



LOWER LIMB AMPUTATION STUDY

National Confidential Enquiry into Patient Outcome and Death (NCEPOD)

CLINICAL QUESTIONNAIRE

CONFIDENTIAL

NCEPOD number:

Who completed this questionnaire?

Name: _____

Position: _____

What is this study about?

NCEPOD is examining remediable factors in the process of care of patients (16 years or older) requiring lower limb amputation (above or below knee) for complications of peripheral vascular disease and/or diabetes mellitus.

Inclusions

Patients who undergo one of the following procedure codes will be included in the study:

- X09 - Amputation of leg
- X12 - Operations on amputation stump

Exclusions

This study does not include patients undergoing a major lower limb amputation for either trauma or malignancy.

CPD accreditation:

Consultants who complete NCEPOD questionnaires make a valuable contribution to the investigation of patient care. Completion of questionnaires also provides an opportunity for consultants to review their clinical management and undertake a period of personal reflection. These activities have a continuing medical and professional development value for individual consultants. Consequently, NCEPOD recommends that consultants who complete NCEPOD questionnaires keep a record of this activity which can be included as evidence of internal/self directed Continuous Professional Development in their appraisal portfolio.

If you (the clinician completing the questionnaire) would like email confirmation of the completion of this questionnaire for your records, please clearly supply your email address below.

How to complete the form:

Information will be collected using two methods; box cross and free text, where your opinion will be requested.

This form will be electronically scanned. Please use a black or blue pen. Please complete all questions with either block capitals or a bold cross inside the boxes provided e.g.

Do surgeons in your hospital perform major lower limb amputations (above-knee, through-knee below-knee) for complications of peripheral vascular disease and/or diabetes mellitus?

Yes

No

If you make a mistake, please "black-out" the incorrect box and re-enter the correct information, e.g.

Yes

No

Unless indicated, please mark only one box per question.

Questions or help?

A list of definitions is provided on page 2 of the questionnaire.

If you have any queries about this study or this questionnaire, please contact

amputation@ncepod.org.uk

Or telephone: 020 7251 9060

Thank you for taking the time to complete this questionnaire. The findings of the study will be published in late 2014.



DEFINITIONS

ASA status	<p>ASA 1: A normal healthy patient</p> <p>ASA 2: A patient with a mild systemic disease</p> <p>ASA 3: A patient with a severe systemic disease</p> <p>ASA 4: A patient with a severe systemic disease that is a constant threat to life</p> <p>ASA 5: A moribund patient who is not expected to survive the operation (American Society of Anaesthesiologists)</p>
Medical assessment unit (MAU, SAU, etc)	An area where emergency patients are assessed and initial management undertaken by inpatient hospital teams. The patient is only in this area while early assessment is made and is then moved to another ward or discharged. The working of these units varies; some are purely for medical or surgical cases (MAU, SAU etc.) while some function across various specialties (CDU, AAU).
Vascular Unit	A vascular service providing 24/7 access to vascular surgeons and interventional radiologists. This would be defined as a hub in a network that relies on a hub and spoke relationship to provide vascular services for a number of hospitals.
Diabetic Unit	A diabetes service providing a range of specialist multidisciplinary outpatient clinics and inpatient diabetes care led by consultant diabetes specialists supported by diabetes specialist nurses and dietitians.
Diabetic Foot Clinic	A multidisciplinary clinic providing assessment and management of acute and ongoing diabetic foot lesions including ulcers, foot infection, neuropathic lesions, Charcot neuroarthropathy and lower limb ischaemia. This team also focuses on ulcer prevention and prevention of recurrence, through offloading, education and ongoing foot care. This team would usually include a consultant diabetologist, diabetes specialist nurse and or tissue viability nurse, specialist podiatrist, working alongside or with timely access to vascular surgeons, interventional radiologists, orthopaedic surgeons, orthotist and microbiologist.
Levels of ward care	<p>Level 0: Patients whose needs can be met through normal ward care in an acute hospital.</p> <p>Level 1: Patients at risk of their condition deteriorating, or those recently relocated from higher levels of care whose needs can be met on an acute ward with additional advice and support from the critical care team.</p> <p>Level 2: (e.g. HDU) Patients requiring more detailed observation or intervention including support for a single failing organ system or post operative care, and those stepping down from higher levels of care. (NB: When Basic Respiratory and Basic Cardiovascular support are provided at the same time during the same critical care spell and no other organ support is required, the care is considered to be Level 2 care).</p> <p>Level 3: (e.g. ICU) Patients requiring advanced respiratory support alone or basic respiratory support together with support of at least two organs. This level includes all complex patients requiring support for multi-organ failure. (NB: Basic Respiratory and Basic Cardiovascular do not count as 2 organs if they occur simultaneously (see above under Level 2 care), but will count as Level 3 if another organ is supported at the same time).</p>
Fontaine score	<p>Stage I: Asymptomatic</p> <p>Stage II: Intermittent claudication</p> <p>Stage III: Ischaemic rest pain</p> <p>Stage IV: Ulceration or gangrene, or both</p>
Formal regional care network	Formal hub and spoke relationship between vascular or diabetic services and linked district general hospitals.
Informal regional care network	Ad hoc arrangements for the transfer of individual patients requiring more specialist care (vascular, diabetic, renal, anaesthetic) than is available at either a spoke or hub hospital which is outside the usual referral pathway



