

Death Certification Tutorial

Adapted from Death Certification Training Pack, Office for National Statistics

Section 1. Introduction and diagnosing death

Completing the death certificate accurately is a good deal more important than is often realised. How to diagnose death.

Section 2. Writing the Cause of Death Statement of a death certificate

Three case histories. In each case, you are asked to complete a death certificate in the prescribed manner and identify the Underlying Cause of Death by underlining it.

Section 3. Identifying the Underlying Cause of Death from death drafts

Death drafts are copies made by the Registrar of Births and Deaths of what is written on the Death Certificate. This enables the *informant* to verify the particulars before they are transcribed into the permanent official record. You are asked to identify the Underlying Cause of Death from the two example death drafts.

Section 4. Some correct and incorrect examples of cause of death

You are asked to indicate which of the seven extracts from death certificates do you consider to be correctly written?

Section 5. Multiple Choice Questions

A series of multiple choice questions on general issues of death certification.

Section 6. Referral to the Coroner

Three case histories. In each case, you are asked to indicate which of them you would you need to refer to the Coroner.

Section 7. Further reading

Section 1. Introduction and diagnosing death

Few people give much thought to what needs to be done when a person dies until they are directly involved. The relatives of the deceased require a permanent legal record of death which allows them to proceed with the funeral. For health professionals there are implications for the management of individual cases and for future clinical practice. Information on the causes of death is invaluable for assessing the health of the population, identifying patterns of disease and planning of health services. Essential to all these processes is the Medical Certificate of Cause of Death, more commonly known as the death certificate.”

If you understand what it’s used for and why it matters so much to get it right first time:

- relatives will be spared the distress of delay in funeral arrangements caused by unexpected referral of the death to the coroner
- doctors will avoid being asked to clarify their certificate by the Registrar of Birth and Deaths or by the Coroner
- everyone will benefit from more reliable information on mortality

However, the process of death certification is currently being reviewed by the Office for National Statistics, the Home Office and by the Shipman Inquiry. There are likely to be big changes, not only to the certificate itself, but who is qualified to issue a death certificate and the role of coroners. These exercises will take you through the current process of death certification, but be aware that the process may change dramatically within the next few years.

Learning objectives

By the end of this tutorial you should be able to:

- Know the examination required to ascertain fact of death
- Know who is qualified to issue a death certificate
- Understand what is meant by *attending physician*
- Understand what is meant by underlying cause of death and where you should write it on the medical certificate of cause of death.
- Know the circumstances that you are required to report a case to the coroner
- Understand the difference between a hospital post-mortem and a coroner’s post-mortem.

Case A

A 78 year old widow was certified dead by a doctor as she lay in bed at home. An empty box of sleeping pills and several suicide letters were by the bed. Undertakers took her in a coffin with a loose lid to the mortuary and the Coroner was informed.

Is the patient really DEAD ?

Nearly 6 hours later - just as the autopsy was about to begin, a police officer noticed that she was still breathing. She was rushed to the ward, but died there next day.

Q. 1. So - what do you need to do before you can get on with issuing a death certificate?

Q. 2. What are you looking for (or not) ?

List

If you have ascertained that the patient is indeed dead, you then need to decide

- whether you are qualified to issue a death certificate
- whether the case needs referral to the coroner
- what to write on the death certificate
- whether you require a post-mortem
- whether you need to issue a cremation form

Note

Cremation procedures require the use of six different forms (A-F) prescribed in legislation dating back to 1930. As a junior doctor, you will be required to complete Form B. No single 'standard' set of forms is produced and distributed by the Home Office or any other central body. Instead, each cremation authority provides its own 'personalised' set of forms. Over the years, some authorities have modified the forms, by adding explanatory notes, changing the layout slightly and, in some cases, adding supplementary questions. A sample form is attached.

