CONFIDENTIAL

The National Clinical Coding Examination [UK]

25 September 2018

Paper 1 Practical - ANSWERS
9:30 am - 12:35 pm
[THREE HOURS]

Please spend the first 5 minutes reading through the ‘Instructions to Candidates’

This Examination Paper consists of 2 Sections: A and B.

**Section A – Practical Coding [30% of the Marks]**
Answer all questions in the spaces provided on the Examination Paper.

**Section B – Case Studies [70% of the Marks]**
Case Studies 1-7.
Answer all questions using the Answer Sheets provided.
Write only on one side of the Answer Sheets provided.
Section A [1] 15%
Write your candidate number on EVERY page

ICD-10 codes are required for the first 15 questions [1 – 15]
[OPCS-4 codes are NOT required]

Provide appropriate code(s) for the following conditions in the boxes alongside each question. If more than one code is required, please use separate boxes for each code to make sequencing clear, for example, box 1 should contain the primary diagnosis code. [The number of boxes is not necessarily indicative of the codes required].

Question 1
Amino-acid transport disorder. [3 Marks]

**CODES AND TITLES**
E72.0 Disorders of amino-acid transport

**Index:**
Disorder (of) – see also Disease
- amino-acid
  - transport NEC E72.0

**Tabular:**
E72.0 Disorders of amino-acid transport

Question 2
Patient admitted for treatment of coarctation of the aorta. The coarctation is a manifestation of karyotype 45,X Turner syndrome. [6 Marks]

**CODES AND TITLES**
Q25.1 Coarctation of aorta
Q96.0 Karyotype 45,X

**Index:**
Coarctation of aorta (preductal) (postductal) Q25.1
Or
Anomaly, anomalous (congenital) (unspecified type) Q89.9
  - aorta (arch) NEC Q25.4
  - coarctation (preductal) (postductal) Q25.1

**Tabular:**
Q25.1 Coarctation of aorta
Question 3

The patient was admitted for surgical correction of an intermittent squint. The patient was first on the theatre list due to attention deficit hyperactivity disorder and anxiety. [8 Marks]

CODES AND TITLES

<table>
<thead>
<tr>
<th>CODE</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>H50.3</td>
<td>Intermittent heterotropia</td>
</tr>
<tr>
<td>F90.0</td>
<td>Disturbance of activity and attention</td>
</tr>
<tr>
<td>F41.9</td>
<td>Anxiety disorder, unspecified</td>
</tr>
</tbody>
</table>

Index:

Squint (see also Strabismus) H50.9

Strabismus (alternating) (congenital) (nonparalytic) H50.9

- intermittent H50.3

Tabular:

H50.3 Intermittent heterotropia

Index:

Attention (to)

- deficit disorder or syndrome F98.8
- - with hyperactivity F90.0

Or

Deficiency, deficient

- attention (disorder) (syndrome) F98.8
- - with hyperactivity F90.0

Or

Disorder (of) – see also Disease

- attention deficit, with hyperactivity F90.0

Tabular:

F90.0 Disturbance of activity and attention

Attention deficit:
- disorder with hyperactivity
- hyperactivity disorder

**Index:**
Anxiety F41.9

**Tabular:**
F41.9 Anxiety disorder, unspecified
   Anxiety NOS

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**Question 4**

Treated for acute renal failure on a background of chronic kidney disease, stage 4 (CKD 4) and hypertensive renal disease. [9 Marks]

**CODES AND TITLES**

1. N17.9 Acute renal failure, unspecified
2. N18.4 Chronic kidney disease, stage 4
3. I12.0 Hypertensive renal disease with renal failure

**Index:**
Failure, failed
- kidney N19
  - acute N17.9

**Tabular:**
N17.9 Acute renal failure, unspecified

**Index:**
Disease, diseased – see also Syndrome
- kidney (functional) (pelvis) N28.9
  - chronic N18.9
    - stage 4 N18.4

**Tabular:**
N18.4 Chronic kidney disease, stage 4

**Index:**
Disease, diseased – see also Syndrome
- renal – see Disease, kidney
- kidney (functional) (pelvis) N28.9
  - chronic N18.9
    - hypertensive (see also Hypertension, kidney) I12.0
Or
Hypertension, hypertensive (accelerated) (benign) (essential) (idiopathic) (malignant) (primary) (systemic) I10
- renal (see also Hypertension, kidney) I12.9

Hypertension, hypertensive (accelerated) (benign) (essential) (idiopathic) (malignant) (primary) (systemic) I10
- kidney I12.9
  - - with
  - - - renal failure I12.0

Tabular:
I12.0 Hypertensive renal disease with renal failure

Question 5
Patient admitted for fixation of a pathological femoral fracture due to osteosarcoma of the proximal femur. Co-morbidity of type 2 diabetes mellitus on insulin. [11 Marks]

CODES AND TITLES
M90.75* Fracture of bone in neoplastic disease (C00-D48†) - Pelvic region and thigh
C40.2 Malignant neoplasm of long bones of lower limb
E11.9 Type 2 diabetes mellitus - Without complications

Index:
Fracture (abduction) (adduction) (avulsion) (comminuted) (compression) (dislocation) (oblique) (separation) T14.2
- neoplastic NEC (see also Neoplasm) D48.9† M90.7*
Or
Fracture (abduction) (adduction) (avulsion) (comminuted) (compression) (dislocation) (oblique) (separation) T14.2
- pathological (cause unknown) M84.4
- - due to neoplastic disease NEC (see also Neoplasm) D48.9† M90.7*
Or
Fracture (abduction) (adduction) (avulsion) (comminuted) (compression) (dislocation) (oblique) (separation) T14.2
- bone T14.2
- - in (due to) neoplastic disease NEC (see also Neoplasm) D48.0† M90.7*

Tabular:
M90.75* Fracture of bone in neoplastic disease (C00-D48†)
5 Pelvic region and thigh
**Index:**

Osteosarcoma – see also Neoplasm, bone, malignant

<table>
<thead>
<tr>
<th>Malignant</th>
<th>Primary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neoplasm, neoplastic</td>
<td>C80.9</td>
</tr>
<tr>
<td>- bone (periosteum)</td>
<td>C41.9</td>
</tr>
<tr>
<td>- - femur (any part)</td>
<td>C40.2</td>
</tr>
<tr>
<td>- - femur (any part)</td>
<td>C40.2</td>
</tr>
</tbody>
</table>

**Tabular:**

C40.2 Malignant neoplasm of long bones of lower limb

**Index:**

Diabetes, diabetic (mellitus) (controlled) (familial) (severe) E14.
- type 2 (nonobese) (obese) E11.

**Tabular:**

E11 Type 2 diabetes mellitus
9 Without complications

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**Question 6**

Urinary sphincter weakness incontinence. [3 Marks]

**CODES AND TITLES**

N39.3 Stress incontinence

**Index:**

Incontinence R32
- stress (female) (male) N39.3
Or
Incontinence R32
- urine, urinary R32
  - - specified NEC N39.4
  - - stress (female) (male) N39.3

**Tabular:**

N39.3 Stress incontinence
Question 7

Post-operative wound infection of the skin overlying a femoral artery bypass graft. The infection is resistant to two antibiotics. [9 Marks]

CODES AND TITLES
T81.4 Infection following a procedure, not elsewhere classified
U83.7 Resistance to multiple antibiotics
Y83.2 Surgical operation with anastomosis, bypass or graft

Index:
Infection, infected (opportunistic) B99
- operation wound T81.4
Or
Infection, infected (opportunistic) B99
- postoperative wound T81.4
Or
Infection, infected (opportunistic) B99
- wound (local) (post-traumatic) NEC T79.3
- surgical T81.4

Tabular:
T81.4 Infection following a procedure, not elsewhere classified

Index:
Resistance, resistant (to)
- antibiotic, antibiotics U83.9
- multiple U83.7

Tabular:
U83.7 Resistance to multiple antibiotics

Index:
Complication (delayed) (of or following) (medical or surgical procedure) Y84.9
- bypass Y83.2
Or
Complication (delayed) (of or following) (medical or surgical procedure) Y84.9
- graft Y83.2
Or
Complication (delayed) (of or following) (medical or surgical procedure) Y84.9