CODES FOR SPECIALTY

SURGICAL SPECIALTIES

100 = General Surgery	107 = Vascular Surgery	161 = Burns Care
101 = Urology	110 = Trauma & Orthopaedics	170 = Cardiothoracic Surgery
103 = Breast Surgery	120 = Ear, Nose & Throat (ENT)	172 = Cardiac Surgery
104 = Colorectal Surgery	130 = Ophthalmology	173 = Thoracic Surgery
105 = Hepatobiliary & Pancreatic Surgery	140 = Oral Surgery	180 = Accident & Emergency
106 = Upper Gastrointestinal Surgery	145 = Maxillo-Facial Surgery	190 = Anaesthetics
	150 = Neurosurgery	192 = Critical/Intensive Care Medicine
	160 = Plastic Surgery	

MEDICAL SPECIALTIES

300 = General Medicine	330 = Dermatology	430 = Geriatric Medicine
301 = Gastroenterology	340 = Respiratory Medicine	500 = Obstetrics & Gynaecology
302 = Endocrinology	350 = Infectious Diseases	501 = Obstetrics
303 = Clinical Haematology	352 = Tropical Medicine	502 = Gynaecology
306 = Hepatology	360 = Genito-Urinary Medicine	800 = Clinical Oncology
307 = Diabetic Medicine	361 = Nephrology	810 = Radiology
314 = Rehabilitation	370 = Medical Oncology	820 = General Pathology
315 = Palliative Medicine	400 = Neurology	823 = Haematology
320 = Cardiology	410 = Rheumatology	

CODES FOR GRADE

01 – Consultant	02 – Staff grade/Associate specialist
03 – Trainee with CCT	04 – Senior specialist trainee (ST3+ or equivalent)
05 – Junior specialist trainee (ST1&ST2 or CT equivalent)	06 – Basic grade (HO/FY1 or SHO/FY2 or equivalent)
07 - Nursing	08 - Physiotherapy
09 - Other	



SECTION 1: TO BE COMPLETED ON ALL PATIENTS

STRUCTURED COMMENTARY

Please provide a brief summary of this case, adding any comments or information you feel relevant, (please write clearly for the benefit of the specialist advisory group who will be reviewing the questionnaires). You may also type on a separate sheet. You may like to fill in the summary once you have completed the rest of the questionnaire.

NCEPOD attaches great importance to this summary. Please give as much information as possible about the care of this patient.



A. PATIENT DETAILS

1. Age at time of the major amputation to which this questionnaire relates:
2. Gender: Male Female

B. ADMISSION DETAILS

- 3a. Date of admission: Unknown
d d m m y y y y
- 3b. Time of admission: (24 hour clock) Unknown
h h m m
4. Admission category
- Elective A time agreed between the patient and surgical service
- Planned (urgent) Within 48 hours of referral/consultation
- Emergency Immediately following referral/consultation, where admission is unexpected and at short notice because of clinical need
5. What was the diagnosis on admission?
-
6. What was the patient's ASA status on ADMISSION? (Please tick one box only)
- ASA 1 ASA 2 ASA 3 ASA 4 ASA 5
- 7a. What was the pathway of the admission?
- i) Elective admission from waiting list
- ii) Unplanned admission
- iii) Planned urgent admission following a previous vascular surgery outpatient appointment
- iv) Unplanned admission following vascular surgery outpatient appointment
- v) Inpatient referral (unplanned admission)
- vi) Seen in another specialty's clinic (unplanned admission)
- vii) Emergency department (unplanned admission)
- viii) Transfer of an inpatient from another hospital





7b. Please indicate source of referral:

- | | | |
|---|--|---|
| <input type="checkbox"/> General Practitioner | <input type="checkbox"/> Care of the elderly | <input type="checkbox"/> Dermatology |
| <input type="checkbox"/> Diabetes/Foot Clinic | <input type="checkbox"/> Other medical specialty | <input type="checkbox"/> General surgery |
| <input type="checkbox"/> Trauma & Orthopaedics | <input type="checkbox"/> Renal unit | <input type="checkbox"/> Vascular surgery |
| <input type="checkbox"/> District nurse | <input type="checkbox"/> Community diabetic nurse/clinic | |
| <input type="checkbox"/> Community podiatrist | <input type="checkbox"/> Community leg/foot ulcer clinic | |
| <input type="checkbox"/> Other (please specify) | <input type="text"/> | |

8a. Was the patient on a waiting list for an amputation? Yes No Unknown

8b. If YES, what date was the patient added to the waiting list? Unknown
d d m m y y y y

8c. If YES to 8a, was this the same amputation that the patient subsequently underwent? Yes No Unknown

8d. If NO to 8c, please specify the type of amputation originally planned?

Amputation of leg

- | | |
|---|---|
| <input type="checkbox"/> X09.1 – Hindquarter amputation | <input type="checkbox"/> X09.2 – Disarticulation of hip |
| <input type="checkbox"/> X09.3 – Amputation of leg above knee | <input type="checkbox"/> X09.4 – Amputation of leg through knee |
| <input type="checkbox"/> X09.5 – Amputation of leg below knee | <input type="checkbox"/> X09.8 – Other specified |
| <input type="checkbox"/> X09.9 – Unspecified | |

Operations on amputation stump

- | | |
|--|--|
| <input type="checkbox"/> X12.1 – Re-amputation at higher level | <input type="checkbox"/> X12.8 – Other specified |
| <input type="checkbox"/> X12.9 – Unspecified | |

Other

- Guillotine/Staged amputation
- Other (please specify)

8e. If YES to 8a, had the patient's planned admission been cancelled on a previous occasion? Yes No Unknown

8f. If YES to 8e, on how many occasions? Unknown

8g. If YES to 8e, was it cancelled for any other reason other than a clinical one relating specifically to the patient? Yes No Unknown

8h. If YES to 8e, please give details:





9a. In your opinion, did the time spent waiting for the operation affect the outcome? Yes No Unknown

9b. If YES, please give details:

10. To what type of area was the patient first admitted?

- | | | |
|--|---|--|
| <input type="checkbox"/> General ward | <input type="checkbox"/> Specialist vascular ward | <input type="checkbox"/> Assessment ward |
| <input type="checkbox"/> Level 2 (HDU) | <input type="checkbox"/> Diabetic/Endocrine ward | <input type="checkbox"/> Renal ward |
| <input type="checkbox"/> Level 3 (ITU) | <input type="checkbox"/> Other (please specify) | <div style="border: 1px solid black; width: 200px; height: 15px;"></div> |

C. HOSPITAL TRANSFERS

If the patient was not transferred between hospitals prior to surgery please go to question 16a

If the patient was transferred:

11a. In your opinion was there any delay in transfer to the vascular unit? Yes No Unknown

11b. If YES, what was the reason for the delay?

12. If transferred from another hospital was this:

- A protocol based transfer within a network (i.e. planned service arrangement (hub & spoke))
- A transfer outside of an existing protocol (i.e. an unplanned/emergency transfer)

13. Why was the patient transferred?

- | | |
|--|--|
| <input type="checkbox"/> Vascular surgery not available at referring hospital | <input type="checkbox"/> No Level 2 or 3 bed available at referring hospital |
| <input type="checkbox"/> Need for other specialist services, e.g. renal dialysis | <input type="checkbox"/> Receiving hospital was closer to patient's home |
| <input type="checkbox"/> Other (please specify) | <div style="border: 1px solid black; width: 500px; height: 15px;"></div> |

14. What was the urgency of the transfer? Urgent Non urgent Unknown

15a. What was the date of the transfer? Unknown

<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>	<input type="text" value=""/>
d	d	m	m	y	y

15b. What was the time of the transfer? Unknown

<input type="text" value=""/>	<input type="text" value=""/>	(24 hour clock)
h	m	



D. INITIAL ASSESSMENT FOLLOWING ADMISSION

16a. What was the grade of doctor responsible for the first assessment following admission to the hospital? (Please use grade codes on page 3) Unknown

16b. What was the specialty of doctor responsible for the first assessment following admission to the hospital? (Please use specialty codes on page 3) Unknown

17a. What was the date of the first documented assessment by a member of the vascular team? Unknown
d d m m y y y y

17b. What was the time of the first documented assessment by a member of the vascular surgical team? (24 hour clock) Unknown
h h m m

17c. What was the grade of doctor responsible for the first assessment following the transfer of care to a vascular surgeon? (Please use grade codes on page 3) Unknown

18a. If not admitted directly to vascular surgery, was there formal regular input from vascular surgery to the specialty under which the patient was first admitted? Yes No Unknown

18b. If YES, what did this constitute?