Section 2. Writing the Cause of Death Statement of a death certificate

First of all, examine the medical certificate of cause of death reproduced in your handbook. You are provided with three case histories. For each case, identify the important conditions that may need to be recorded and consider their sequence. Attempt to complete a death certificate in the prescribed manner and identify the Underlying Cause of Death by underlining it.

Case A

A man aged 88 years suffered sudden loss of the use of his right arm and leg. Following a neurological examination by you (as the attending doctor) a clinical diagnosis of stroke was made. He was subsequently confined to bed for 7 days, and lay there showing few signs of improvement. He began to cough, became feverish, and additional sounds could be heard on auscultation of his chest indicating that he had developed pneumonia. He died 48 hours later. His medical history showed that he also suffered from benign prostatic hyperplasia.

Complete a Medical Certificate of Cause of Death for this patient.

CAUSE OF DEATH	
I(a) Disease or condition directly leading to death	
(b) Other disease or condition, if any, leading to I(a)	
(c) Other disease or condition, if any, leading to I(b)	
II Other significant conditions	
CONTRIBUTING TO THE DEATH but	
not related to the disease or condition	
causing it	

- Q. 1. Are you qualified (as the attending doctor) to issue a death certificate? Yes/No
- Q. 2. Would you be required to refer this case to the Coroner as well as writing the death certificate? Yes/No
- Q. 3. What difference would it make to the way in which you have completed the death certificate if:
- a) the man had also suffered from diabetes mellitus and you considered this to have contributed to his death?
 - b) seven months rather than seven days had elapsed, during which time he had become mobile and regained some functioning?

An 83 year old woman was admitted with a fractured hip after a fall at home. Her fracture was fixed internally by an orthopaedic surgeon. Six days post-operatively, while under your care, she collapsed with severe chest pain and shortness of breath and died shortly after. Post-mortem examination revealed a pulmonary embolus and a deep vein thrombosis in the leg. Her medical history also revealed that she suffered from ischaemic heart disease.

Complete a death certificate for the above patient.

CAUSE OF DEATH	
I(a) Disease or condition directly leading to death	
(b) Other disease or condition, if any, leading to I(a)	
(c) Other disease or condition, if any, leading to I(b)	
II Other significant conditions CONTRIBUTING TO THE DEATH but	
not related to the disease or condition causing it	

- Q. 1. Are you qualified (as the attending doctor) to issue a death certificate? Yes/No
- Q. 2. Would you be required to refer this case to the Coroner as well as writing the death certificate? Yes/No
- Q. 3. Additional information becomes available to you that the fracture occurred at the site of a bone metastasis from a breast cancer - complete a new death certificate for this patient that takes account of this additional information.

CAUSE OF DEATH	
I(a) Disease or condition directly leading to death	
(b) Other disease or condition, if any, leading to I(a)	
(c) Other disease or condition, if any, leading to I(b)	
II Other significant conditions CONTRIBUTING TO THE DEATH but	
not related to the disease or condition causing it	

Case C

A man aged 73 years, living on his own, is admitted to hospital with severe lower abdominal pain under the care of a urological team (not your own). Abdominal examination revealed a large, tense, fluid-filled swelling. An enlarged prostate was found on rectal examination. A diagnosis of urinary retention resulting from benign prostatic hyperplasia is made. Despite treatment, the man developed uraemia and died one night several days later. You are on-call and are asked to complete a death certificate on the basis of the above information, which you have been given by the ward nursing staff. The deceased's body has already been removed to the mortuary.

Complete a death certificate for the above patient.

CAUSE OF DEATH	
I(a)	Disease or condition directly leading to death
(b)	Other disease or condition, if any, leading to I(a)
(c)	Other disease or condition, if any, leading to I(b)
II	Other significant conditions CONTRIBUTING TO THE DEATH but not related to the disease or condition causing it

Q. 1. Are you qualified (as the on-call doctor) to issue a death certificate?

Yes/No

Section 3. Identifying the Underlying Cause of Death from death drafts

Death drafts are copies made by the Registrar of Births and Deaths of what is written on the Death Certificate. This enables the *informant* to verify the particulars before they are transcribed into the permanent official record. Below are the causes of death given on two real death drafts (which may or may not be correct).

