

IRISH HIP FRACTURE DATABASE

DATA COORDINATORS HANDBOOK

Better, safer care



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Introduction

The Irish Hip Fracture Database (IHFD) is a clinically led, web based audit of hip fracture casemix, care and outcomes. The National Office of Clinical Audit (NOCA) provides operational support and governance for the IHFD. All sixteen eligible hospitals in the Republic of Ireland are now entering data. It is supported by the Irish Gerontological Society (IGS) and the Irish Institute of Trauma and Orthopaedics (IITOS). The IHFD has been in evolution since 2008 and has been actively collecting data since 2012. Data is collected through the Hospital In-Patient Enquiry (HIPE) portal in collaboration with the Healthcare Pricing Office (HPO).

The mission of the IHFD is to optimise surgical, medical, nursing, rehabilitation and secondary prevention care for all hip fracture patients. Thus far, the IHFD has published one preliminary report and three national reports. In 2017, the IHFD will publish its first national report where it will identify individual hospitals. In addition to the main report, a facilities audit is also conducted. In 2016, quarterly reports were issued to all 16 hospitals and also sent to the hospital groups.

Following in the footsteps of the other major hip fracture registries, the IHFD is reflective of the UK National Hip Fracture Database which is now the largest clinical audit of its kind in the world with over 250,000 cases already recorded. The IHFD in Ireland will measure the care of hip fracture patients against international best practice standards, benchmark hospitals, networks and overall health systems. Through the synergy of clinical standards, audit and feedback, this audit seeks to drive quality improvement to achieve the best possible clinical outcomes for hip fracture patients in Ireland.

This handbook aims to give data coordinators the background to the IHFD audit and the tools and support guidelines to be able to gather quality data. Quality data is required so we have clear information on all stages of the patient journey to enable us to identify any areas that need improvement.

Quality data in means quality data out!

National Office of Clinical Audit

What is clinical audit?

The Commission on Patient Safety and Quality Assurance (2008) defined clinical audit as:

“a clinically led, quality improvement process that seeks to improve patient care and outcomes through systematic review of care against explicit criteria and to act to improve care when standards are not met”

About the National Office of Clinical Audit (NOCA)

NOCA was established in 2012 to create sustainable clinical audit programmes at national level. NOCA enables those who manage and deliver healthcare to improve the quality of care through national clinical audit. NOCA is funded by the Health Service Executive Quality Improvement Division, governed by an independent voluntary board and operationally supported by the Royal College of Surgeons in Ireland.

NOCA Governance Board

The NOCA Governance Board, is an independent voluntary board which has been convened to guide the clinical decision making and strategic direction of NOCA. The NOCA Board has the authority to issue directions to NOCA Management with regard to the various clinical audit streams. The board will ensure that NOCA administrative processes comply with all legal and statutory requirements. It will ensure that NOCA adheres to the highest standards of corporate and social responsibility. Its ultimate responsibility will be to agree and sign off on all published annual reports of national clinical audits managed under NOCA.

Audits governed by NOCA

The current national audits governed by NOCA are as follows:

Audit	Clinical Lead/s
Major Trauma Audit (MTA)	Dr Conor Deasy
Irish National Orthopaedic Register (INOR)	Mr David Moore, Mr Paddy Kenny, Mr James Cashman
National Intensive Care Audit (ICU Audit)	Dr Rory Dwyer
Irish Hip Fracture Database (IHFD)	Dr Conor Hurson, Dr Emer Ahern
National Audit of Hospital Mortality	Dr Brian Creedon
National Perinatal Epidemiology Centre (NPEC)	Prof Richard Greene

Data Coordinators

The Data Protection Acts 1988 & 2003 provide the legislative basis for the approach of the Office of the Data Protection Commissioner with regard to personal data in the health service, including clinical audit. The key issue is respect for the patient's reasonable expectation that their health information will be kept confidential (Data Protection Commissioner 2007). To ensure confidentiality to service users and to enable access to third parties, all IHFD data available to NOCA and published in national reports will be anonymised.

Local reports that are being used for presentation purposes **must not to contain personal patient information or Medical Record Numbers (MRN)**. Reports that are used as working documents between yourself and your Clinical Lead may contain MRN numbers but in reports used for any other purposes they must be removed. (see Data Management Page 4 for further measures to protect data)

In general, audit does not require informed consent (HSE 2013).

It is good practice to let patients know that their personal data may be used for the hospital's IHFD audit for quality and service improvement purposes and the importance of this audit function within the hospital. There is no requirement for explicit consent provided the patient has access to information outlining the possibility that their personal data may be disclosed for local clinical audit. Patient Information Leaflets are available in participating hospitals and should be displayed in all areas where patients or their families can access them.

Data Management

Data is only accessible by appropriately authorised staff on a need to know basis. At hospital level, this should include the IHFD Data Coordinator, Hospital Clinical Lead and members of the Clinical Governance Committee.

- Data is checked to ensure confidentiality and accuracy.
- Data Performa Sheets (if necessary) should only be kept for the length of time they are absolutely required (for the purposes of the audit). Once they are no longer required, they should be destroyed immediately.
- Use appropriate facilities for disposal of confidential waste e.g. shredding or confidential bins provided in your hospital.
- Ensure passwords to the HIPE and IHFD Portal are kept secure at all times and change passwords as prompted. Do not share passwords.
- Ensure that reports are not left visible to unauthorised personnel.
- If leaving desk unattended press Ctrl + Alt + Del, select lock computer to password protect your machine while it is unattended.
- Retain all paperwork associated with IHFD reports in a locked filing cabinet.