(See note re: Z95.8 in marking scheme)
- surgical operation NEC (*see also* Complication, by type of operation) Y83.9
  - - reconstructive NEC Y83.4
  - - - with
  - - - - anastomosis, bypass or graft Y83.2

**Tabular:**
Y83.2 Surgical operation with anastomosis, bypass or graft

**Question 8**

<table>
<thead>
<tr>
<th>Baby born in hospital at 35 weeks gestation with a grade 1 intraventricular haemorrhage, which required repeated investigations (considered the most clinically significant). [9 Marks]</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CODES AND TITLES</strong></td>
</tr>
<tr>
<td>P52.0 Intraventricular (nontraumatic) haemorrhage, grade 1, of fetus and newborn</td>
</tr>
<tr>
<td>Z38.0 Singleton, born in hospital</td>
</tr>
<tr>
<td>P07.3 Other preterm infants</td>
</tr>
<tr>
<td><strong>Index:</strong></td>
</tr>
<tr>
<td>Conditions arising in the perinatal period</td>
</tr>
<tr>
<td>- hemorrhage, hemorrhagic</td>
</tr>
<tr>
<td>- - intraventricular, fetus or newborn (nontraumatic) P52.3</td>
</tr>
<tr>
<td>- - - grade</td>
</tr>
<tr>
<td>- - - - 1 P52.0</td>
</tr>
<tr>
<td>Or</td>
</tr>
<tr>
<td>Hemorrhage, hemorrhagic R58</td>
</tr>
<tr>
<td>- intraventricular I61.5</td>
</tr>
<tr>
<td>- - fetus or newborn (nontraumatic) P52.3</td>
</tr>
<tr>
<td>- - - grade</td>
</tr>
<tr>
<td>- - - - 1 P52.0</td>
</tr>
</tbody>
</table>

**Tabular:**
P52.0 Intraventricular (nontraumatic) haemorrhage, grade 1, of fetus and newborn

**Index:**
Newborn (infant) (liveborn) (singleton) Z38.2
- born in hospital Z38.0

Or
Infant(s) – *see also* Infancy
- liveborn (singleton) Z38.2
- - born
- - - in hospital Z38.0

**Tabular:**
Z38.0 Singleton, born in hospital

**Index:**
**Birth**
- immature (between 28 and 37 completed weeks) P07.3
- premature (infant) P07.3
Or
**Conditions arising in the perinatal period**
- birth
  - - immature (between 28 and 37 completed weeks) P07.3
  - - premature (infant) P07.3
Or
**Conditions arising in the perinatal period**
- immaturity (28 completed weeks or more but less than 37 completed weeks) P07.3
  - - fetal, fetus P07.3
  - - infant P07.3
  - - newborn P07.3
Or
**Conditions arising in the perinatal period**
- premature - see also condition
  - - birth NEC P07.3
  - - delivery, newborn NEC P07.3
  - - infant NEC P07.3
  - - labor, newborn NEC P07.3
Or
**Conditions arising in the perinatal period**
- preterm infant, newborn NEC P07.3
Or
**Conditions arising in the perinatal period**
- delivery (single)
  - - premature or preterm NEC, affecting fetus or newborn P07.3
Or
**Conditions arising in the perinatal period**
- gestation (period) Conditions arising in the perinatal period, pregnancy
  - - 28 weeks but less than 37 weeks P07.3
Or
**Preterm infant, newborn NEC** P07.3
Or
**Prematurity NEC (less than 37 completed weeks)** P07.3
Immaturity (28 completed weeks or more but less than 37 completed weeks) P07.3

Tabular:
P07.3 Other preterm infants

<table>
<thead>
<tr>
<th>Question 9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic peptic ulcer of the stomach due to <em>Helicobacter pylori</em>. [6 Marks]</td>
</tr>
</tbody>
</table>

**CODES AND TITLES**
- K25.7 Gastric ulcer - Chronic without haemorrhage or perforation
- B98.0 Helicobacter pylori [H.pylori] as the cause of diseases classified to other chapters

**Index:**
- Ulcer, ulcerated, ulcerating, ulceration, ulcerative L98.4
- stomach (eroded) (peptic) (round) K25.9
- chronic K25.7

**Tabular:**
- K25 Gastric ulcer
- 7 Chronic without haemorrhage or perforation

**Index:**
- *Helicobacter pylori*, as cause of disease classified elsewhere B98.0
- Or
- Infection, infected (opportunistic) B99
  - Helicobacter pylori, as cause of disease classified elsewhere B98.0

**Tabular:**
- B98.0 Helicobacter pylori [H.pylori] as the cause of diseases classified to other chapters

<table>
<thead>
<tr>
<th>Question 10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ruptured spleen and two fractured ribs from a fall off a jet ski off the coast of Devon. [11 Marks]</td>
</tr>
</tbody>
</table>

**CODES AND TITLES**
- S36.00 Injury of spleen - without open wound into cavity
- S22.40 Multiple fractures of ribs - closed
**V92.3 Water-transport-related drowning and submersion without accident to watercraft - Other powered watercraft**

**Index:**
Rupture, ruptured
- spleen (traumatic) S36.0
Or
Rupture, ruptured
- traumatic
  - spleen S36.0

**Tabular:**
S36.0 Injury of spleen
0 without open wound into cavity

**Index:**
Fracture (abduction) (adduction) (avulsion) (comminuted) (compression) (dislocation) (oblique) (separation) T14.2
- rib S22.3
  - multiple S22.4
Or
Fracture (abduction) (adduction) (avulsion) (comminuted) (compression) (dislocation) (oblique) (separation) T14.2
- multiple
  - ribs S22.4

**Tabular:**
S22.4 Multiple fractures of ribs
0 closed

**Index:**
Fall, falling (accidental) W19
- from, off
  - boat, ship, watercraft NEC (with drowning or submersion) V92.-

**Tabular:**
V92 Water-transport-related drowning and submersion without accident to watercraft
.3 Other powered watercraft
  - Jet skis
**Question 11**

**Influenzal pleural effusion due to H1N1 swine flu. [3 Marks]**

<table>
<thead>
<tr>
<th>CODES AND TITLES</th>
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<tbody>
<tr>
<td>J10.1 Influenza with other respiratory manifestations, seasonal influenza virus identified</td>
<td>1.</td>
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**Index:**

**Effusion**
- pleura, pleurisy, pleuritic, pleuropericardial J90
- - influenza (see also Influenza, with, respiratory manifestations) J11.1

**Influenza (specific virus not identified) J11.1**
- with
  - - respiratory manifestations NEC J11.1
  - - seasonal influenza virus identified J10.1
Or
**Influenza (specific virus not identified) J11.1**
- with
  - - pleural effusion NEC J11.1
  - - seasonal influenza virus identified J10.1

**Tabular:**

<table>
<thead>
<tr>
<th>J10.1 Influenza with other respiratory manifestations, seasonal influenza virus identified</th>
<th></th>
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</thead>
<tbody>
<tr>
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<td>6.</td>
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</tbody>
</table>

**Question 12**

**Residual fourth cranial nerve palsy due to previous tuberculous meningitis. Known to have hypertension. [9 Marks]**

<table>
<thead>
<tr>
<th>CODES AND TITLES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>H49.1 Fourth [trochlear] nerve palsy</td>
<td>1.</td>
</tr>
<tr>
<td>B90.0 Sequelae of central nervous system tuberculosis</td>
<td>2.</td>
</tr>
<tr>
<td>I10.X Essential (primary) hypertension</td>
<td>3.</td>
</tr>
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<td></td>
<td>4.</td>
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<td>5.</td>
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<td>6.</td>
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</tbody>
</table>

**Index:**

**Palsy (see also Paralysis) G83.9**
- cranial nerve – see also Disorder, nerve, cranial

**Disorder (of) – see also Disease**
- nerve G58.9
  - - cranial G52.9
  - - - fourth NEC H49.1
Or
Paralysis, paralytic (complete) (incomplete) *(see also Paresis) G83.9
- nerve – *see also Disorder, nerve
  - - fourth or trochlear H49.1