Identify the "Underlying Cause of Death" from the following two death drafts.

Case A

CAUSE OF DEATH	
I(a) Disease or condition directly	leading to death <i>cardio-respiratory failure</i>
(b) Other disease or condition, if any,	leading to I(a) <i>carcinomatosis</i>
(c) Other disease or condition, if any,	leading to I(b) <i>carcinoma of breast</i>
II Other significant conditions	CONTRIBUTING TO THE DEATH but <i>chronic airways disease</i>
	not related to the disease or condition
	causing it

Q. 1. Identify the Underlying Cause of Death

Q. 2. In your opinion, is Part II correctly completed?

Yes/No

Case B

CAUSE OF DEATH	
I(a) Disease or condition directly	leading to death <i>primary postcricoid laryngeal carcinoma</i>
(b) Other disease or condition, if any,	leading to I(a) <i>dysphagia</i>
(c) Other disease or condition, if any,	leading to I(b) <i>extension of carcinoma to upper third of oesophagus</i> ...
II Other significant conditions	CONTRIBUTING TO THE DEATH but <i>dysphagia and dyspnoea</i>
	not related to the disease or condition
	causing it

Q. 1. Identify the Underlying Cause of Death

Q. 2. In your opinion, is Part II correctly completed?

Yes/No

Section 4. Some correct and incorrect examples of Cause of Death statements

Which of the following extracts from death certificates do you consider to be correctly/incorrectly written?

- | | | | |
|-------|----|--------------------------|-------------------|
| Q. 1. | Ia | Septicaemia | |
| | b | | |
| | c | | |
| | II | | Correct/Incorrect |
| Q. 2. | Ia | bronchopneumonia | |
| | b | | |
| | c | | |
| | II | | Correct/Incorrect |
| Q. 3. | Ia | bronchopneumonia | |
| | b | carcinoma of bronchus | |
| | c | | |
| | II | | Correct/Incorrect |
| Q. 4. | Ia | carcinoma of Rt Tonsil | |
| | b | metastases | |
| | c | | |
| | II | | Correct/Incorrect |
| Q. 5. | Ia | cardiopulmonary failure | |
| | b | bronchopneumonia | |
| | c | | |
| | II | lung cancer | Correct/Incorrect |
| Q. 6. | Ia | left sided heart failure | |
| | b | ischaemic heart disease | |
| | c | | |
| | II | | Correct/Incorrect |
| Q. 7. | Ia | Old age | |
| | b | | |
| | c | | |
| | II | | Correct/Incorrect |

Section 5. Multiple Choice Questions (please indicate whether the answers are true or false)

- Q. 1. When completing a Medical Certificate of Cause of Death, the Underlying Cause of Death should:
- a) normally appears in Part II of the certificate. T/F
 - b) always appear on the first completed line of Part 1 with succeeding conditions appearing below this. T/F
 - c) normally appear on the lowest completed line of Part 1 with succeeding conditions appearing above this, as appropriate. T/F
 - d) be accompanied by the approximate interval between onset of this condition and death. T/F
 - e) be abbreviated where possible. T/F
- Q. 2. The following are **not** modes of dying and may, therefore, be used on the certificate as an Underlying Cause of Death.
- a) heart failure T/F
 - b) lung cancer T/F
 - c) stroke T/F
 - d) asphyxia T/F
 - e) kidney failure T/F
- Q. 3. The following people can sign a Medical Certificate of Cause of Death:
- a) a dentist involved in care of the patient T/F
 - b) a doctor involved in the care of the patient in his/her final illness T/F
 - c) a senior nurse involved in the care of the patient in his/her final illness T/F
 - d) a Coroner T/F
 - e) a Registrar of Births and Deaths T/F

Section 6. Referral to the Coroner

Please indicate which of the following cases you would need to refer to the Coroner.