Weekly ward round Review as required On call service only/referral service

Other (please specify)

19a. Where there any comorbidities present at the time of admission?

- | | | |
|--|--|---|
| <input type="checkbox"/> Type 1 diabetes | <input type="checkbox"/> Type 2 diabetes | <input type="checkbox"/> Respiratory disease |
| <input type="checkbox"/> Chronic kidney disease (\geq stage 3; GFR $<$ 60) | | <input type="checkbox"/> Kidney dialysis |
| <input type="checkbox"/> Hypertension (requiring medication) | | <input type="checkbox"/> Previous TIA |
| <input type="checkbox"/> Previous stroke | <input type="checkbox"/> Atrial fibrillation | <input type="checkbox"/> Angina |
| <input type="checkbox"/> Previous myocardial infarction | | <input type="checkbox"/> Congestive cardiac failure |
| <input type="checkbox"/> Previous coronary stent insertion or CABG | | <input type="checkbox"/> Obesity |
| <input type="checkbox"/> Previous peripheral vascular stent insertion/reconstruction | | |
| <input type="checkbox"/> Concurrent sepsis | <input type="checkbox"/> Current smoker | <input type="checkbox"/> Dyslipidaemia |
| <input type="checkbox"/> Other (please specify) | <input type="text"/> | |

19b. If YES, was there potential to improve or control any of the comorbidities present? Yes No Unknown

19c. If YES, please give details:





20. Which of the following medications was the patient already prescribed prior to admission? (Answers may be multiple)

- Statins/Lipid modifying drugs Antiplatelet drugs ACE inhibitor
 Anticoagulants Antibiotics Unknown

E. PRE-ASSESSMENT CLINIC

21. Was this patient assessed in a pre-assessment clinic (prior to admission for amputation)? Yes No Unknown

If NO, please go to question 25

If YES, please go to question 22a

22a. What was the grade of clinician responsible for the assessment? (Please use grade codes on page 3) Unknown

22b. What was the grade of clinician responsible for the assessment? (Please use grade codes on page 3) Unknown

23a. Were any pre-operative therapeutic manoeuvres of rescheduling initiated as a result of attendance at the pre-admission clinic? Yes No Unknown

23b. If YES, please specify:

24a. Was a discharge plan discussed and recorded at the pre-assessment clinic? Yes No Unknown

24b. If YES, did this include referral to:

- Occupational therapy Social work Physiotherapy
 Limb fitting Other (please specify)

F. PRE-OPERATIVE CARE

25. Was skin viability formally assessed? Yes No Unknown

26. Was a nutrition score calculated? Yes No Unknown

27. What prophylaxis against VTE was prescribed and used?

Low molecular weight heparin Compression stockings Pneumatic compression
 None Unknown
 Other (please specify)

28. Was this patient screened for MRSA pre-operatively? Yes No Unknown

29. What was the grade of the clinician who proposed the operation? (Please use grade codes on page 3) Unknown





30a. Please state the main indication for amputation:

- | | |
|---|--|
| <input type="checkbox"/> Ischaemic rest pain | <input type="checkbox"/> Ischaemic rest pain with ulceration and/or gangrene |
| <input type="checkbox"/> Neuropathy | <input type="checkbox"/> Neuropathy with ulceration and/or gangrene |
| <input type="checkbox"/> Sepsis | <input type="checkbox"/> Severe deformity (charcot osteoarthropathy) |
| <input type="checkbox"/> Other (please specify) | <input type="text"/> |

30b. Was this a complication of diabetic foot disease? Yes No Unknown

30c. When did the patient last attend a diabetic foot clinic? (Please specify)

31a. How was the viability of the IPSILATERAL limb/foot assessed prior to surgery? (In this admission or treatment episode?)

- | | | |
|---|--|--|
| <input type="checkbox"/> No assessment | <input type="checkbox"/> Clinical assessment | <input type="checkbox"/> Duplex ultrasound |
| <input type="checkbox"/> Ankle-brachial pressure index | <input type="checkbox"/> Previous major amputation | <input type="checkbox"/> NA - bilateral amputation |
| <input type="checkbox"/> Angiography (conventional, MRA, CTA) | <input type="checkbox"/> Unknown | |

31b. In your opinion, was this assessment adequate? Yes No Unknown

31c. If assessment was not adequate, please specify why not:

32a. How was the viability of the CONTRALATERAL limb/foot assessed prior to surgery? (In this admission or treatment episode?)