- All devices used to store data are encrypted (for example laptops and USB devices).
- Report directly to local hospital management, IHFD clinical leads and NOCA if there has been any breach of security.
- All reports should be anonymised (including removal of MRN numbers) before being made available for review and consideration.

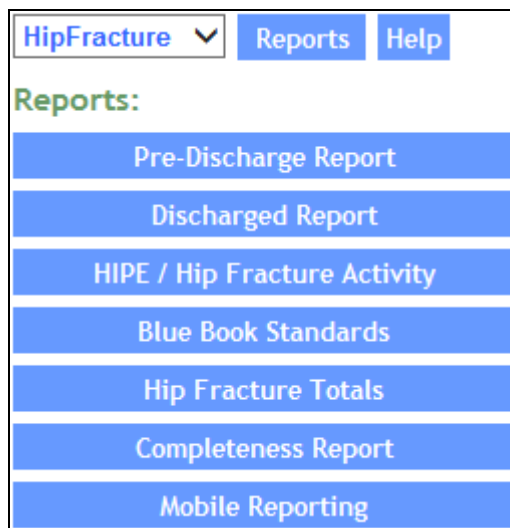
Data Quality

IHFD relies on capturing all eligible patients in the IHFD Portal. Data is considered to be of good quality when the correct reliable data is available in a timely manner. Data quality is described through the following dimensions: accuracy, validity, reliability, timeliness and, relevance, legibility and completeness (HIQA 2013).

- Accurate data refers to how closely the data correctly captures what it was designed to capture – Refer to Appendix I Dataset Dictionary for explanation of answers required for each field.
- Complete data has all those items required to measure the intended activity or event – Ensure all fields are entered, no blanks – refer to Dataset Dictionary for options if no information available for a certain field.
- Legible data is data that the intended users will find easy to read and understand – Ensure all handwritten entries in Dataset Performa sheets or Clinical Pathway are clearly legible to others
- Relevant data meets the needs of the information users – Refer to Appendix I Dataset Dictionary for explanation of answers required for each field.
- Reliable data is collected consistently over time and reflects the true facts – do not complete the file until patient has been discharged - Referral to the IHFD Data dictionary will ensure accurate interpretation of the questions all of the time.
- Timely data is collected within a reasonable agreed time period after the activity that it measures and is available when it is required and as often as it is required.
- Valid data is collected in accordance with any rules or definitions applicable for that type of information. These rules check for correctness and meaningfulness before the data is used - For example, question 7 requires a positive answer only if the Abbreviated Mental Test was carried out. If another cognitive assessment test was carried out, this would warrant a negative answer.

HIPE Portal / Hip Fracture Reports (June 2017)

There are seven reports available to hip fracture users of the HIPE Portal. To view the list of reports: Click the “Reports” button in the top right of the main data entry screen.



The screenshot shows a web interface with a dropdown menu set to 'HipFracture'. To its right are two buttons: 'Reports' and 'Help'. Below these, the word 'Reports:' is followed by a vertical list of seven report options, each in a blue button: 'Pre-Discharge Report', 'Discharged Report', 'HIPE / Hip Fracture Activity', 'Blue Book Standards', 'Hip Fracture Totals', 'Completeness Report', and 'Mobile Reporting'.

1. Pre-Discharge Report

This report generates a list of episodes awaiting merger to a discharged HIPE episode, where additional hip fracture data has been entered by a hip fracture user. This report can be exported to Excel for further analysis (click “Excel” button)

2. Discharged Report

This report generates a list of discharged HIPE episodes, where additional hip fracture data has been entered by a hip fracture user.



The screenshot shows a form titled 'Select Discharge Date Range'. It contains two rows of date selection fields. The first row is labeled 'Start Date' and the second 'End Date'. Each row has three input boxes separated by slashes. To the right of the 'End Date' fields is a blue 'Submit' button. Below the date fields, there is a line of text: 'Leave dates blank for all discharges'.

This report can be exported to Excel for further analysis (click “Excel” button)

It may be useful to create data filters in Excel (click “Data”, then “Filter”)

3. HIPE / Hip Fracture Activity Report

This report generates a list of discharged HIPE episodes with a diagnosis of hip fracture (principal or secondary) where no additional hip fracture data has been entered by a hip fracture user.

For this particular report, there are a number of options:

- Select “Standard Report” or “Chart Numbers Only”
- Select “Exclude Under 60 Years” or “Include All”
- Select “Discharge Date Range” or “Admission Date Range”

Output

Age

Dates

Start Date / /

End Date / /

Below is a sample report:

HIPE / Hip Fracture Activity Report (Age 60+ Years. Generated 02/06/2017)							
Discharge Date Range (01/01/2015 - 30/06/2017)							
HIPE Diagnosis (Principal or Secondary) S720, S7210, S7211 or S722 (Total = 10 Episodes)							
HIPE Episodes <u>Without Additional Hip Fracture Data</u> (Total = 10 Episodes = 100%)							
HIPE Principal Diagnosis S72.00 Fracture of neck of femur, part unspecified							
MRN	Pdx	Sex	DOB	Admission	Discharge	Name	
1234567	S7200	Female	01/01/1940	03/03/2015	03/03/2015	Test	Mark As Reviewed
1234567	S7200	Female	01/01/1940	01/01/2017	31/01/2017	Test	Mark As Reviewed
HIPE Principal Diagnosis S72.11 Fracture of intertrochanteric section of femur							
MRN	Pdx	Sex	DOB	Admission	Discharge	Name	
1234567	S7211	Female	01/01/1940	02/01/2015	02/01/2015	Test	Mark As Reviewed

