can result in:[3]

- Adverse patient outcomes including misdiagnosis and delayed, omitted or incorrect treatment
- Poor patient experience for patients who require a second sample to be recollected or the loss of irreplaceable specimens
- Delays in forensic investigations and reports to families and coronial authorities.

This procedure is to be used in conjunction with:

- PathWest Manuals including:
  - Specimen Collection Procedures
  - Pre and Post Analytical Procedures Manuals
  - PCH/KEMH Pre analytical Manuals (includes Perth Children's Hospital (PCH) and King Edward Memorial Hospital (KEMH) Specimen Collection Procedures)
- Silver book STI/BBV management guidelines:
  - Patient presentation and specimen collection

In the event of alleged/suspected sexual assault, refer to the WACHS Responding to Sexual Assault Policy and use the MR3 WACHS SARC Emergency Care: History and Checklist form

2. Procedure

Specimen collection may be invasive. The risks and benefits to the patient must be considered prior to a specimen being ordered. When collecting specimens, healthcare workers (HCWs) should work within their scope of practice.[4]

If a HCW is uncertain regarding collection procedures; further instructions on collection and procedures for specific specimens (e.g. Saliva, Blood, Urine, Swabs, Aspirate, Blood Transfusions) may be obtained from PathWest Specimen Collection Procedures Manual

2.1 Pre-collection key points

- Ensure the patient has received information relating to the intended procedure, and has given appropriate consent (refer to OD0657/16 WA Health Consent to Treatment Policy)
- Offer the presence of a chaperone where appropriate to patient and clinician requirements (refer to WACHS Chaperone Policy)
- Provide the opportunity for an interpreter and/ or Aboriginal Liaison Officer where appropriate to the patient's language or communication requirements (MP0051/17 WA Health System Language Services Policy)
- Collect specimen prior to commencement of antibiotics. If this is not possible, document this on pathology request form
- Infection prevention and control policies must be followed to minimise risk of harm to both patients and staff. A risk assessment should be undertaken, prior to specimen collection, to ensure appropriate personal protective equipment (PPE) is worn during the procedure.[4]

  Refer to:
  - WACHS Infection Prevention and Control Policy
  - WACHS Aseptic Technique Policy
  - WACHS Personal Protective Equipment (PPE) Procedure.

2.2 Patient identification

Specimen collection should NOT proceed if the healthcare practitioner is not satisfied as to correct identity of the patient.[4]

The patient's identity must be confirmed prior to the specimen request form being completed, the specimen being collected, and the specimen container label being completed.

Before a specimen is collected and the specimen container/s is/are labelled, the collector of the specimen must verify the identity of the patient by:

- Asking the patient (if conscious and able) to state their full name and their date of birth. Where necessary, the family or carer may provide this information
- Checking the three (3) core patient identifiers (name, date of birth, unique medical record number – UMRN) against the specimen request form and the patient's identification band
- In areas where an identification band is not worn (e.g. outpatients, community, residential care) or the patient's identity cannot be reliably confirmed refer to WACHS Patient Identification Policy.

2.3 Request forms

A written request form must accompany all specimens and the HCW must detail the specific tests required, provide relevant history/reason for the test, sign the request form or order via Computerised Pathology Order Entry (CPOE) system (where applicable) and provide a current and valid provider number.

The HCW must confirm the patient's identity prior to completing the request form. If further tests are required from the same specimen, a new request form must be completed and forwarded to Pathology.

If the specimen is urgent, please state “URGENT” clearly on the request form. It is also recommended to phone the laboratory.

The HCW must confirm the patient’s identity prior to completing all required sections of the request form. Ensure that the clinical diagnosis / reason for test is documented.

2.4 Collection of specimens

2.4.1 Collection procedures

Refer to the WACHS Specimen Collection Table for individual collection procedures.

2.4.2 Container labelling

- Before labelling the specimen container/s the collector must confirm the patient’s identify (refer to Section 2.2) and check against both the patient identification band and the specimen request form
- The minimum patient identifiers and collector’s signature are to be included on the specimen container label. Both the request form and sample container are identically named and verified against the patient’s identification band. The site the specimen was taken from must also be noted on the label
- Labels may be hand written or a patient identification label used only if the minimum patient identifiers are included. Hand written labels must be legible and written in indelible ink
- The exact date and time of collection of the specimen must be recorded on the request form and the sample container label
- The collector’s declaration box on the specimen request form and the specimen container must be signed or initialled by the collector, this confirms verification of the patient’s identification and that the correct specimen is with the correct specimen request form.