- | | | |
|---|--|--|
| <input type="checkbox"/> No assessment | <input type="checkbox"/> Clinical assessment | <input type="checkbox"/> Duplex ultrasound |
| <input type="checkbox"/> Ankle-brachial pressure index | <input type="checkbox"/> Previous major amputation | <input type="checkbox"/> NA - bilateral amputation |
| <input type="checkbox"/> Angiography (conventional, MRA, CTA) | <input type="checkbox"/> Unknown | |

32b. In your opinion, was this assessment adequate? Yes No Unknown

32c. If assessment was not adequate, please specify why not:



33. Did the patient receive pre-operative counselling or review by any of the services listed in the table below. (Please mark all that apply)

	Psychologist	Amputee coordinator	Physio-therapist	Podiatrist	Vascular nurse specialist	Disbetes nurse specialist
Seen pre-operatively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Not usual practice	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
No service provided within hospital or Trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service provided at another site within Trust	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Service provided but support worker not available	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Insufficient time for clinical/surgical reasons	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Unknown	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other (please give details)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

G. CONSENT

34. What was the grade of the clinician who took consent? (Please use grade codes on page 3) Unknown
35. Was the patient given a written information sheet or DVD regarding the operation, prior to surgery? Yes No Unknown

H. PRE-OPERATIVE PREPARATION

36. Which of the following investigations were performed prior to amputation to assess the patient's risk for surgery?
- Full blood count (FBC)
 - Urea & Electrolytes (U&Es)
 - Liver function tests (LFTs)
 - Arterial blood gases
 - Electrocardiogram (ECG)
 - Echocardiogram
 - Coagulation screen
 - Myocardial perfusion scan
 - Respiratory function tests
 - Estimated glomerular filtration rate (eGFR)
 - Cardiopulmonary exercise testing
 - Chest x-ray
 - Group & save
 - Cross match
 - Other (please specify)





37a. Was this patient seen (as an inpatient) by a consultant vascular surgeon prior to amputation? Yes No Unknown

37b. If YES, what was the date of the first assessment by the consultant vascular surgeon? Unknown
d d m m y y y y

37c. If YES, what was the time of the first assessment by a consultant vascular surgeon? (24 hour clock) Unknown
h h m m

38a. Was this case discussed at a vascular MDT meeting prior to the operation? Yes No Unknown

38b. If YES, what was the date of the meeting? Unknown
d d m m y y y y

38c. If YES, was this to discuss possible revascularisation? Yes No Unknown

38d. If YES, was this only to discuss amputation? Yes No Unknown

39a. What was the patient's ASA status IMMEDIATELY PRIOR TO SURGERY? (Please mark one box only)
 ASA 1 ASA 2 ASA 3 ASA 4 ASA 5 Unknown

39b. Was there any substantial deterioration in the patient's ASA status between admission and surgery? Yes No Unknown

40a. Were prophylactic antibiotics administered to cover the procedure either pre-operatively, on induction or during the operation? Yes No Unknown

40b. If YES, for how many days were they given post operatively? Unknown
 NA - not given post operatively

41a. Did this patient require pre-operative pain control? Yes No Unknown

41b. If YES, please indicate the methods used:
 Simple analgesics (i.e. paracetamol, NSAIDs) Weak opioids (i.e. tramadol, codeine)
 Strong opioids (i.e. morphine, fentanyl, oxycodone, pethidine)
 Adjuvants (i.e. antidepressants, anticonvulsants) Patient controlled analgesia system
 Epidural catheter Other (please specify)

42. Was the patient seen by the inpatient acute pain team? Yes No Unknown

I. PREVIOUS OPERATIONS OR INTERVENTIONAL RADIOLOGY

43. Has any procedure been undertaken previously on the limb requiring amputation, (prior to surgery)? Yes No Unknown



44a. Please list any relevant interventional radiological procedures or operations (including reconstruction, limb salvage procedure, distal amputations, lumbar sympathectomy) on the limb requiring amputation.