4. Blue Book Standards

This report generates totals for the six Blue Book Standards:

- BB1. Admission to orthopaedic ward within 4 hours
 - Age 60+
- BB2. Surgery within 48 hours and during working hours
 - Age 60+
 - Surgery Mon-Fri 08:00-17:59
- BB3. Patients developing pressure ulcers
 - Age 60+
 - Excludes patients who died
- BB4. Pre-operative assessment by an orthogeriatrician
 - Age 60+
- BB5. Discharged on bone protection medication
 - Age 60+
 - Excludes patients who died
- BB6. Received a falls assessment prior to discharge
 - Age 60+
 - Excludes patients who died

For this particular report, there are a number of options:

- Select Surgery “Monday-Friday 8-6” or “Monday-Sunday 8-6”
- Select “Discharge Date Range” or “Admission Date Range”

Surg Day	Mon-Fri 08:00-17:59 ▼		
Dates	Discharge Date Range ▼		
Start Date	<input type="text"/>	/	<input type="text"/>
End Date	<input type="text"/>	/	<input type="text"/>
			<input type="button" value="Submit"/>

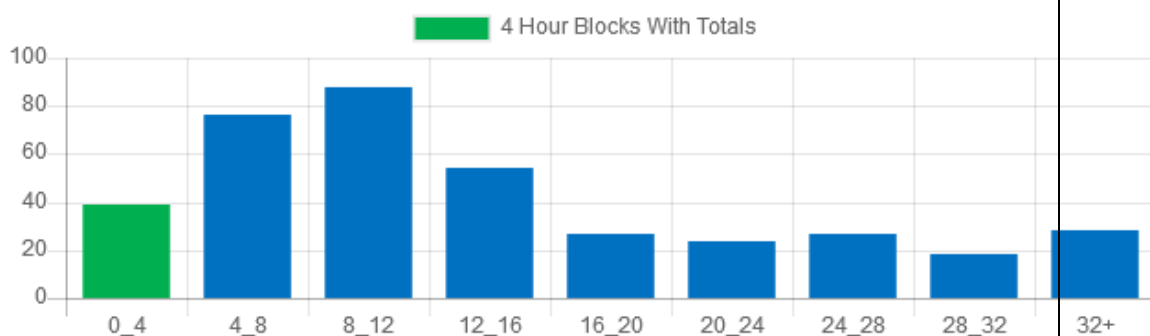
Below is a sample report:

Discharge Date Range (01/01/2016 - 31/12/2016)

[Excel](#)

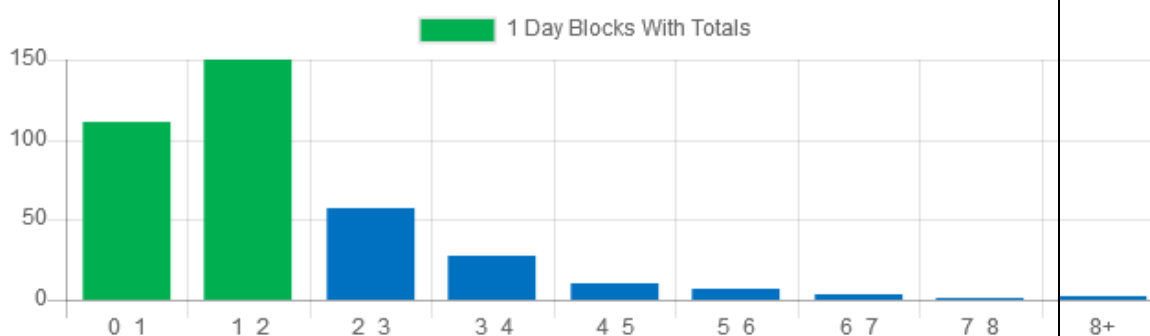
BB1. Admission to orthopaedic ward within 4 hours (Age 60+)

Total Cases	Avg Time to O.Ward	Median Time to O.Ward	O.Ward < 4hrs	Percent
389	16 hrs	11 hrs	39	10.0



BB2. Surgery within 48 hours and during working hours (Age 60+ Surgery Mon-Sun 08:00-17:59)

Total Cases	Avg Time to Surg	Median Time to Surg	Surg < 48hrs	Percent < 48hrs
381	46 hrs	35 hrs	261	68.5



BB3. Patients developing pressure ulcers (Age 60+ excluding patients who died)

Total Cases	Pressure ulcers	Percentage
366	32	8.7

BB4. Pre-operative assessment by an orthogeriatrician (Age 60+)

Total Cases	PreOp Assess	Percentage
390	2	0.5

BB5. Discharged on bone protection medication (Age 60+ excluding patients who died)

Total Cases	Bone Med	Percentage
368	63	17.1

BB6. Received a falls assessment prior to discharge (Age 60+ excluding patients who died)

Total Cases	Falls Assess	Percentage
368	79	21.5

5. Hip Fracture Totals

This report generates a list of totals for hip fracture data entered by a hip fracture user. The user has the option to exclude patients under 60 years. Below is a (partial) sample report:

Hip Fracture Totals Report* (Age 60+ Years. 02/06/2017) * This report is based on the hip fracture dataset, <u>not</u> the HIPE Diagnosis. Discharge Date Range (01/01/2016 - 31/12/2016) <input type="button" value="Excel"/> Click on the <u>underlined</u> headers to create a bar chart. Click <u>here</u> to clear the current chart	
Number of Hip Fractures = 390 Average Age = 81 Years Average Length of Stay = 21 Days Male = 115 Female = 275	
Admission via ED in operating hospital = 165 ED admission to orthopaedic ward within 4 hours = 7 ED admission to primary surgery within 48 hrs (Mon-Sun 0800-1759) = 107	
Admission via transfer = 225 Trauma team to orthopaedic ward within 4 hrs = 32 Trauma team to primary surgery within 48 hrs (Mon-Sun 0800-1759) = 154 <u>Type of fracture</u> Intracapsular - displaced = 191 Intertrochanteric = 135 Subtrochanteric = 32 Intracapsular - undisplaced = 20 Periprosthetic = 8 Other = 3 Not documented = 1 <u>Operation</u> art bi-p hemi cem. = 163 int fix DHS = 126 int fix IM nail long = 31 art bi-p hemi uncem coated = 15 int fix IM nail short = 13	

The totals report now also contains the option to generate a bar chart for each section of the report by clicking on any of the underlined headers as shown below:

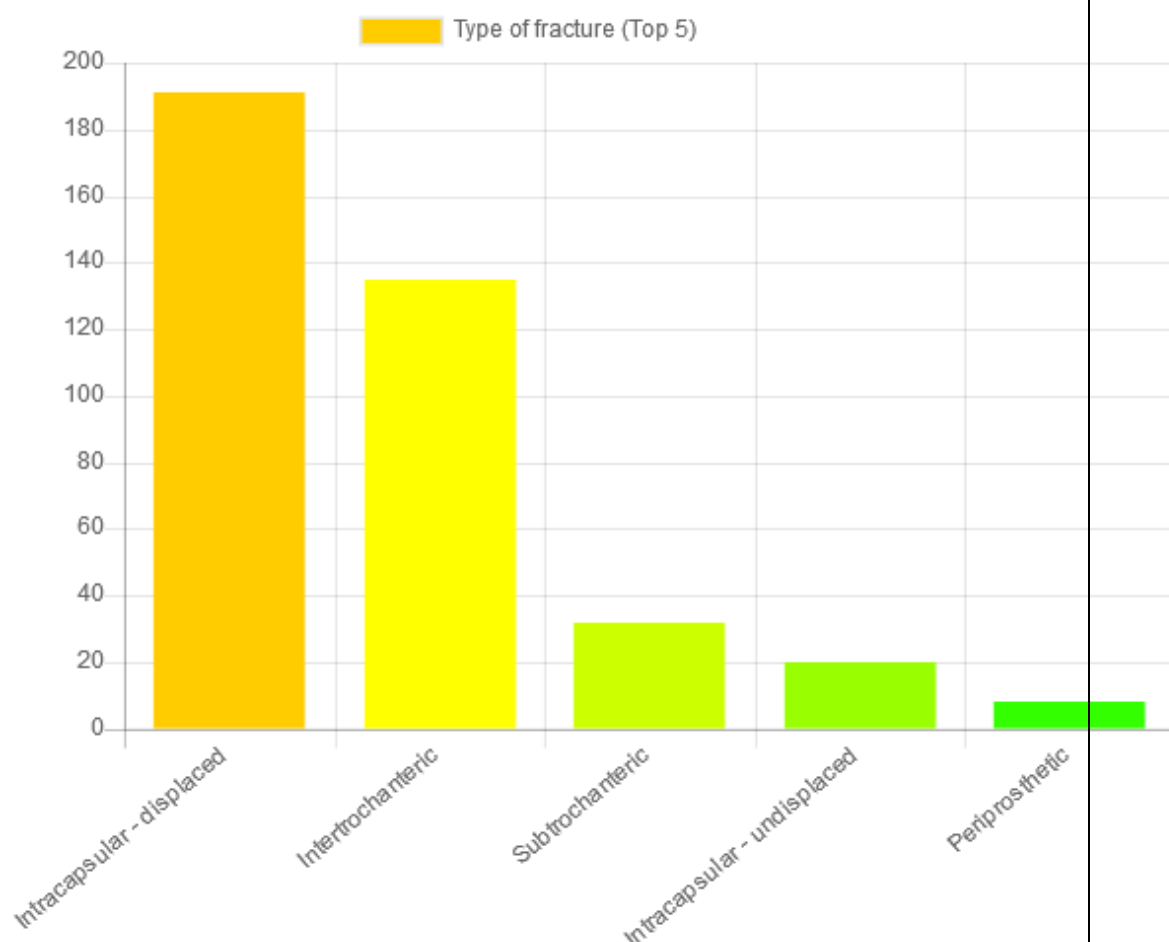
Hip Fracture Totals Report* (Age 60+ Years. 02/06/2017)

* This report is based on the hip fracture dataset, not the HIPE Diagnosis.

Discharge Date Range (01/01/2016 - 31/12/2016)

[Excel](#)

Click on the underlined headers to create a bar chart. Click [here](#) to clear the current chart.