**Tabular:**
H49.1 Fourth [trochlear] nerve palsy

**Index:**
Sequelae (of) - *see also condition
  - tuberculosis B90.9
  - - central nervous system B90.0

**Tabular:**
B90.0 Sequelae of central nervous system tuberculosis

**Index:**
Hypertension, hypertensive (accelerated) (benign)
(essential) (idiopathic) (malignant) (primary) (systemic) I10

**Tabular:**
I10 Essential (primary) hypertension

**Question 13**
Farmworker admitted with severe *Brucella* (Gram-negative) sepsis. [9 Marks]

**CODES AND TITLES**
A23.9 Brucellosis, unspecified
A41.5 Sepsis due to other Gram-negative organisms
R65.1 Systemic Inflammatory Response Syndrome of infectious origin with organ failure

**Index:**
Sepsis (generalized) *(see also Infection) A41.9
  - Brucella *(see also Brucella) A23.9
  Or
Brucella, brucellosis (infection) A23.9
  - sepsis A23.9

**Tabular:**
A23.9 Brucellosis, unspecified
Index:
Sepsis (generalized) *(see also Infection)* A41.9
  - Gram-negative (organism) A41.5

Tabular:
A41.5 Sepsis due to other Gram-negative organisms

Index:
Sepsis (generalized) *(see also Infection)* A41.9
  - severe, as a result of disease classified elsewhere R65.1
  Or
  Syndrome – *(see also Disease)*
  - systemic inflammatory response as a result of disease
    classified elsewhere R65.9
    - - infectious origin
    - - - with organ failure (severe sepsis) R65.1

Tabular:
R65.1 Systemic Inflammatory Response Syndrome of
  infectious origin with organ failure
    Severe sepsis

Question 14
Stage 2 and 3 pressure sores (heel and buttock respectively) both found to be infected with coagulase-negative *staphylococcus*. [9 Marks]

**CODES AND TITLES**
L89.2 Stage III decubitus ulcer
L08.9 Local infection of skin and subcutaneous tissue, unspecified
B95.7 Other staphylococcus as the cause of diseases classified to other chapters

Index:
Pressure
  - sore (chronic) L89.-
  - - stage
  - - - III L89.2
  Or
  Sore
  - pressure L89.-
  - - stage
  - - - III L89.2
Tabular:
L89.2 Stage III decubitus ulcer

Index:
Infection, infected (opportunistic) B99
- skin (local) (staphylococcal) (streptococcal) L08.9

Tabular:
L08.9 Local infection of skin and subcutaneous tissue, unspecified

Index:
Staphylococcus, staphylococcal - see also condition
- specified NEC, as cause of disease classified elsewhere B95.7
Or
Infection, infected (opportunistic) B99
- staphylococcal NEC A49.0
  - as cause of disease classified elsewhere B95.8

Tabular:
B95.7 Other staphylococcus as the cause of diseases classified to other chapters

Question 15
Selective deficiency of immunoglobulin M. [3 Marks]

CODES AND TITLES
D80.4 Selective deficiency of immunoglobulin M [IgM]

Index:
Deficiency, deficient
- immunoglobulin, selective
  - M (IgM) D80.4
Or
Immunodeficiency D84.9
- selective, immunoglobulin
  - M (IgM) D80.4

Tabular:
D80.4 Selective deficiency of immunoglobulin M [IgM]

[Total for Section A [1]: 108]
Section A [2] 15%
Write your candidate number on every page

OPCS-4.8 codes are required for the next 15 questions [16 – 30]
[ICD-10 codes are NOT required]

Provide appropriate code(s) for the following interventions/procedures in the boxes alongside each question. If more than one code is required, please use separate boxes for each code to make sequencing clear, for example, box 1 should contain the primary procedure/intervention code.
[The number of boxes is not necessarily indicative of the codes required].

Question 16

Recession of the medial rectus muscle and resection of the lateral rectus muscle with insertion of an adjustable suture into the muscle of the left eye. [8 Marks]

<table>
<thead>
<tr>
<th>CODES AND TITLES</th>
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</tr>
</thead>
<tbody>
<tr>
<td>C31.1 Recession of medial rectus muscle and resection of lateral rectus muscle</td>
<td></td>
</tr>
<tr>
<td>of eye</td>
<td></td>
</tr>
<tr>
<td>C35.3 Insertion of adjustable suture into muscle of eye</td>
<td></td>
</tr>
<tr>
<td>Z94.3 Left sided operation</td>
<td></td>
</tr>
</tbody>
</table>

Index:
C31.- Recession Eye Muscle & Resection
Or
C31.- Resection Eye Muscle & Recession

Tabular:
Note: Use an additional code for insertion of adjustable suture into muscle of eye (C35.3)
C31.1 Recession of medial rectus muscle and resection of lateral rectus muscle of eye

Index:
C35.3 Suture Eye Muscle Adjustable Insertion
Or
C35.3 Suture Muscle Eye Adjustable Insertion

Tabular:
C35.3 Insertion of adjustable suture into muscle of eye
Note: Use as an additional code when associated with concurrent procedures on muscle of the eye (C31-C37)
Question 17
Second episode for delivery of hypofractionated stereotactic external beam radiotherapy to a pituitary gland adenoma using a megavoltage machine. [9 Marks]

<table>
<thead>
<tr>
<th>CODES AND TITLES</th>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X65.4</td>
<td>Delivery of a fraction of external beam radiotherapy NEC</td>
<td>1. X65.4</td>
<td></td>
</tr>
<tr>
<td>Y91.5</td>
<td>Megavoltage treatment for hypofractionated stereotactic radiotherapy</td>
<td>2. Y91.5</td>
<td></td>
</tr>
</tbody>
</table>

**Index:**
X65.- Delivery Radiotherapy
Or
X65.- Radiotherapy Delivery

**Tabular:**
X65.4 Delivery of a fraction of external beam radiotherapy NEC

*Note: Use a subsidiary code to identify external beam radiotherapy (Y91)*

**Index:**
Y91.- Radiotherapy External Beam

**Tabular:**
Y91.5 Megavoltage treatment for hypofractionated stereotactic radiotherapy

**Index:**
Z14.1 Pituitary site
Or
Z14.- Endocrine Gland site NEC

**Tabular:**
Z14.1 Pituitary gland
### Question 18

**Emergency admission added to a pre-scheduled theatre list for a replacement of an aneurysmal segment of the aortic arch with anastomosis of the aorta to aorta, under cardiopulmonary bypass. [9 Marks]**

**CODES AND TITLES**
- L18.2 Emergency replacement of aneurysmal segment of thoracic aorta by anastomosis of aorta to aorta NEC
- Y73.1 Cardiopulmonary bypass
- Z34.2 Aortic arch

**Index:**
- L18.- Replacement Aorta Segment Aneurysmal Emergency

**Tabular:**
- L18.2 Emergency replacement of aneurysmal segment of thoracic aorta by anastomosis of aorta to aorta NEC

**Index:**
- Y73.1 Bypass Cardiopulmonary

**Tabular:**
- Y73.1 Cardiopulmonary bypass

**Index:**
- Z34.- Aorta site NEC

**Tabular:**
- Z34.2 Aortic arch

### Question 19

**Tracheostomy performed for delivery of invasive ventilation. [6 Marks]**

**CODES AND TITLES**
- E85.1 Invasive ventilation
- E42.3 Temporary tracheostomy

**Index:**
- E85.1 Ventilation Invasive
  - Or
  - E85.- Support Ventilation
  - Or

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1.</td>
<td>E85.1</td>
</tr>
<tr>
<td>2.</td>
<td>E42.3</td>
</tr>
<tr>
<td>3.</td>
<td></td>
</tr>
</tbody>
</table>
E85.- Ventilation Support

Tabular:
E85.1 Invasive ventilation

Index:
E42.- Tracheostomy

Tabular:
E42.3 Temporary tracheostomy
  Includes: Tracheostomy NEC
  Tracheostomy