Operation (please specify)	Date of operation (dd/mm/yy)	Was this during the same admission as the one for amputation?	Indication			
			Aneurysm	Fontaine II*	Fontaine III*	Fontaine IV*
1.	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

44b. If any of the previous procedures was an amputation please indicate if a trainee performed this together with their grade (without a consultant in the operating theatre)

Operation	Grade of trainee

J. OPERATION

45a. Was there a clinically significant delay between the decision to perform the amputation and the operation? (Please include delay as a result of cancellation) Yes No Unknown

45b. If YES, how long was the delay? Days Hours Unknown

- 45c. If YES, what was the reason for the delay?
- Non availability of surgeon Non availability of anaesthetist
 - Patient requiring additional pre-operative treatment/optimisation/resuscitation
 - Non availability of theatre Non availability of theatre staff
 - Superceded by other cases on emergency list Patient choice (initially refused amputation)
 - Other (please specify)

46a. Was the operation booked and cancelled? Yes No Unknown

46b. If YES, how many times was the surgery rescheduled? Unknown





47. Please indicate the urgency of the procedure

- Immediate** Immediate life or limb saving surgery. Resuscitation simultaneous with surgical treatment.
- Urgent** Acute onset or deterioration of conditions that threaten life, limb or organ survival; fixation of fractures; relief of distressing symptoms including acute surgical admissions not requiring an operation.
- Expedited** Stable patient requiring early intervention for a condition that is not an immediate threat to life, limb or organ survival.
- Elective** Surgical procedure planned or booked in advance of routine admission to hospital.

48. What type of operation was performed?

Amputation of leg

- X09.1 – Hindquarter amputation
- X09.2 – Disarticulation of hip
- X09.3 – Amputation of leg above knee
- X09.4 – Amputation of leg through knee
- X09.5 – Amputation of leg below knee
- X09.8 – Other specified
- X09.9 – Unspecified

Operations on amputation stump

- X12.1 – Re-amputation at higher level
- X12.8 – Other specified
- X12.9 – Unspecified

Other

Guillotine/Staged amputation

Other (please specify)

49a. Please specify the date of this amputation:

Unknown
d d m m y y y y

49b. Please specify the time of the operation:

(24 hour clock) Unknown
h h m m

50. If the operation undertaken was different to that proposed, please give details as to why

51a. Were there any unanticipated intra-operative problems?

Yes No Unknown

51b. If YES, please specify





52a. With the benefit of hindsight, is there anything you would have done differently in the management of this case? Yes No Unknown

52b. If YES, please specify

53. Where was the operation undertaken?

Emergency theatre Elective operating list Unknown

Other (please specify)

54. What was the grade of the primary surgeon who performed the operation? (Please use grade codes on page 3) Unknown

55. What was the grade of the most senior surgeon present in the operating theatre? (Please use grade codes on page 3) Unknown

56. If there was a supervisor were they:

Scrubbed Unscrubbed but in operating theatre in hospital

Unscrubbed in hospital Not in the hospital

Other (please specify)

57. Which type of dressing was used post operatively?

Rigid Semi-rigid Unknown

58a. Did the patient receive a blood transfusion? Yes No Unknown

58b. If YES, how many units? Unknown

58c. If YES, was there a delay in the availability of blood products? Yes No Unknown

59. Which of the following were recorded:

	During the operation	Post operatively
Pulse oximetry	<input type="checkbox"/>	<input type="checkbox"/>
Central venous pressure	<input type="checkbox"/>	<input type="checkbox"/>
Invasive arterial pressure (intra-arterial catheter)	<input type="checkbox"/>	<input type="checkbox"/>
Pulmonary artery catheter	<input type="checkbox"/>	<input type="checkbox"/>
Transoesophageal echocardiography	<input type="checkbox"/>	<input type="checkbox"/>
Cardiac output measurement	<input type="checkbox"/>	<input type="checkbox"/>
Other (please specify)	<div style="border: 1px solid black; width: 100%; height: 20px;"></div>	<div style="border: 1px solid black; width: 100%; height: 20px;"></div>





60. How long did the patient spend in the recovery room (post anaesthetic care unit)? Days Hours Unknown

K. ANAESTHESIA

61a. What was the date of the first pre-operative anaesthetic review? Unknown
d d m m y y y y

61b. What was the time of the first pre-operative anaesthetic review? (24 hour clock) Unknown
h h m m

62a. What was the grade of the first anaesthesia reviewer? (Please use grade codes on page 3) Unknown

62b. What was the specialty of the first anaesthesia reviewer (i.e. vascular anaesthetist)? (Please use specialty codes on page 3) Unknown

63. For the operation, what type of anaesthetic did the patient receive? (Answers may be multiple)

General anaesthetic Spinal anaesthetic Epidural

Intravenous sedation Other (please specify)

64. What was the grade of the most senior anaesthetist involved in the operation? (Please use grade codes on page 3) Unknown

L. POST OPERATIVE CARE

65. Where was the patient admitted to immediately after leaving the theatre/recovery suite/PACU?

Specialist vascular unit Level 3 (ICU) Mortuary (Go to 92)

Non vascular ward Level 2 (HDU)

Other (please specify)

66a. Was an escalation of care, requiring transfer to another clinical area, needed during the post operative period? Yes No Unknown

66b. If YES, where did the patient go?