2.4.3 Packaging and transport

- **Collection** – in an appropriate leak-proof container (care should be taken not to contaminate the outside of the container or the request form)
- **Transported** – in a sealed, leak-proof biological hazard bag. For offsite laboratories the use of a sealed secure robust transport container is needed. Additional requirements may be necessary e.g. chilled specimens in an insulated transport container – refer to PathWest’s Test Directory. If any concerns regarding transport and packaging contact the laboratory
- **Documentation** – completed request form is put in the separate compartment
- **Timing** – prompt transportation to the laboratory or stored in a designated specimen fridge until transport is arranged, unless otherwise directed
- **Refrigeration** – some specimens should not be refrigerated as it adversely affects the recovery of potential pathogens from these sources - refer to PathWest’s Test Directory for additional specimen collection information

- **Pneumatic Tubes** – use of:
  - when sending glass blood culture bottles via the pneumatic tube, an appropriate plastic bottle holder/container **must** be used;
  - the following microbiological specimens **must not be sent** via the pneumatic tube:
    - CSF
    - Histopathology specimens
    - anything that is leaking
- **Transport delays** - some specimens will require additional processing onsite if there is a delay in transporting to a laboratory refer to PathWest's Test Directory for additional specimen collection information.

2.5 Unlabelled, mislabelled or damaged specimens

In situations where, due to the nature or site of the sample, repeat specimen collection cannot be readily undertaken, i.e. tissue biopsy or any other sample collected by invasive procedure/s, the PathWest Senior Medical Scientist (or equivalent), in discussion with the patient's treating consultant will determine if the specimen will be processed.

Unlabelled/mislabelled **transfusion medicine** specimens will not be processed under any circumstances.

Specimen requests that do not conform to the correct labelling requirements or are leaking, cracked, soiled or broken will **not** be processed

For further information on minimum requirements for clinical samples and request forms refer to PathWest Manuals

2.6 Special situations

2.6.1 Neonates

Samples collected from neonates, before patient identification labels have been created, should be labelled with mother's identification, and then "Baby of" hand-written clearly on the label, along with the date and time of collection.

If the sample is not urgent the preferable process is to delay sending the sample until the baby's patient identification labels have been printed and placed over the top of the mother's label after the mother's label is double-checked and confirmed.

Where **blood group** testing is requested, the collector must also **sign/initial and date and time** both the **label on the sample** and the declaration on the request form.

Where blood gas testing is performed on cord or fetal scalp samples, use the maternal ID on the blood gas analyser (see KEMH Cord blood collection / analysis at birth Clinical Practice Guideline).

Cord blood specimens must be labelled at the bedside before they leave the birth room and double checked when the correct baby label is applied.

2.6.2 Patients under transmission based precautions[4]

- Collect all equipment required for specimen collection prior to entering the patient's room, including a pen and sufficient patient addressograph stickers to label all specimens
- Wear the PPE specified on the transmission-based precautions card as per local infection prevention and control processes. Perform a risk assessment to determine any additional PPE that may be required to prevent exposure to blood or body fluids, while collecting the specimen/s.
- Leave the biohazard bag opened outside the patient room. Specimen/s may then be placed directly inside the biohazard bag, without contaminating the outside surface.
- Adhere to the 5 moments of hand hygiene and changing of gloves and other PPE between different care activities for the same patient, to prevent cross contamination

2.6.3 Patients in operating theatres

- Specimen handling shall be assessed and planned prior to the commencement of the scheduled procedure/list
- Correct patient and specimen identification shall be confirmed to minimise the risk of an adverse outcome for the patient. The specimen details and correctness are checked by the circulating and scrub nurse before specimen is placed in the specimen container and placed in a "biohazard" bag for collection with the completed request form
- The perioperative nurse has a responsibility to ensure that correct collection and handling methods are implemented for the protection of the specimen. This includes that the required segment of the body tissue or fluid is collected and deposited in the correct specimen container with the relevant transport medium
- The container and pathology request form must be correctly labelled with the patient's name, unit number, date/time of collection and description of specimen. All documentation must be completed legibly and correctly
- Documentation methods to be in place to ensure specimen accuracy and accountability
- Transfer and transport methods to be in place to ensure the integrity of the specimen/s
- Details should be entered on Theatre Management System (TMS) where available.

2.7 Documentation

All specimens taken by WACHS staff must be documented in the patient's healthcare record, detailing date, time and type of specimen taken. The results of **all** specimens; and confirmation that the patient has been advised of the results and appropriate action has been taken must be documented.

2.8 Results and reporting

It is the responsibility of the requesting HCW to follow up the results of all specimens taken, inform the patient of these results, take appropriate action on results obtained and document in the patient's healthcare record. If this is not possible during the HCW's rostered working hours it should be included as part of clinical handover (refer to MP0095 Clinical Handover Policy).