Question 20

Percutaneous endoscopic laser excision of T8/9 and T9/10 thoracic intervertebral discs. [9 Marks]

CODES AND TITLES
V31.4 Primary percutaneous endoscopic excision of thoracic intervertebral disc
V55.2 Two levels of spine
Y08.1 Laser excision of organ NOC

Index:
V31.- Excision Disc Intervertebral Thoracic NEC

Tabular:
Note: Use an additional code to specify levels of spine (V55)
V31.4 Primary percutaneous endoscopic excision of thoracic intervertebral disc

Index:
V55.- Levels Spine
Or
V55.- Spine Levels

Tabular:
V55.2 Two levels of spine

Index:
Y08.- Excision Laser NOC
Or
Y08.- Laser NOC
Tabular:
Y08.1 Laser excision of organ NOC

Question 21

Patient admitted for renewal of a gastric balloon. [6 Marks]

CODES AND TITLES
G48.6 Attention to gastric balloon
Y03.2 Renewal of prosthesis in organ NOC

Index:
G48.6 Attention Gastric Balloon

Tabular:
G48.6 Attention to gastric balloon

Index:
Y03.2 Prosthesis Renewal NOC
Or
Y03.- Prosthesis Attention NOC

Tabular:
Y03.2 Renewal of prosthesis in organ NOC

Question 22

Replacement of previous prosthetic right femoral head with a hybrid total hip replacement with a cemented acetabular component. [8 Marks]

CODES AND TITLES
W93.2 Conversion to hybrid prosthetic replacement of hip joint using cemented acetabular component
W48.0 Conversion from previous prosthetic replacement of head of femur NEC
Z94.2 Right sided operation

Index:
W93.- Replacement Joint Hip Hybrid Prosthetic Cemented Acetabular Component

Tabular:
W93.2 Conversion to hybrid prosthetic replacement of hip joint using cemented acetabular component

(See note re: Z94.2 in marking scheme)
Note: Use a subsidiary conversion from code as necessary

Index:
W48.- Replacement Femur Head Prosthetic NEC

Tabular:
W48.0 Conversion from previous prosthetic replacement of head of femur NEC

Index:
Z94.2 Right Sided Operations
Or
Z94.2 Operations Right Sided

Tabular:
Z94.2 Right sided operation

Question 23

Left kidney transplant; the donor is the patient’s brother and is a human leukocyte antigen and blood group match. [9 Marks]

CODES AND TITLES
M01.2 Allotransplantation of kidney from live donor
Y99.5 Live matched related donor
Z94.3 Left sided operation

Index:
M01.- Allotransplantation Kidney
Or
M01.- Transplantation Kidney

Tabular:
M01.2 Allotransplantation of kidney from live donor

Note: Use a subsidiary code to identify donor status (Y99)

Index:
Y99.5 Donor Status Live Related Matched
Or
Y99.- Donor Status
Or
Y99.- Status Donor
**Tabular:**
Y99.5 Live matched related donor

**Index:**
Z94.3 Left Sided Operations
Or
Z94.3 Operations Left Sided

**Tabular:**
Z94.3 Left sided operation

---

**Question 24**

Dopamine transporter single photon emission computed tomography (SPECT) of the brain tissue. [9 Marks]

**CODES AND TITLES**

1. U21.4 Single photon emission computed tomography NEC
2. Y94.1 Dopamine transporter scan
3. Z01.9 Tissue of brain NEC

**Tabular:**

Note: Use subsidiary codes to identify gallium-67 imaging (Y93), radiopharmaceutical imaging (Y94)

**Index:**

U21.4 Tomography Single Photon Emission Computed
Or
U21.4 SPECT Single Photon Emission Computed Tomography

**Tabular:**

Y94.1 Imaging Dopamine Transporter Scan

**Index:**

Z01.- Brain Tissue site

**Tabular:**

Z01.9 Tissue of brain NEC
Question 25

Bandaging of three second degree haemorrhoids. Flexible sigmoidoscopy with biopsies of lesions of sigmoid colon and descending colon. [9 Marks]

CODES AND TITLES

1. H52.4 Rubber band ligation of haemorrhoid
2. H25.1 Diagnostic endoscopic examination of lower bowel and biopsy of lesion of lower bowel using fibreoptic sigmoidoscope
3. Z28.5 Descending colon

Index:

H52.4 Banding Haemorrhoid

Tabular:

H52.4 Rubber band ligation of haemorrhoid

Index:

H25.- Fibrosigmoidoscopy
Or
H25.- Sigmoidoscopy Fibreoptic
Or
H25.- Sigmoidoscopy NEC
Or
H25.- Biopsy Colon Sigmoidoscope Fibreoptic
Or
H25.- Biopsy Bowel Lower Sigmoidoscope Fibreoptic
Or
H25.- Biopsy Colon Sigmoid Endoscopic NEC
Or
H25.- Biopsy Colon Sigmoid Sigmoidoscope Fibreoptic

Tabular:

H25.1 Diagnostic endoscopic examination of lower bowel and biopsy of lesion of lower bowel using fibreoptic sigmoidoscope

Index:

Z28.- Colon site

Tabular:

Z28.5 Descending colon
Question 26

Endonasal endoscopic intubation of right eustachian canal. [9 Marks]

**CODES AND TITLES**
- D22.2 Intubation of eustachian canal
- Y76.6 Endonasal endoscopic approach to other body cavity
- Z94.2 Right sided operation

**Index:**
- D22.2 Intubation Eustachian Canal
  Or
- D22.- Eustachian Canal Operations

**Tabular:**
- D22.2 Intubation of eustachian canal

**Index:**
- Y76.6 Approach Body Cavity Endoscopic Endonasal

**Tabular:**
- Y76.6 Endonasal endoscopic approach to other body cavity

**Index:**
- Z94.2 Right Sided Operations
  Or
- Z94.2 Operations Right Sided

**Tabular:**
- Z94.2 Right sided operation

---

Question 27

Percutaneous transluminal thrombolysis of portal vein under radiological control. [9 Marks]

**CODES AND TITLES**
- J10.6 Percutaneous transluminal thrombolysis of blood vessel of liver
- Y53.1 Approach to organ under radiological control
- Z39.3 Portal vein

**Index:**
- J10.6 Thrombolysis Vein Portal Transluminal Percutaneous
  Or
J10.6 Thrombolysis Blood Vessel Liver Transluminal Percutaneous NEC

**Tabular:**
J10.6 Percutaneous transluminal thrombolysis of blood vessel of liver

**Index:**
Y53.1 Approach Control Radiological
Or
Y53.1 Approach Radiological Control
Or
Y53.1 Radiological Control Approach

**Tabular:**
Y53.1 Approach to organ under radiological control

**Index:**
Z39.3 Vein Portal site

**Tabular:**
Z39.3 Portal vein

---

**Question 28**

**Biopsy of the right sentinel inguinal lymph node. [8 Marks]**

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<thead>
<tr>
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<tr>
<td>T87.7 Excision or biopsy of inguinal lymph node</td>
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<tr>
<td>O14.2 Sentinel lymph node</td>
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<tr>
<td>Z94.2 Right sided operation</td>
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</tbody>
</table>

**Index:**
T87.- Biopsy Lymph Node NEC

**Tabular:**
T87.7 Excision or biopsy of inguinal lymph node

**Index:**
O14.2 Lymph Node Sentinel (Z)
Or
O14.- Lymph Node site Other (Z)

**Tabular:**
O14.2 Sentinel lymph node
**Index:**
Z94.2 Right Sided Operations
Or
Z94.2 Operations Right Sided

**Tabular:**
Z94.2 Right sided operation

**Question 29**
Atrioventricular septal defect repair using dual prosthetic patches with tetralogy of Fallot repair using transannular patch under cardiopulmonary bypass. [8 Marks]

**CODES AND TITLES**
1. K04.3 Repair of tetralogy of Fallot using transannular patch
2. K09.1 Repair of defect of atrioventricular septum using dual prosthetic patches
3. Y73.1 Cardiopulmonary bypass