Specialist vascular unit Level 3 (ICU) Level 2 (HDU)

Coronary care unit Other (please specify)

66c. If YES to 66a, were you at any time unable to transfer the patient into a higher care area within the hospital in which the procedure took place? Yes No Unknown

66d. If YES, why?





67a. Did any of the following post operative complications occur:

- | | |
|--|--|
| <input type="checkbox"/> Post operative bleeding (return to theatre) | <input type="checkbox"/> Wound infection |
| <input type="checkbox"/> Chest infection | <input type="checkbox"/> Urinary tract infection |
| <input type="checkbox"/> Respiratory failure | <input type="checkbox"/> Cardiac arrhythmia (new) |
| <input type="checkbox"/> Myocardial infarction | <input type="checkbox"/> Post operative delirium |
| <input type="checkbox"/> Bloodstream infection (bacteraemia) | <input type="checkbox"/> Clostridium difficile infection |
| <input type="checkbox"/> Significant deterioration in renal function | <input type="checkbox"/> Deep vein thrombosis |
| <input type="checkbox"/> Acute renal failure requiring renal replacement therapy | <input type="checkbox"/> Pulmonary embolus |
| <input type="checkbox"/> Pressure sores - contralateral limb | |
| <input type="checkbox"/> Pressure sores - other site (please specify) | <input type="text"/> |

67b. Did any of the following occur?

- | | | | |
|--|------------------------------|-----------------------------|----------------------------------|
| Stump cellulitis (infection) without breakdown | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
| Stump breakdown | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |
| Stump contracture | <input type="checkbox"/> Yes | <input type="checkbox"/> No | <input type="checkbox"/> Unknown |

68. Was a falls assessment undertaken? (Answers may be multiple)

- Pre-operatively Post operatively Not undertaken Unknown

69a. Did the patient experience a fall post operatively? Yes No Unknown

69b. If YES, please give details:

69c. If YES to 69a, was there any adverse consequence to the fall? Yes No Unknown

69d. If YES, please give details:

70. Please describe any OTHER significant post operative complications (with the exception of death):

71. Was a nutritional assessment performed post operatively? Yes No Unknown

72. Were nutritional supplements provided? Yes No Unknown





If you are unable to complete the next few questions, they should be completed in conjunction with the relevant colleagues including nursing, physiotherapy and occupational therapy (or from the nursing records) where required.

73a. Was the patient provided with a wheelchair for their sole use post operatively? Yes No Unknown

73b. If NO, why not?

74a. Were protocols for early mobilisation used for this patient? Yes No Unknown

74b. If NO, why not?

75a. If a transtibial amputation was undertaken, was a stump board used? Yes No Unknown
 Not applicable

75b. If NO, why not?

76a. Were stump compression socks used for this patient? Yes No Unknown

76b. If NO, why not?

77. Which of the following were involved in the patient's post operative inpatient care?

- Physiotherapist Occupational therapist Social services
- Amputee specialist nurse Consultant in rehabilitation medicine
- Medicine for the elderly (for rehabilitation)
- Clinical psychologist Other (please specify)

78. What type of mattress was the patient cared for on post operatively?

M. PAIN MANAGEMENT

79. Was the patient referred to an acute pain team post operatively? Yes No Unknown



N. POST OPERATIVE PAIN MANAGEMENT

80. Was a post operative risk assessment for the development of a contralateral heel and/or foot pressure ulcer undertaken on this patient, i.e Waterlow, Braden? Yes No Unknown
81. Did the patient develop a contralateral heel and/or foot pressure ulcer during their hospital stay? Yes No Unknown
- 82a. Was the patient referred to an amputation rehabilitation team or disablement services centre post operatively? Yes No Unknown
- 82b. If NO, why not?

O. DISCHARGE

83. What was the outcome of this patient?
- Discharged alive (<=30 days of operation) Still in hospital (>=30 days of operation)
- Died (<=30 days of operation)

If the patient survived, please go to question 84

If the patient died, please go to question 93

For patients who survived:

84. If discharged alive within 30 days of the operation, where was the patient discharged to?
- Home Another secondary care facility
- Community care facility with rehabilitation services
- Community care - other

85. What was the date of discharge? Unknown
- d d m m y y y y

86. Which rehabilitation services were arranged for the patient following discharge?
- Care of the elderly Rehabilitation medicine Physiotherapy
- Occupational therapy Care in the community Unknown
- Limb fitting Specialist amputation rehabilitation service
- None Other (please specify)





87a. If the patient was transferred from another hospital for their amputation, were they repatriated to the referring hospital following surgery?