Case A

A 29 year-old man was admitted in cardiopulmonary arrest. His medical history included supervision by the psychiatric services with prescribed diazepam (a treatment for anxiety), mianserin (a treatment for depression), and chlorpromazine (a tranquilliser); he was also known to be a user of amphetamines. A provisional diagnosis of drug overdose was made. He was resuscitated and transferred to an intensive care unit where he was mechanically ventilated. Blood tests confirmed an overdose of amphetamines. His condition deteriorated despite treatment and he died two days later.

In your opinion, should this case be referred to the Coroner? Yes/No

Case B

A 46 year-old man was admitted to hospital from a spinal injuries unit with severe pressure sores on his sacrum. He had been paralysed from the neck down since a fall on a building site where he worked as a steel erector. He had recurrent problems with infected pressure sores. Septicaemia was confirmed by a blood test and he was given appropriate antibiotics. He subsequently developed a chest infection and gradually deteriorated and died 10 days later.

In your opinion, should this case be referred to the Coroner? Yes/No

Case C

A 75 year-old man suddenly became ill while watching football on television and complained of severe chest pain to his wife. He collapsed and was found to have no pulse and fixed dilated pupils when his general practitioner (GP) arrived to attend to him. Efforts at resuscitation failed. His medical history included a myocardial infarction 2 years previously, and he was being treated for angina by his GP. The GP made a clinical diagnosis of myocardial infarction due to ischaemic heart disease.

In your opinion, should this case be referred to the Coroner? Yes/No

Case D

You would like a post-mortem on a 67 year old man who suffered an acute MI, despite appropriate treatment including administration of a thrombolytic drug. He had a previous history of ischaemic heart disease.

In your opinion, should this case be referred to the Coroner? Yes/No

Notes

Reasons for carrying out a hospital post-mortem include:

- *Delineation as accurately as possible structural tissue changes which correlate with the clinical expression of disease*
- *tissue changes which correlate with disturbances of normal physiological processes*
- *the sequence of events which led to full blown expression of an individual disease.*

The value of a hospital autopsy is in

- *audit - (in up to 30% of cases, major clinical diagnoses are not confirmed - ie a major discrepancy of almost 1/3)*
- *monitoring effectiveness of new treatments –eg Testicular cancer and Trophoblastic disease*
- *teaching -undergraduate and P/G research*

Consent MUST be obtained for a hospital post mortem and for the retention and use of organs and tissue in research or education following either a hospital or coroner's post mortem. The 1961 Act used the term 'spouse' or 'surviving relative' to define those to be consulted. Contemporary families may often involve more complex relationships than the traditional spouse or blood relatives.

Further information is available from a leaflet published by the Department of health called Families and post mortems - A code of practice. It is available at <http://www.doh.gov.uk/tissue/families&postmortemcode.pdf>.

If a case is referred to a coroner where the cause of death is unknown, the coroner may order a coroner's post-mortem.

Section 7. Further reading

Clear instructions for completing the Medical Certificate of Cause of Death are included in the front of the certificate booklet.

Death Certification: All you need to know about forms and family
Student BMJ

<http://student.bmj.com/student/view-article.html?id=sbmj.b1570>

Death Certification Reforms

- The Death Certification Sub Group
- <http://www.dh.gov.uk/en/Managingyourorganisation/DeathCertification/index.htm>
- e-Learning
- http://www.dh.gov.uk/prod_consum_dh/groups/dh_digitalassets/@dh/@en/@ps/documents/digitalasset/dh_119411.pdf

Post Mortem Codes of Practice

The Human Tissue Authority

<http://www.hta.gov.uk/legislationpoliciesandcodesofpractice/codesofpractice.cfm>

Section 8. Answers

Section 1. Introduction and diagnosing death

Case A

Q.1. Ascertain that patient is dead
Write clearly in the notes the time of death, and your examination to ascertain death

Q.2. Pulse
Breath sounds
Heartbeat

Check for at least 2 minutes

Reflexes (eg light reflex or corneal)

You do NOT need to carry out ECG or EEG.