Number of Hip Fractures = 390

Average Age = 81 Years

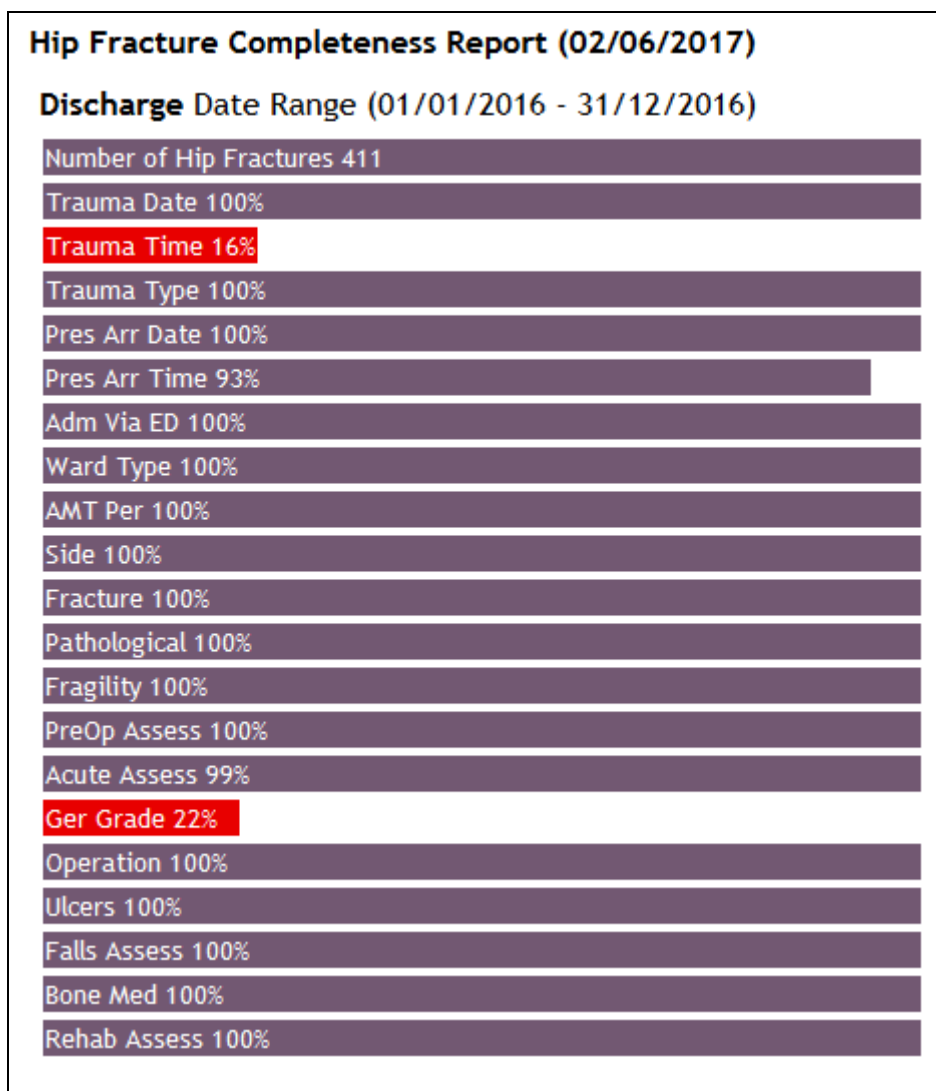
Average Length of Stay = 21 Days

Male = 115

Female = 275

6. Completeness Report

This report generates a percentage of data entered for each hip fracture question, over a specified date range. Below is a (partial) sample report:



7. Mobile Reporting

It may be useful for clinicians in the hospital to view hip fracture reports, without the need for access to the data entry module. Clicking on “Mobile Reporting” opens a new web page which requires a four-digit pin number.

Having selected a discharge year, the user can select from a number of “aggregated” reports. Please note this web page will only work on (mobile) devices or desktop computers with access to the hospital network. The web page is not available externally to the hospital network.

Hip Fx: Select Report

★<- Back

Mobility

Fracture

Operation

Operation By Fracture Type

ASA Grade

Anaesthesia

Surg Delay

PreOp Assess

Ulcers

Falls Assess

Bone Med

ReOp 30

Report: Operation

Year: 2015

Operation	Total	Percentage
art bi-p hemi cem.	127	34%
int fix DHS	126	34%
int fix IM nail long	40	11%
art bi-p hemi uncem coated	31	8%
no oper. performed	14	4%
int fix Screws	6	2%
other	5	1%
int fix IM nail short	5	1%
art THR uncem coated	5	1%
art THR uncem uncoated	5	1%
art THR cem.	3	1%
art uni-p hemi cem.	2	1%
Total	369	100%

Presentation of data

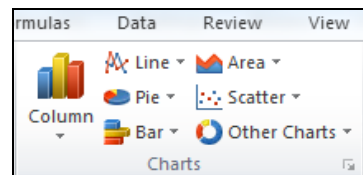
Using Excel to Create a Chart

The instructions in this section apply to Office 2007 and 2010. The layout of the chart icons on your toolbar is slightly different depending on which version you are using, but the steps outlined below are the same for both versions.

Excel 2007 Toolbar



Excel 2010 Toolbar



Note: Instructions for other versions of excel are available on request.

Dataset Examples

In order to guide you creating charts, two sample data sets have been created for demonstration purposes:

Dataset 1 - is used to demonstrate Line Charts and Bar Charts.