**Tabular:**
Use a supplementary code for concurrent repair of atrioventricular septum defect (K09)
K04.3 Repair of tetralogy of Fallot using transannular patch

**Index:**
K04.- Repair Tetralogy Fallot

**Tabular:**
Note: Use as a supplementary code when associated with repair of tetralogy of Fallot (K04)
K09.1 Repair of defect of atrioventricular septum using dual prosthetic patches

**Index:**
K09.- Repair Septum Atrioventricular Defect

**Tabular:**
Y73.1 Bypass Cardiopulmonary bypass

**Index:**
Y73.1 Bypass Cardiopulmonary
Question 30

Patient admitted to a rehabilitation unit. Assessment was carried out prior to delivery of rehabilitation for hip fracture, treated in the previous admission with a dynamic hip screw. [3 Marks]

CODES AND TITLES
U50.2 Delivery of rehabilitation for hip fracture

Index:
U50.2 Rehabilitation Hip Fracture
Or
U50.- Rehabilitation Musculoskeletal Disorders

Tabular:
U50.2 Delivery of rehabilitation for hip fracture

[Total for Section A [2]: 119]
Section B [70%]
Write your candidate number on EVERY page

Answer all 7 questions in this Section using the Case Study Answer Sheets provided.

Case Study Number 1 [18 Marks]

Appropriate index trails are required for this Case Study only. To obtain full marks they must exactly replicate the full content of the ICD-10 and OPCS-4.8 Alphabetical Indexes for each code assigned.

<table>
<thead>
<tr>
<th>Specialty</th>
<th>Ear, Nose and Throat</th>
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</thead>
<tbody>
<tr>
<td>Consultant</td>
<td>Mr Colohan</td>
</tr>
<tr>
<td>Date of Admission</td>
<td>17th May 2018</td>
</tr>
<tr>
<td>Date of Discharge</td>
<td>17th May 2018</td>
</tr>
</tbody>
</table>

History
This four year old girl with known conductive deafness on the left hand side has been admitted for ongoing care to fit a bone-anchored hearing aid (BAHA). She is known to have grade 2 microtia for which she will be having a reconstruction in the future.

She was admitted three months ago for the first stage to fit the titanium fixtures to the mastoid bone.

On the right hand side she does not have microtia and has unrestricted hearing.

Co-morbidities
Microtia – left ear.
Asthma on Ventolin.

Procedure
Second stage attachment of bone-anchored hearing prosthesis – left ear.

The patient was given general anaesthetic. The surgeon then re-opened the incision from the first operation and connected the fixtures through the skin. The surgeon then closed the incision with stitches.

Diagnosis
Conductive deafness.

Management
An outpatient appointment was made for the patient in one week to have the dressing changed and the stitches removed.
Case Study Number 1

<table>
<thead>
<tr>
<th>ICD-10 Codes</th>
<th>OPCS-4.8 Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. H90.1</td>
<td>1. D13.2</td>
</tr>
<tr>
<td>2. Q17.2</td>
<td>2. Z94.3</td>
</tr>
<tr>
<td>3. J45.9</td>
<td>3.</td>
</tr>
<tr>
<td>4.</td>
<td>4.</td>
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<tr>
<td>5.</td>
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</tr>
<tr>
<td>6.</td>
<td>6.</td>
</tr>
</tbody>
</table>

INDEX TRAILS AND TABULAR ENTRIES

**ICD-10 Index:**
- Deafness (acquired) (complete) (hereditary) (partial) H91.9
  - conductive H90.2
  - unilateral (unrestricted hearing other side) H90.1

**Tabular:**
- H90.1 Conductive hearing loss, unilateral with unrestricted hearing on the contralateral side

**ICD-10 Index:**
- Microtia (congenital) (external ear) Q17.2

**Tabular:**
- Q17.2 Microtia

**ICD-10 Index:**
- Asthma, asthmatic (bronchial) (catarrh) (spasmodic) J45.9

**Tabular:**
- J45.9 Asthma, unspecified

**OPCS-4.8 Index:**
- D13.- Attachment Bone Mastoid Prosthesis Anchored Hearing
  Or
  D13.2 Insertion Bone Mastoid Prosthesis Anchored Fixture Hearing Second Stage

**Tabular:**
- D13.2 Second stage insertion of fixtures for bone anchored hearing prosthesis

**ICD-10 Index:**
- Z94.3 Left Sided Operations
  Or
  Z94.3 Operations Left Sided

**Tabular:**
- Z94.3 Left sided operation
Case Study Number 2 [21 Marks]

<table>
<thead>
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<th>Specialty</th>
<th>Neurosurgery</th>
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<tbody>
<tr>
<td>Consultant</td>
<td>Mr Abraham</td>
</tr>
<tr>
<td>Date of Admission</td>
<td>13th April 2018</td>
</tr>
<tr>
<td>Date of Discharge</td>
<td>24th April 2018</td>
</tr>
<tr>
<td>History</td>
<td>This patient with Parkinsonism is experiencing a progression of the symptoms despite taking medication as prescribed. Following discussion with the neurologist it was decided that deep brain stimulation is likely to be the best option for long-term management of the symptoms. The patient also has obsessive-compulsive disorder, which brain stimulation is known to improve too.</td>
</tr>
<tr>
<td>Co-morbidities</td>
<td>Obsessive-compulsive disorder.</td>
</tr>
<tr>
<td></td>
<td>Anxiety.</td>
</tr>
<tr>
<td>Procedure</td>
<td>Implantation of neurostimulator for deep brain stimulation under stereotactic control. The patient was placed in a supine position. Under stereotactic control frontal burrholes were drilled. Incision was made in the meninges. After observation to ensure no residual tissue damage, all components were fit to both temporal lobes. All layers sutured and plastic cups fit over burrholes to secure the leads. A subcutaneous pocket was created in the chest to house the pulse generator, all components attached and the skin sutured.</td>
</tr>
<tr>
<td>Discharge</td>
<td>The patient was monitored over the following 10 days with adjustments made to the pulse generator to ensure maximum benefit. Medication was also adjusted to best support the patient. They were discharged with a positive outlook of the future and an outpatient appointment.</td>
</tr>
</tbody>
</table>
### Case Study Number 2

<table>
<thead>
<tr>
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<td>1. A09.1</td>
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<td>2. F42.9</td>
<td>2. Y47.2</td>
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<td>3. F41.9</td>
<td>3. Y53.3</td>
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<td>4. Z01.2</td>
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<tr>
<td>5.</td>
<td>5. Z94.1</td>
</tr>
<tr>
<td>6.</td>
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</tr>
</tbody>
</table>

### INDEX TRAILS AND TABULAR ENTRIES

**ICD-10 Index:** Parkinsonism (idiopathic) (primary) G20  
Or Parkinson's disease, syndrome or tremor (see also Parkinsonism) G20  

**Tabular:**  
G20 Parkinson disease  

**Index:**  
Disorder (of) - see also Disease - obsessive-compulsive F42.9  
Or Obsessive-compulsive neurosis or reaction F42.9  

**Tabular:**  
F42.9 Obsessive-compulsive disorder, unspecified  

**Index:**  
Anxiety F41.9  

**Tabular:**  
F41.9 Anxiety disorder, unspecified  

**OPCS-4.8 Index:**  
A09.- Neurostimulator Brain  

**Tabular:**  
A09.1 Implantation of neurostimulator into brain  

**Index:**  
Y47.- Approach Cranium Contents Burrhole  
Or Y47.- Burr Hole Cranium Contents Approach  
Or Y47.- Cranium Contents Approach Burr Hole  

**Tabular:**  
Y47.2 Frontal burrhole approach to contents of cranium  

**Index:**  
Y53.3 Approach Control Stereotactic  

**Tabular:**  
Y53.3 Approach to organ under computed tomography scan control  
Includes: Approach to organ under stereotactic control  

**Index:**  
Z01.- Brain Tissue site
<table>
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<tr>
<th>Tabular:</th>
<th>Z01.2 Tissue of temporal lobe of brain</th>
</tr>
</thead>
<tbody>
<tr>
<td>Index:</td>
<td>Z94.1 Bilateral Operations</td>
</tr>
<tr>
<td></td>
<td>Or</td>
</tr>
<tr>
<td></td>
<td>Z94.1 Operations Bilateral</td>
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<tr>
<td>Tabular:</td>
<td>Z94.1 Bilateral operation</td>
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Case Study Number 3 [25 Marks]

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<th>Orthopaedics</th>
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<tr>
<td>Consultant</td>
<td>Miss Barwick</td>
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<tr>
<td>Date of Admission</td>
<td>26th July 2018</td>
</tr>
<tr>
<td>Date of Discharge</td>
<td>28th July 2018</td>
</tr>
</tbody>
</table>

**History**

This patient was admitted having crushed his right index finger in the hinge of a door. The patient was intoxicated in the local pub when this happened.