Section 2. Writing the Cause of Death Statement of a death certificate

Approach by eliciting disease elements in case history and then consider time sequence and strength of link between pathological conditions, eliminating unnecessary reference to symptoms. Note that on a real death certificate there is a footnote attached to Part I which reads, "This does not mean the mode of dying, such as heart failure, asphyxia, asthenia, etc.: it means the disease, injury, or complication which caused death".

Case A

Cause of Death statement:

- I(a) pneumonia
- (b) stroke (cerebral thrombosis)
- (c)

II. - nil

Q. 1. Yes; if you are a registered medical practitioner and were in attendance during the deceased's last illness, you are required under the Births and Deaths Registration Act 1953 to certify the cause of death. You must sign a certificate stating the cause of death to the best of your knowledge and belief

Q. 2. No; in this case, death is clearly due to natural causes.

Q. 3.

- a) Diabetes mellitus would come under Part II as a significant contributor but unrelated to the condition causing death.
- b) A judgement must be made as to whether there is a causal link between the stroke and the pneumonia. It would seem unlikely that the pneumonia would be a direct consequence of the stroke if some recovery has taken place, although it would depend on whether the stroke were still limiting mobility sufficiently to have caused hypostatic pneumonia.

Case B

Cause of Death statement:

- I(a) pulmonary embolus
- (b) deep vein thrombosis in left leg
- (c) fracture of femur due to fall

II. ischaemic heart disease

- Q. 4. Yes; if you are a registered medical practitioner and were in attendance during the deceased's last illness, you are required under the Births and Deaths Registration Act 1953 to certify the cause of death. This is technically true even if you are reporting the death to the Coroner, although in practice you should take advice from the Coroner before issuing a certificate.
- Q. 5. Yes; the Underlying Cause of Death is an accident which should be reported to a Coroner.
- Q. 6. Metastatic cancer of the breast would be entered as the Underlying Cause of Death leading to the fracture in I(c).

Case C

Death certificate:

- I(a) uraemia
 (b) urinary retention
 (c) benign prostatic Hyperplasia

II. - nil

- Q. 7. No; as you are not the doctor in attendance in this situation, you do not have a duty to complete a death certificate.

Section 3. Identifying the Underlying Cause of Death from death drafts

Approach these by going through sequence of events which led to death. Eliminate modes of death.

Case A

- Q. 1. The Underlying Cause of Death is carcinoma of breast.
- Q. 2. The certificate is completed correctly. Cardio-respiratory failure is a mode of death. The Underlying Cause of Death is carcinoma of breast. More detail could have been included on the exact site and the histology of the tumour.

Case B

- Q. 1. The Underlying Cause of Death is primary postcricoid laryngeal carcinoma.
- Q. 2. The sequence is incorrect. Death was caused by primary postcricoid laryngeal carcinoma which extended to the oesophagus. Dysphagia and dyspnoea are symptoms and cannot even be described as modes of dying. These should not appear on the certificate and are certainly not contributory causes (Part II). The condition leading directly to death is not given but was, presumably, obstruction of the oesophagus.

Section 4. Some correct and incorrect examples of Cause of Death

- Q. 1. Incorrect; Septicaemia, if stated alone on the death certificate, gives no indication of the event or condition which gave rise to it. Registrars of Births and Deaths have been instructed to report any such deaths to the Coroner. The term is acceptable, if it is accompanied by an Underlying Cause of Death, for example: septicaemia due to recurrent infected pressure sores due to immobility due to multiple sclerosis.
- Q. 2. Could be correct, but usually there is an Underlying Cause of Death precipitating the bronchopneumonia, and if this is the case it should be stated.
- Q. 3. Correct; state further site and histopathological details if known.
- Q. 4. Incorrect; sequence should be reversed. Also abbreviations should not be used and further histopathological detail of the carcinoma should be given if known.
- Q. 5. Incorrect; seems likely that lung cancer is part of the sequence of events leading to death and should not therefore appear in Part II but in Part I as the Underlying Cause of Death. This is however ultimately a matter of your clinical judgement. More detail on site and histopathology should be given if known.
- Q. 6. Correct
- Q. 7. Correct; however, this term should **only** be used if a more specific cause of death cannot be given and if the deceased is aged 70 years or over.

