Royal College of Pathologists submission of 20 October 2023

PE1911/SS: Review of Human Tissue (Scotland) Act 2006 as it relates to post-mortems

1. We acknowledge the correspondence from the Citizen Participation and Public Petitions Committee dated 27 September 2023. Please find our response below.

2. We are pleased to respond to the Committee's request for a response with regards to petition PE1911: review of Human Tissue (Scotland) Act 2006 as it relates to post-mortems.

3. The Royal College of Pathologists is the professional membership body for pathologists. Our role is to set professional standards and provide best practice guidance for its members who undertake post-mortem examinations. It is central to our practice as pathologists that the body of those who have died is treated with respect and dignity.

4. The Royal College of Pathologists does not provide post-mortem services. The introduction of post-mortem cross-sectional imaging in adults would be a matter for service providers and commissioners, in conjunction with pathologists in local services.

5. The Royal College of Pathologists, with members of the Royal College of Radiologists, has published a clinical guideline, *Guidelines for post-mortem cross-sectional imaging in adults for non-forensic deaths*, which sets standards for pathologists and radiologists to deal with non-suspicious consented post-mortems and those that come under the legal jurisdiction of the Procurator Fiscal or Coroner system (in England and Wales). This guideline is available on our website.

6. The guideline sets out the scope and limitations of post-mortem cross-sectional imaging as an alternative or adjunct to an autopsy, and as a means of reliably establishing the cause of death in adults. It sets out guidelines that should be in place when such a service is

being commissioned or an examination is being authorised by a legal authority. The decision as to whether or not an invasive autopsy is necessary can only be made after the post-mortem imaging has been analysed and an external examination performed by a trained medical practitioner.

7. In any authorised examination, a General Medical Council (GMC)-registered pathologist should retain the central coordinating role in establishing the cause of death, working closely with practitioners who perform and interpret post-mortem imaging studies. Imaging-based post-mortem examination should never be undertaken without a thorough external examination of the body having also been performed by an appropriately trained, GMC-registered and licensed pathologist.

8. The guidelines are primarily aimed at those commissioning post-mortem services or authorising or requesting post-mortem examinations, pathologists who conduct post-mortem examinations and radiologists who interpret post-mortem cross-sectional imaging studies.

9. In cases of death as a result of major trauma, imaging frequently demonstrates the nature and extent of many injuries better than invasive autopsy, although some injuries are not well demonstrated on imaging.

10. In combination with the clinical history, circumstances of the death and external examination, the causes of natural death that can be diagnosed using cross-sectional imaging without angiography (a procedure that allows the blood vessels to be visualised and can show arterial disease that could have, for example, caused a heart attack) include:

    - haemorrhagic events such as ruptured aortic aneurysm
    - coronary artery disease in the presence of severe coronary artery calcification
    - disseminated malignancy, although it might not be possible to identify tumour deposits within a solid organ such as the liver using unenhanced imaging

- pneumonia
- certain intra-abdominal events such as intestinal obstruction and perforation, although identification of the cause of obstruction or site of perforation is often not possible on imaging. Therefore, limited invasive examination of the abdomen, directed by the imaging findings, might be required.

11. Causes of natural death that cannot be reliably diagnosed using unenhanced cross-sectional imaging alone include:

- sepsis (without abscess), including meningitis
- toxic and metabolic conditions
- primary inflammatory diseases
- pulmonary thromboembolism
- intestinal ischaemia
- potentially inheritable cardiac conditions
- epilepsy and other brain diseases.

12. Imaging alone may not be suitable for investigating potentially unnatural causes of death.

13. Imaging can be supplemented by minimally invasive procedures to determine the nature of a radiological abnormality and refine the cause of death. For example, imaging-guided needle sampling can be performed to provide histological, toxicological and microbiological diagnosis.

14. The Royal College of Pathologists considers that post-mortem cross-sectional imaging in adults could be used as an adjunct or alternative to some conventional post-mortems in Scotland. We already work closely with the Royal College of Radiologists on a number of issues, and this year we jointly set up and All-Party Parliamentary Group for Diagnostics.

15. In Scotland the legal process around death certification is different from England and Wales. This means that in Scotland significantly fewer autopsies are carried out. The view and grant system allows for a death certificate to be issued by a doctor in a greater proportion of deaths. For example, in England and Wales, in 2013, 45% of deaths

were reported to a coroner and 19% involved an invasive autopsy. In Scotland, only 24% of deaths were referred to a procurator fiscal and only 9% involved an invasive autopsy.

16. Many types of deaths which can be diagnosed by post-mortem imaging in England would not require an autopsy of any kind in Scotland. This means the impact of introduction of post-mortem imaging on the overall autopsy rate in Scotland is likely to be much less than in England.

17. At present in the UK, expertise in post-mortem cross-sectional imaging interpretation resides in a small number of centres. The cost and availability of CT scanners, and workforce pressures on radiographers (who carry out the scan) and radiologists (who interpret the scan) is prohibitive in many centres, and may also be the case in Scotland.

18. In post-mortem imaging services, with well trained and highly experienced radiologists and pathologists, a proportion of invasive autopsies can be avoided or, in some cases, a minimally invasive autopsy (MIA) service could be offered. Instead of the body being examined internally, a CT scan (a form of x-ray examination) is performed. In some cases, a procedure known as angiography is also necessary, whereby a type of fluid that can be detected by x-rays is injected into the patient. This allows the blood vessels to be visualised and can show arterial disease that could have, for example, caused a heart attack.

19. Post-mortem imaging is not suitable in the investigation of some types of deaths and the guidance of the procurator fiscal and local pathologist will inform which deaths can be investigated in this way.

We would be happy to deal with any general questions you may have arising from this guidance.