On arrival at Accident & Emergency there was an obvious deformity in the middle of the finger. There was also an open wound at the end of the finger with uncertainty as to whether this was fractured. An X-ray was done and showed a comminuted fracture to the intermediate phalanx, but no fracture was demonstrated to the distal phalanx. The decision was made to admit the patient for surgery, which would be performed the following day due to the patient’s current intoxication.

**Co-morbidities**

Alcohol dependence.

**Diagnosis**

Closed fracture of intermediate phalanx of the right index finger.

Open wound to skin overlying the distal phalanx.

**Procedure**

K-wire fixation of intermediate phalanx of right index finger.

Closed reduction was achieved by flexing the proximal interphalangeal (PIP) joint and the distal interphalangeal (DIP) joint at 90 degrees.

An anterograde approach was used with two 0.7mm K-wires cross-pinned from the base of the middle phalanx to the subchondral bone of the phalangeal head.

All efforts made to limit the damage to the articular cartilage from the K-wire passes.

Fixation checked with image intensifier for positioning with satisfactory results.

Attention was turned to the open wound of the skin over the distal phalanx of the same index finger, which was sutured while under general anaesthetic.

**Discharge**

The patient was discharged with a Fracture Clinic appointment in three weeks.
Case Study Number 3

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<td>1. W24.2</td>
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<td>2. S61.0</td>
<td>2. Z73.4</td>
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<td>3. W23.5</td>
<td>3. S42.1</td>
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<td>4. F10.0</td>
<td>4. Z50.3</td>
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<td>5. F10.2</td>
<td>5. Z94.2</td>
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<td>(See note re: Z94.2 in marking scheme)</td>
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**INDEX TRAILS AND TABULAR ENTRIES**

**ICD-10**

**Index:**
Fracture (abduction) (adduction) (avulsion) (comminuted) (compression) (dislocation) (oblique) (separation) T14.2
- finger (except thumb) S62.6
Or
Fracture (abduction) (adduction) (avulsion) (comminuted) (compression) (dislocation) (oblique) (separation) T14.2
- hand NEC S62.8
- phalanx S62.6

**Tabular:**
S62.6 Fracture of other finger 0 closed

**Index:**
Wound, open (animal bite) (cut) (laceration) (puncture wound) (shot wound) (with penetrating foreign body) T14.1
- digit(s)
- hand S61.0
Or
Wound, open (animal bite) (cut) (laceration) (puncture wound) (shot wound) (with penetrating foreign body) T14.1

**OPCS-4.8**

**Index:**
W24.- Reduction Bone Fracture Closed & Fixation Internal
Or
W24.- Fixation Bone Fracture Internal NEC
Or
W24.- Fixation Bone Internal & Reduction Fracture Closed

**Tabular:**
W24.2 Closed reduction of fracture of long bone and rigid internal fixation NEC

**Index:**
Z73.- Bone Hand site NEC

**Tabular:**
Z73.4 Phalanx of finger

**Index:**
S42.- Suture Skin NEC

**Tabular:**
S42.1 Primary suture of skin NEC

**Index:**
Z50.3 Skin Finger site
Or
Z50.- Skin site NEC
- finger(s) S61.0

**Tabular:**
S61.0 Open wound of finger(s) without damage to nail

**Index:**
Crushed (accidentally) X59.9
- by, in
- - door (building) W23
Or
Crushed (accidentally) X59.9
- between objects (moving) (stationary and moving) *(see also Caught)* W23
Or
Caught
- between
- - sliding door and door frame W23

**Tabular:**
W23 Caught, crushed, jammed or pinched in or between objects 5 Trade and service area

**Index:**
Intoxicated NEC F10.0
Or
Intoxication
- alcoholic (acute) (with) F10.0

**Tabular:**
F10 Mental and behavioural disorders due to use of alcohol .0 Acute intoxication

**Index:**
Alcoholism (chronic) F10.2
Or
Alcohol, alcoholic, alcohol-induced
- dependence F10.2
Or
Dependence
- due to
- - alcohol (ethyl) (methyl) F10.2

Tabular:
Z50.3 Skin of finger

Index:
Z94.2 Right Sided Operations
Or
Z94.2 Operations Right Sided

Tabular:
Z94.2 Right sided operation

Tabular:
Z94.2 Right sided operation
| Tabular: | F10 Mental and behavioural disorders due to use of alcohol .2 Dependence syndrome |
Case Study Number 4 [22 Marks]

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<tr>
<th>Specialty</th>
<th>Obstetrics</th>
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<tbody>
<tr>
<td>Consultant</td>
<td>Miss Bridgers</td>
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<tr>
<td>Date of Admission</td>
<td>18th April 2018</td>
</tr>
<tr>
<td>Date of Discharge</td>
<td>22nd April 2018</td>
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<tr>
<td>Episode Summary</td>
<td>Patient admitted at 38 weeks gestation in labour. The patient was 6cm dilated and the membranes were bulging. An artificial rupture of membranes was performed to augment the labour. Labour progressed more slowly than anticipated, so the patient was given oxytocin to augment it further and speed up the cervical dilation. At 10cm the patient began actively pushing. It was noted earlier that the baby was face to pubes but it was considered safe to continue due to the shape of the pelvis and positioning of the foetus. A healthy baby girl was delivered. During delivery a significant third degree tear occurred that required immediate and extensive repair.</td>
</tr>
<tr>
<td>Primary diagnosis</td>
<td>Third degree perineal laceration.</td>
</tr>
<tr>
<td>Co-morbidities</td>
<td>Face to pubes presentation. Previous caesarean delivery. Epilepsy (well controlled on medication and not affected by or affecting the pregnancy).</td>
</tr>
<tr>
<td>Procedure</td>
<td>Non-manipulative face to pubes delivery. As the pelvis was adequately sized and the head rotated to the mento-anterior position, a vaginal delivery was achieved. No instrumentation was required. Delivery of a healthy baby girl. The placenta was delivered completely. A significant perineal laceration occurred due to the delivery and immediately repaired. Total blood loss was 850ml.</td>
</tr>
<tr>
<td>Discharge</td>
<td>Mum and baby were discharged in good health.</td>
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</table>
## Case Study Number 4

<table>
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<tr>
<th>ICD-10 Codes</th>
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<td>4. O75.7</td>
<td>4. R15.1</td>
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<td>5. G40.9</td>
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</table>

### INDEX TRAILS AND TABULAR ENTRIES

#### ICD-10

**Index:**

- **Delivery (single)** O80.9
  - complicated (by) O75.9
  - laceration O70.9
  - perineum, perineal O70.9
  - third degree O70.2
  
  Or
  
  **Laceration (see also Wound, open)**
  
  T14.1
  - perineum, perineal S31.0
  - complicating delivery O70.9
  - third degree O70.2

**Tabular:**

- O70.2 Third degree perineal laceration during delivery

**Index:**

- **Outcome of delivery** Z37.9
  - single Z37.9
  - liveborn Z37.0

**Tabular:**

- Z37.0 Single live birth

#### OPCS-4.8

**Index:**

- R23.- Delivery Cephalic Vaginal NEC
  - Cephalic Delivery Vaginal NEC

**Tabular:**

- R23.2 Non-manipulative cephalic vaginal delivery with abnormal presentation of head at delivery without instrument