Section 5. Multiple Choice Questions (please indicate whether the answers are true or false)

Q. 1.

- a) False; it should appear on the last completed line of Part I.
- b) False; this is where the condition directly leading to death should appear, although in some circumstances the Underlying Cause of Death and the condition directly leading to death are one and the same, for example; spontaneous subarachnoid haemorrhage. In such a case you would only complete line I(a).
- c) True.
- d) True.
- e) False; abbreviations should be avoided.

Q. 2.

- a) False; heart failure is a mode of dying and is not and does not tell us about an Underlying Cause of Death. If it was written alone without further qualification, the death would automatically be referred to the Coroner.
- b) True.
- c) True.
- d) False; Asphyxia is a mode of dying. There will be a cause of death underlying this .
- e) False; kidney failure is a mode of dying and does not give any indication as to the Underlying Cause of Death.

Q. 3.

- a) False; only a registered medical practitioner can sign a Medical Certificate of Cause of Death.
- b) True.
- c) False.
- d) False; a Coroner will sign a different type of death certificate giving a Cause of Death statement which is then issued to the Registrar of Births and Deaths to allow disposal of the body.
- e) False; a Registrar of Birth and Deaths issues a Certified Copy of the Death Entry to the informant after registering the death. This is based on information given on the Medical Certificate of Cause of Death and information gained from the informant.

Section 6. Referral to the Coroner.

Case A

Yes; this is a suspected suicide and must be referred to the Coroner.

Case B

Yes; although the original injury occurred some time before death, the man's quadriplegia clearly gave rise to his pressure sores, which led to his septicaemia. Thus the chain of events leading to his death started with his fall. Not only was this an accident, which should always be referred to the Coroner, but it was related to his occupation. The interval between the original injury and death is irrelevant.

Case C

No; sudden death is not necessarily an indication to refer to the Coroner. If the cause of death is known, and in this case his GP (the attending physician) diagnosed myocardial infarction, and there are no other reasons to report it, then a certificate can be issued without referral to the Coroner. If the cause of death is unknown, a case should be reported to the Coroner.

Case D

No; assuming you know the cause of death, you do not need to refer this case to the coroner in order to carry out a post-mortem. You require a hospital post-mortem.

Reasons for carrying out a hospital post-mortem include:

- Delineation as accurately as possible structural tissue changes which correlate with
 - The clinical expression of disease
 - Tissue changes which correlate with disturbances of normal physiological processes
 - The sequence of events which led to full blown expression of an individual disease.

- The value of a hospital autopsy is in
 - Audit - (in up to 30% of cases, major clinical diagnoses are not confirmed - ie a major discrepancy of almost 1/3), monitoring
 - Monitoring effectiveness of new treatments
 - Teaching -undergraduate and postgraduate
 - Research

Consent **MUST** be obtained for a hospital post mortem and for the retention and use of organs and tissue in research or education following either a hospital or coroner's post mortem. The 1961 Act used the term 'spouse' or 'surviving relative' to define those to be consulted. Contemporary families may often involve more complex relationships than the traditional spouse or blood relatives.

Further information is available from a leaflet published by the Department of health called Families and post mortems - A code of practice. It is available at <http://www.doh.gov.uk/tissue/families&postmortemscod.pdf>.

If a case is referred to a coroner where the cause of death is unknown, the coroner may order a coroner's post-mortem.