3. Definitions

CRE	Carbapenem-resistant Enterobacteriaceae. Enterobacteriaceae are a family of bacteria (germs) that commonly live in a person's bowel without causing illness. Carbapenems are powerful antibiotics used to treat serious infections. Some Enterobacteriaceae have become resistant to these antibiotics which means they are no longer effective in fighting any infections that may develop.
Culture	Placing specimen in an environment optimal for organism growth, usually for 48-72 hours, after which it is then re-examines for further growth[4]
Microscopy	Inspection using a microscope for examination
MRSA	Methicillin-Resistant *Staphylococcus Aureus* Strains of Staphylococcus aureus that are resistant to many of the antibiotics commonly used to treat infections. Epidemic strains also have a capacity to spread easily from person-to-person
PCR	Polymerase Chain Reaction. PCR is an amplification technique to detect the nucleic acids of the organism in question
Responsible Collector	Any person collecting the pathology sample, including PathWest Phlebotomists and WACHS clinicians
Sensitivity	Identified organisms are exposed to various antibiotics to ascertain which will be an effective treatment and any it is resistant to[4]
Specimen	Limited quantity of body fluid or tissue, representative of a larger section
VTM	Viral Transport Media. A nutrient substance used to carry and maintain the viability of specimens (viruses) to a laboratory for the identification and further processing of the sample
VRE	Vancomycin Resistant Enterococci Enterococci are Gram-positive bacteria that are naturally present in the intestinal tract of all people. Vancomycin is an antibiotic to which some strains of enterococci have become resistant. These resistant strains are referred to as VRE and are frequently resistant to other antibiotics generally used to treat enterococcal infections.

4. Roles and Responsibilities

Responsible collector

- ensures that the patient is positively identified prior to the collection of the sample
- completes the collection details on the request form
- labels the specimen container, package and transport the specimen appropriately.

Requesting HCW

- follows up the results of all specimens taken
- informs the patient of these results
- takes appropriate action on results obtained
- documents in the healthcare record

If the above is not possible during the HCW's rostered working hours it should be included as part of clinical handover.

All Staff are required to work within policies and guidelines to make sure that WACHS is a safe, equitable and positive place to be.

5. Compliance

Failure to comply with this procedure may constitute a breach of the WA Health Code of Conduct (Code). The Code is part of the Integrity Policy Framework issued pursuant to section 26 of the *Health Services Act 2016* (WA) and is binding on all WACHS staff which for this purpose includes trainees, students, volunteers, researchers, contractors for service (including all visiting HCWs and agency staff) and persons delivering training or education within WACHS.

WACHS staff are reminded that compliance with all policies is mandatory.

6. Records Management

All WACHS clinical records must be managed in accordance with Health Record Management Policy.

7. Evaluation

Evaluation, audit and feedback processes are to be in place to monitor compliance.

Specimen collection within the operating theatre environment is audited as part of the ACORN practice audit tools and is monitored by the WACHS Perioperative Leadership Group.

8. Standards

National Safety and Quality Health Service Standards

Partnering with Consumers Standard: 2.5

Preventing and Controlling Healthcare-Associated Infection Standard: 3.1, 3.2, 3.3, 3.5, 3.6, 3.7, 3.8, 3.9, 3.10 and 3.13

Communicating for Safety Standard: 6.5, 6.6, 6.7, 6.8, 6.9, 6.10 and 6.11

9. Legislation

Health Practitioner Regulation National Law (WA) Act 2010
Occupational Safety and Health Act 1984 (WA)
Occupational Safety and Health Regulations 1996 (WA)

10. References

1. Government of Western Australia, East Metropolitan Health Service: Armadale Kalamunda Group. [Intranet] Specimen Collection and Pathology Results Procedure 2021 February [Accessed 10 May 2021]
2. Government of Western Australia, North Metropolitan Health Service: Sir Charles Gairdner Osborne Park Health Care Group. [Intranet] Specimen Collection for Microbiological Examination Guideline 2020 August [Accessed 7 May 2021]
3. New South Wales Government, Health Pathology [Internet] Labelling Requirements for Pathology and Forensic Specimens Policy. 2019 December [Accessed 7 May 2021]
4. Government of Western Australia, East Metropolitan Health Service: Royal Perth Bentley Group. [Intranet] Collection of Specimens for Microbiology Clinical Practice Standard 2020 August [Accessed 7 May 2021]
5. PathWest Laboratory Medicine WA, Pathology Policies and Procedure Manual. Standard Venepuncture Procedure (v2.6) 2020 November [Accessed 19 May 2021]
6. Government of Western Australia, North Metropolitan Health Service: Sir Charles Gairdner Osborne Park Health Care Group. [Intranet] Colostomy – Ileostomy – Urostomy Nursing Practice Standard 2019 November [Accessed: 20 May 2021]
7. Government of Western Australia, East Metropolitan Health Service: Royal Perth Bentley Group. [Intranet] Lumbar Puncture Clinical Guideline 2020 August [Accessed: 20 May 2021]

11. Related Forms

MR3 WACHS SARC Emergency Care: History and Checklist form

12. Related Policy Documents

KEMH Cord blood collection / analysis at birth Clinical Practice Guideline
WACHS Aseptic Technique Policy
WACHS Chaperone Policy
WACHS Infection Prevention and Control Policy
WACHS Patient Identification Policy
WACHS Personal Protective Equipment (PPE) Procedure
WACHS Responding to Sexual Assault Policy

13. Related WA Health System Policies

MP0095/18 Clinical Handover Policy
OD0657/16 WA Health Consent to Treatment Policy
MP0051/17 WA Health System Language Services Policy

14. Policy Framework

Clinical Governance, Safety and Quality

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