- Yes No Unknown
 Not applicable

87b. Is there a formal written policy for this?

- Yes No Unknown

87c. If YES to 87a, was this difficult to arrange?

- Yes No Unknown

If the patient was transferred to a secondary care facility (i.e. back to another hospital)

88a. Was the patients wound fully healed prior to transfer back?

- Yes No Unknown

89. Please estimate the mileage from the patient's home address to the limb fitting facility

- Miles Unknown

90a. Was there a package of care for the remaining limb at the time of discharge?

- Yes No Unknown

90b. If YES, what did this include?

90c. If NO, why not?

91. Was a vascular assessment of the contralateral limb undertaken prior to discharge?

- Yes No Unknown

92. Was the patient referred to a rehabilitation team whilst in secondary care?

- Yes No Unknown

For patients who died:

93. Place of death

- Theatre Level 3 (ICU) Level 2 (HDU)
 Recovery room Specialist ward General ward
 Other (please specify)

P. AUDIT

94. Was there a critical incident during this admission?

- Yes No Unknown

95a. Was the outcome of this case discussed at a multi-disciplinary review/audit/mortality meeting?

- Yes No Unknown

95b. If YES, was there a notable conclusion that might influence your future practice in this type of scenario?

- Yes No Unknown





95c. If YES to 95b, what was this conclusion?

96. Were details of this case submitted to the National Vascular Database?

Yes No Unknown

IF THE PATIENT HAD DIABETES PLEASE CONTINUE ON THE NEXT PAGE; IF NOT:

Thank you for taking the time to complete this questionnaire



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NCEPOD
Ground Floor, Abbey House
74 - 76 St John Street
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LOWER LIMB AMPUTATION STUDY

National Confidential Enquiry into Patient Outcome and Death (NCEPOD)

CLINICAL QUESTIONNAIRE (DIABETES)

CONFIDENTIAL

NCEPOD number:

R. DIABETES

97a. What type of diabetes did the patient have?

- Type 1
 Type 2
 Other (insulin treated) e.g. pancreatitis

97b. Which of the following treatments was the patient receiving? (Answers may be multiple)

- Insulin
 Sulphonylureas (e.g. Gliclazide, Glipizide)
- Metformin
 Thiazolidinediones ("Glitazones")
- Dipeptidylpeptidase-4 inhibitors ("Gliptins")
 GLP-1 agonists (Exenatide/liraglutide)
- Other (please specify)

PRE-ADMISSION MANAGEMENT

98a. If an ELECTIVE PROCEDURE was undertaken, was an HbA1c performed prior to surgery to assess recent pre-operative diabetes control?

- Yes
 No
 Unknown

98b. If YES, what was the result?

- %
 OR
 mmol/mol
 Unknown

98c. If the HbA1c was >8.5% or 69mmol/mol was there evidence of an attempt to improve control before admission for the operative procedure?

- Yes
 No
 Unknown

98d. If YES to 98c, to which service was the patient referred to improve control?

- Diabetes team
 Primary care
 Unknown

98e. If referred to improve control was an HbA1c of <8.5% or 69mmol/mol achieved prior to admission?

- Yes
 No
 Unknown

99. If an EMERGENCY PROCEDURE was undertaken, was the HbA1c <8.5% or 69mmol/mol on admission?

- Yes
 No
 Unknown

PRE-OPERATIVE MANAGEMENT: ON ADMISSION

100a. Was the patient admitted under the diabetes service?

- Yes
 No
 Unknown

100b. If NO, was the patient reviewed by a diabetes consultant pre-operatively?

- Yes
 No
 Unknown



5 4 4 8 3 3 5 7 8 8 0 8 1



100c. If YES, what was the date of the first review?

<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
d	d	m	m	y	y	y	y

Unknown

101a. Was a diabetes specialist nurse (DSN) involved in the care of this patient pre-operatively?

Yes No Unknown

101b. If YES, did they advise on pre-operative glycaemic control?

Yes No Unknown

102. In your opinion, was satisfactory glycaemic control achieved in the peri-operative period?

Yes No Unknown

POST OPERATIVE GLYCAEMIC MANAGEMENT

103. Did the patient develop diabetic ketoacidosis (DKA) at any time AFTER their admission?

Yes No Unknown

INTRAVENOUS INSULIN INFUSION

104. Did the patient receive an intravenous insulin infusion at any time during the admission?

Yes No Unknown

105. In your opinion was hyperglycaemia adequately managed/avoided during the insulin infusion?

Yes No Unknown

106. Did hypoglycaemia occur while on the insulin infusion (glucose <4mmol/L)?

Yes No Unknown

Thank you for taking the time to complete this questionnaire

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