**Index:**

- R32.- Repair Obstetric Laceration
  - Repair Obstetric Tear

**Tabular:**

- R32.2 Repair of obstetric laceration of perineum and sphincter of anus
  
  *Includes: Repair of third degree obstetric tear*

**Index:**

- R14.1 Rupture Amniotic Membrane Forewater
  - Augmentation Labour - see Induction Labour
  - Induction Labour Surgical
Tabular:  
O32.8 Maternal care for other malpresentation of fetus  

Index:  
Delivery (single) O80.9  
- complicated (by) O75.9  
- - previous  
- - - cesarean section O75.7  
Or  
Delivery (single) O80.9  
- complicated (by) O75.9  
- - scar(s)  
- - - cesarean section O75.7  
Or  
Delivery (single) O80.9  
- vaginal, following previous cesarean section O75.7  

Tabular:  
O75.7 Vaginal delivery following previous caesarean section  

Index:  
Epilepsy, epileptic, epilepsy G40.9  

Tabular:  
G40.9 Epilepsy, unspecified  

Tabular:  
R14.1 Forewater rupture of amniotic membrane  

Index:  
Augmentation Labour - see Induction Labour  
R15.1 Induction Labour Medical  
Or  
R15.- Induction Labour NEC  
Or  
R15.1 Induction Labour Oxytocin  

Tabular:  
R15.1 Medical induction of labour  
Includes: Induction of labour using oxytocin
Case Study Number 5 [22 Marks]

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<tr>
<th>Specialty</th>
<th>General Medicine</th>
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<tbody>
<tr>
<td>Consultant</td>
<td>Dr Kenniff</td>
</tr>
<tr>
<td>Date of Admission</td>
<td>6th June 2018</td>
</tr>
<tr>
<td>Date of Discharge</td>
<td>20th July 2018</td>
</tr>
</tbody>
</table>

**Episode Summary**

This patient was admitted with difficulty in breathing, chest pain and a dry cough. They had been unwell for the last two days and had not been drinking. It was noted that the patient was dehydrated and they were treated with intravenous fluids.

A chest X-ray showed that the patient had significant pleural effusion and an element of lobar consolidation.

An echocardiogram was performed that demonstrated a worsening of the CCF with an ejection fraction of 32%.

The patient was given antibiotics for the pneumonia and furosemide for the CCF. However, the pleural effusion persisted. Therefore, a pleural aspiration was performed.

**Primary diagnosis**

Pleural effusion.

**Co-morbidities**

Congestive cardiac failure (CCF).

Community acquired pneumonia.

Chronic obstructive pulmonary disease (COPD).

Ischaemic heart disease.

**Management / Treatment**

Pleural aspiration.

Using aseptic technique and ultrasound control throughout the procedure a 14G intravenous cannula was inserted and a closed pleural aspiration kit connected.

The fluid was removed slowly. No pain was felt and 1.5 litres was aspirated and sent for analysis.

**Discharge**

Recovery was slow but eventually the patient was fit for discharge and left on the 20th July.
Case Study Number 5

<table>
<thead>
<tr>
<th>ICD-10 Codes</th>
<th>OPCS-4.8 Codes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. J90.X</td>
<td>1. T12.3</td>
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<tr>
<td>2. I50.0</td>
<td>2. Y53.2</td>
</tr>
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<td>4. J44.0</td>
<td>4.</td>
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<tr>
<td>5. E86.X</td>
<td>5.</td>
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</tbody>
</table>

INDEX TRAILS AND TABULAR ENTRIES

ICD-10

Index:

Effusion
- pleura, pleurisy, pleuritic, pleuropericardial J90
Or
Pleurisy (acute) (adhesive) (chronic) (double) (dry) (fibrinous) (subacute) R09.1
- with
- - effusion J90

Tabular:
J90 Pleural effusion, not elsewhere classified

Index:
Failure, failed
- cardiac (see also Failure, heart) I50.9
- heart (acute) (sudden) (senile) I50.9
- - congestive I50.0
Or
Congestion, congestive (chronic) (passive)
- heart (see also Failure, heart, congestive) I50.0
Or
Failure, failed
- congestive (see also Failure, heart, congestive) I50.0

OPCS-4.8

Index:
T12.3 Aspiration Pleural Cavity
Or
T12.- Drainage Pleural Cavity NEC

Tabular:
T12.3 Aspiration of pleural cavity

Index:
Y53.2 Approach Control Ultrasonic
Or
Y53.2 Approach Ultrasonic Control
Or
Y53.2 Ultrasonic Control Approach

Tabular:
Y53.2 Approach to organ under ultrasonic control

Index:
U20.1 Echocardiography NEC
Or
U20.1 Echocardiography Transthoracic

Tabular:
U20.1 Transthoracic echocardiography
**Tabular:**
I50.0 Congestive heart failure

**Index:**
Consolidation lung (base) – see
Pneumonia, lobar
Pneumonia (acute) (double)
(migratory) (purulent) (septic)
(unresolved) J18.9
- lobar (disseminated) (interstitial)
J18.1

**Tabular:**
J18.1 Lobar pneumonia, unspecified

**Index:**
Disease, diseased – see also
Syndrome
- pulmonary – see also Disease, lung
- lung J98.4
- - obstructive (chronic) J44.9
- - - with
- - - - lower respiratory infection
(except influenza) J44.0
Or
Disease, diseased – see also
Syndrome
- airway, obstructive, chronic J44.9
- - with
- - - lower respiratory infection (except influenza) J44.0

**Tabular:**
J44.0 Chronic obstructive
pulmonary disease with acute lower respiratory infection

**Index:**
Dehydration E86

**Tabular:**
E86 Volume depletion
*Incl.:* Dehydration
**Index:**

**Disease, diseased** – *see also*

Syndrome
- heart (organic) I51.9
- ischemic (chronic or with a stated duration of over 4 weeks) I25.9

Or

**Ischemia, ischemic** I99
- heart (chronic or with a stated duration of over 4 weeks) I25.9

**Tabular:**

I25.9 Chronic ischaemic heart disease, unspecified
Case Study Number 6 [28 Marks]

<table>
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<tr>
<th>Specialty</th>
<th>Colorectal</th>
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<tbody>
<tr>
<td>Consultant</td>
<td>Miss Hutchings</td>
</tr>
<tr>
<td>Date of Admission</td>
<td>21st July 2018</td>
</tr>
<tr>
<td>Date of Discharge</td>
<td>23rd August 2018</td>
</tr>
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</table>

**History**

Having previously had a colonoscopy and biopsy, this patient was known to have an ascending colon adenocarcinoma. Following a discussion at the multidisciplinary team meeting it was agreed to carry out a right hemicolectomy. On admission, the patient was noted to be anaemic, which was probably due to the cancer. As a result a blood transfusion was given, which delayed the procedure. A computed tomography (CT) of the abdomen and pelvis was carried out prior to surgery to assess whether there had been any tumour progression. It was agreed that this appeared to be confined to the ascending colon.

**Diagnosis**

Ascending colon adenocarcinoma.

**Co-morbidities**

Chronic kidney disease, stage 3.
Type 2 diabetes mellitus.

**Procedure**

Extended right hemicolectomy.

The right colon was mobilised by separating the terminal ileum and caecum from the retroperitoneal structures. The entire right colon was then mobilised up to the hepatic flexure and attachments dissected. Once the colon was removed it was decided to create a loop ileostomy due to questions over the health of what would be the anastomosis sites. A loop of small intestine was pulled out through an incision in the abdomen and stitched to the skin.

**Post-operative**

One week after the procedure it was noted that the ileostomy bud had prolapsed. The patient was taken back to theatre to have this repaired with stitches added.

**Discharge**

The patient was discharged with an Outpatient appointment in four weeks to discuss chemotherapy and future stoma reversal.
### Case Study Number 6

<table>
<thead>
<tr>
<th>ICD-10 Codes</th>
<th>OPCS-4.8 Codes</th>
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<tbody>
<tr>
<td>1. C18.2D</td>
<td>1. H06.4</td>
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<tr>
<td>2. D63.0A</td>
<td>2. G75.2</td>
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<td>4. N18.3</td>
<td>4. Y98.2</td>
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<td>5. E11.9</td>
<td>5. Z92.6</td>
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<tr>
<td>6. (See note re: Z51.3 and Z93.2 in marking scheme)</td>
<td>6. O16.1</td>
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**INDEX TRAILS AND TABULAR ENTRIES**

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<tr>
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<th>OPCS-4.8 Index:</th>
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<tr>
<td>Adenocarcinoma – see also Neoplasm, malignant</td>
<td>H06.- Hemicolecotomy Right Extended Or H06.- Excision Colon Right Extended Or H06.4 Ileostomy &amp; Excision Colon Right Extended</td>
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<tr>
<th>Malignant Neoplasm, neoplastic C80.9</th>
<th>Tabular: H06.4 Extended right hemicolecotomy and ileostomy HFQ</th>
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</thead>
<tbody>
<tr>
<td>- intestine, intestinal C26.0</td>
<td>Index: G75.2 Ileostomy Prolapse Repair Or G75.2 Repair Ileostomy Prolapse</td>
</tr>
<tr>
<td>- - colon C18.9</td>
<td>Tabular: G75.2 Repair of prolapse of ileostomy</td>
</tr>
<tr>
<td>- - - ascending C18.2</td>
<td>Index: U21.- Imaging Diagnostic NEC</td>
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**Tabular:**

C18.2 Malignant neoplasm of ascending colon

<table>
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<th>Index: Anemia D64.9</th>
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<tr>
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<tr>
<td>- - neoplastic disease NEC (see also Neoplasm) D48.9† D63.0*</td>
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**Tabular:**

D63.0* Anaemia in neoplastic disease (C00-D48†)

<table>
<thead>
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<tr>
<td>- ileostomy bud K91.4</td>
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<table>
<thead>
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<tbody>
<tr>
<td>Y98.- Radiology Procedures</td>
</tr>
<tr>
<td>Tabular:</td>
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<tr>
<td>-------------------------------</td>
</tr>
<tr>
<td>K91.4 Colostomy and enterostomy malfunction</td>
</tr>
</tbody>
</table>

**Index:**
Disease, diseased – see also Syndrome
- kidney (functional) (pelvis) N28.9
- chronic N18.9
- stage 3 N18.3

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<th>Tabular:</th>
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<tbody>
<tr>
<td>N18.3 Chronic kidney disease, stage 3</td>
<td>Z92.- Body Region site NEC</td>
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**Index:**
Diabetes, diabetic (mellitus) (controlled) (familial) (severe) E14.-
- type 2 (nonobese) (obese) E11.-

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<td>E11 Type 2 diabetes mellitus .9 Without complications</td>
<td>O16.1 Pelvis NEC</td>
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</thead>
<tbody>
<tr>
<td>Y98.2 Radiology of two body areas</td>
<td>Z92.- Body Region site NEC</td>
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<table>
<thead>
<tr>
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<th>Tabular:</th>
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</thead>
<tbody>
<tr>
<td>Z92.6 Abdomen NEC</td>
<td>O16.1 Pelvis site NEC (Z)</td>
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<thead>
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<tbody>
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<td>Z92.6 Abdomen NEC</td>
<td>O16.1 Pelvis NEC</td>
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## Case Study Number 7 [22 Marks]

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<tr>
<th>Specialty</th>
<th>Urology</th>
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<tr>
<td>Consultant</td>
<td>Miss Ozzella</td>
</tr>
<tr>
<td>Admission Date</td>
<td>30th August 2018</td>
</tr>
<tr>
<td>Discharge Date</td>
<td>5th September 2018</td>
</tr>
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</table>

### Episode Summary
This frail 78 year old patient was admitted in urinary retention. He has known bladder metastases from a small cell lung carcinoma of the right middle lobe.

He continues to smoke 10 cigarettes a day, which he states is due to the prognosis.

He was catheterised in A&E (prior to the decision to admit) and drained 300ml.

A member of the Specialised Palliative Care Team visited the patient and discussed planning to keep him comfortable. It was recommended that a transurethral bladder tumour resection was carried out to reduce the symptoms. This was agreed and the patient was listed to attend the Endoscopy Suite.

### Diagnoses
Secondary bladder wall cancer causing urinary retention.

### Co-morbidities
Hypertension.

### Procedure
**Transurethral bladder tumour resection.**

Under anaesthetic a scope was inserted through the urethra into the bladder. The bladder wall tumour was identified and removed. The resected area was then cauterised to ensure there was no bleeding post-procedure.

During the scope a biopsy was taken from the bladder outlet.

### Discharge
The patient will be followed up in the community. An Outpatient appointment will be made if necessary to discuss the histology findings.
Case Study Number 7

<table>
<thead>
<tr>
<th>ICD-10 Codes</th>
<th>OPCS-4.8 Codes</th>
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<tbody>
<tr>
<td>1. C79.1</td>
<td>1. M42.1</td>
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<tr>
<td>2. R33.X</td>
<td>2. Y20.9</td>
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<tr>
<td>3. C34.2</td>
<td>3. Z42.3</td>
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<td>4. Z51.5</td>
<td>4.</td>
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<td>5. F17.1</td>
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INDEX TRAILS AND TABULAR ENTRIES

ICD-10 Index:

<table>
<thead>
<tr>
<th>Neoplasm, neoplastic</th>
<th>Malignant</th>
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<tr>
<td></td>
<td>Primary</td>
<td>Secondary</td>
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<tr>
<td>C80.9</td>
<td>C79.9</td>
<td>M42.1 Resection Bladder Lesion Transurethral</td>
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<tr>
<td>C67.9</td>
<td>C79.1</td>
<td>Tabular: M42.1 Endoscopic resection of lesion of bladder</td>
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<td>- bladder (urinary)</td>
<td>C67.9</td>
<td>Index: Y20.- Biopsy NOC</td>
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<tr>
<td>- - wall</td>
<td>C67.9</td>
<td>Tabular: Y20.9 Unspecified biopsy of organ NOC</td>
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Tabular:

C79.1 Secondary malignant neoplasm of bladder and other and unspecified urinary organs

Index:

Retention, retained
- urine R33
Or
Urine
- retention or stasis R33

Tabular:

R33 Retention of urine

Index:

Carcinoma – see also Neoplasm, malignant
- small cell

OPCS-4.8 Index:

M42.1 Endoscopic resection of lesion of bladder

Index:

Z42.3 Outlet of bladder
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<tr>
<th>Malignant Neoplasm, neoplastic</th>
<th>Primary</th>
<th>Secondary</th>
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<tbody>
<tr>
<td>Neoplasm, neoplastic</td>
<td>C80.9</td>
<td>C79.9</td>
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<tr>
<td>- lobe (lung)</td>
<td>C34.1</td>
<td>C78.0</td>
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<tr>
<td>- - middle</td>
<td>C34.2</td>
<td>C78.0</td>
</tr>
<tr>
<td>- lung</td>
<td>C34.9</td>
<td>C78.0</td>
</tr>
<tr>
<td>- - middle</td>
<td>C34.2</td>
<td>C78.0</td>
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**Tabular:**
C34.2 Malignant neoplasm of middle lobe, bronchus or lung

**Index:**
Palliative care Z51.5
Or
Care (of) (for) (following)
- palliative Z51.5

**Tabular:**
Z51.5 Palliative care

**Index:**
Abuse
- tobacco F17.1
Or
Tobacco (nicotine)
- harmful use F17.1

**Tabular:**
F17 Mental and behavioural disorders due to use of tobacco
.1 Harmful use

**Index:**
Hypertension, hypertensive (accelerated) (benign) (essential) (idiopathic) (malignant) (primary) (systemic) I10
<table>
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</thead>
<tbody>
<tr>
<td>I10 Essential (primary) hypertension</td>
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[Total for Section B: 158]