Dataset 2 - is used to demonstrate Pie Charts.

Month	Male	Female
Jan	62	63
Feb	66	87
Mar	51	91
Apr	74	54
May	83	60
Jun	69	57

Dataset 1 – Patient with fractures - Gender/Month

Walking Ability	Pre-fracture	Post-fracture
Independent	53	65
One Aid	21	19
Two Aids	16	11
Wheelchair	7	4
Not Documented	3	1

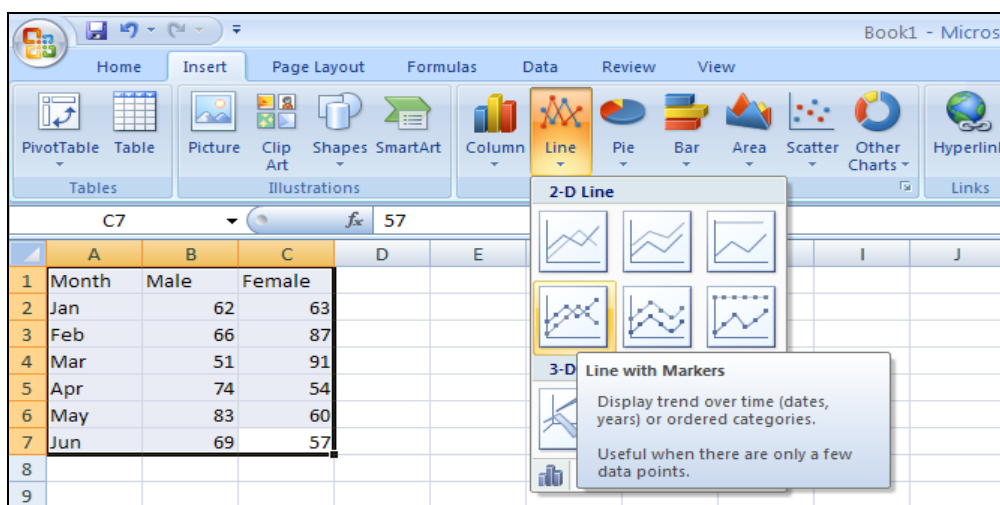
Dataset 1 – Walking Ability of Patients, pre and post fractures

The datasets have been provided so that you can practice the exercises and step through the instructions after the training day.

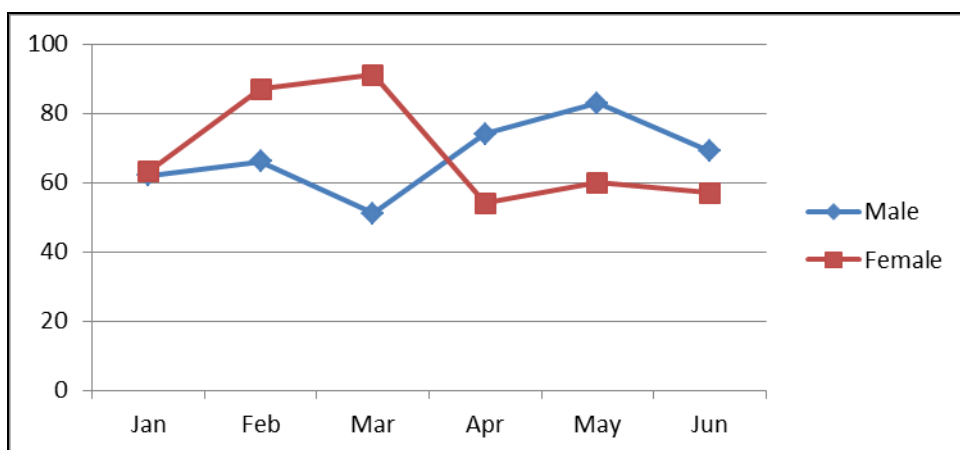
Line Chart (examples based on Dataset I)

To create a line chart, execute the following steps.

1. Select the range A1:C7
2. On the Insert tab, in the Charts group, choose Line, and select Line with Markers.



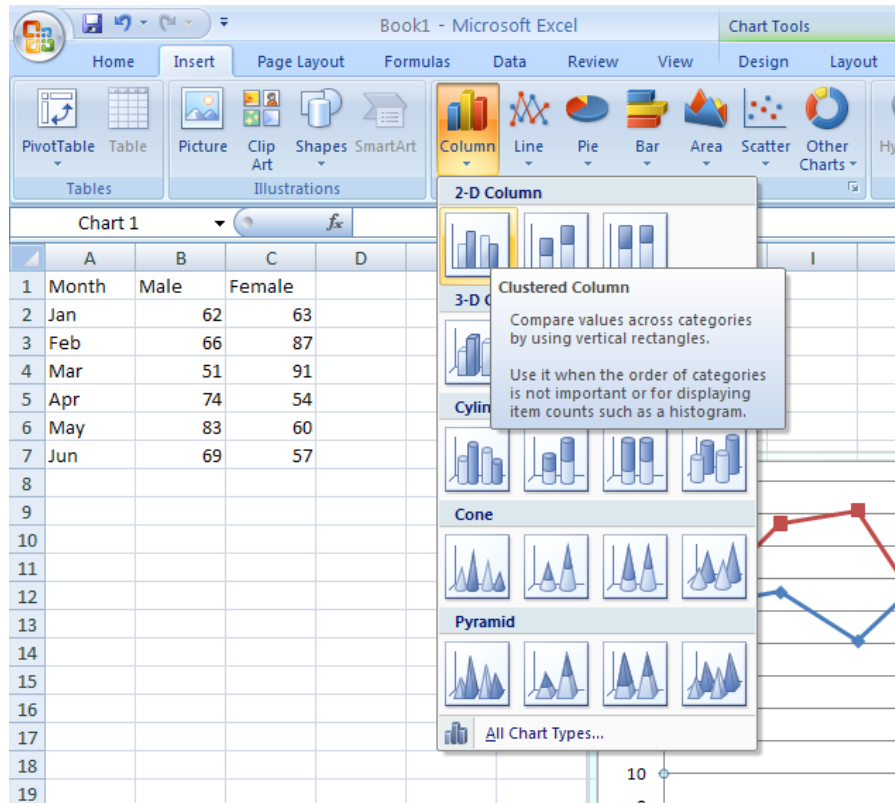
Result:



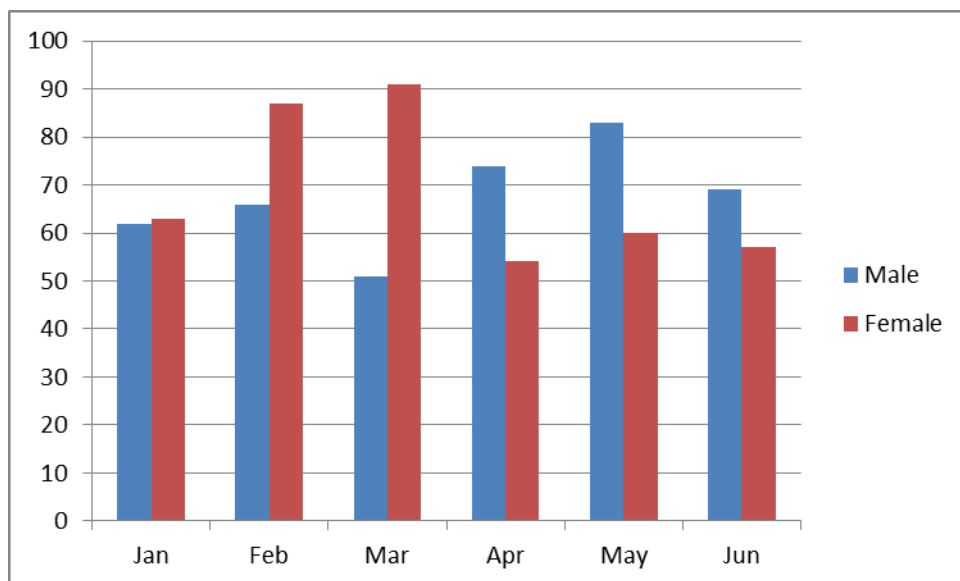
Change Chart Type

You can easily change to a different type of chart at any time.

1. Select the chart.
2. On the Insert tab, in the Charts group, choose Column, and select Clustered Column.



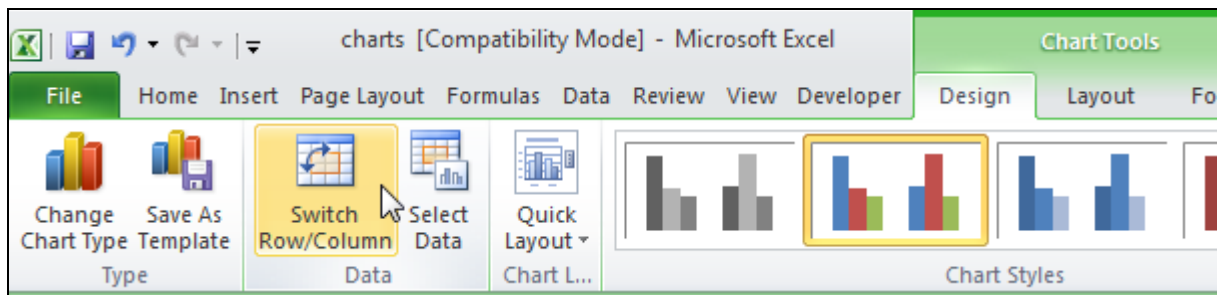
Result:



Switch Row/Column

If you want gender, displayed on the vertical axis, and month to be displayed on the horizontal axis instead, execute the following steps.

1. Select the chart. The Chart Tools contextual tab activates.
2. On the Design tab, click Switch Row/Column.



Result:

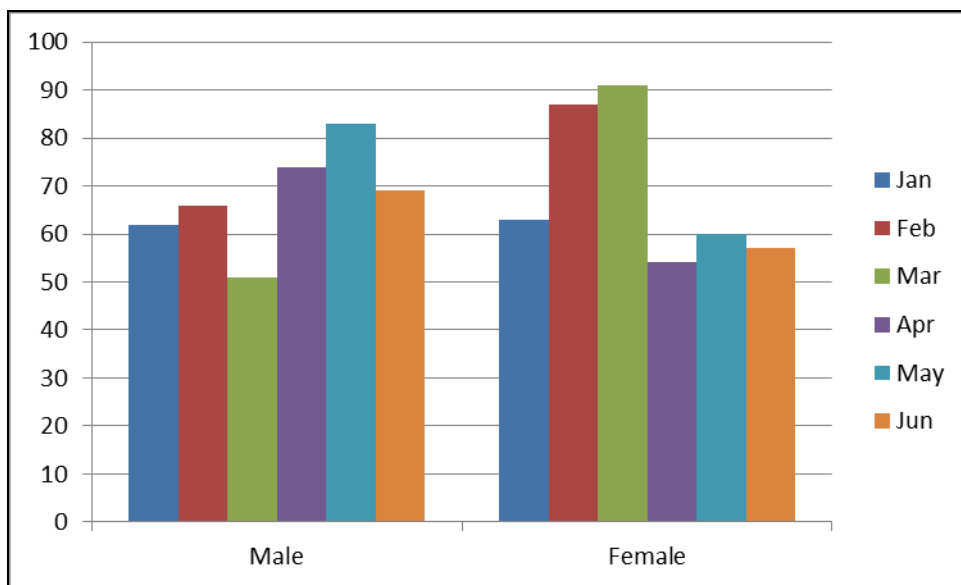
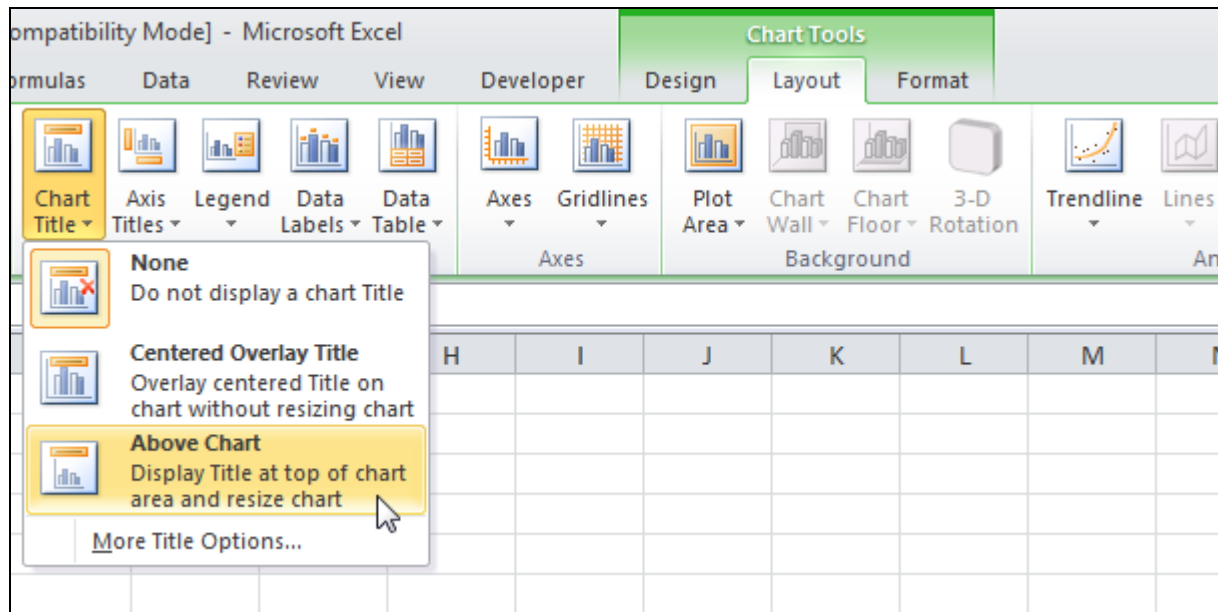


Chart Title

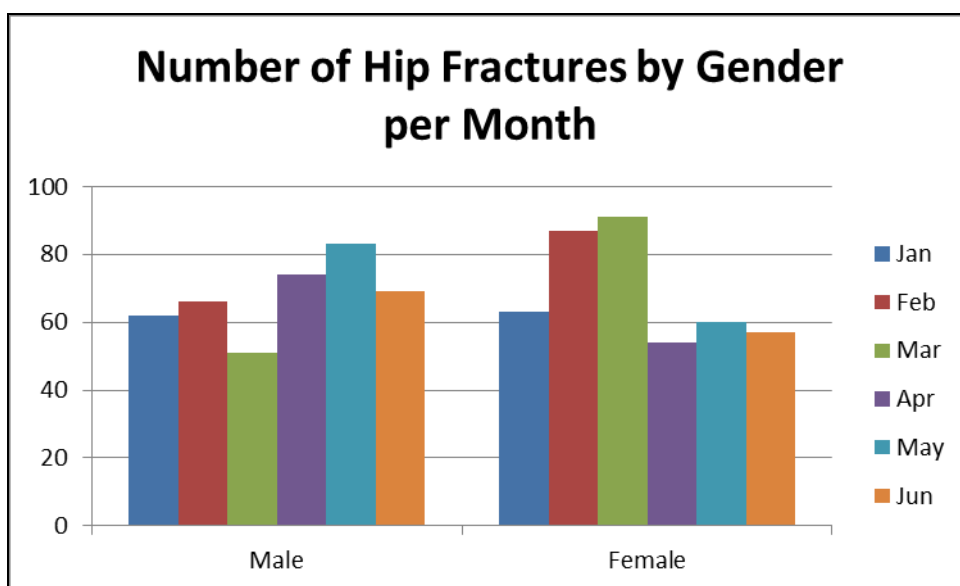
To add a chart title, execute the following steps.

1. Select the chart. The Chart Tools contextual tab activates.
2. On the Layout tab, click Chart Title, Above Chart.



3. Enter a title. For example, Number of Hip Fractures by Gender per Month.

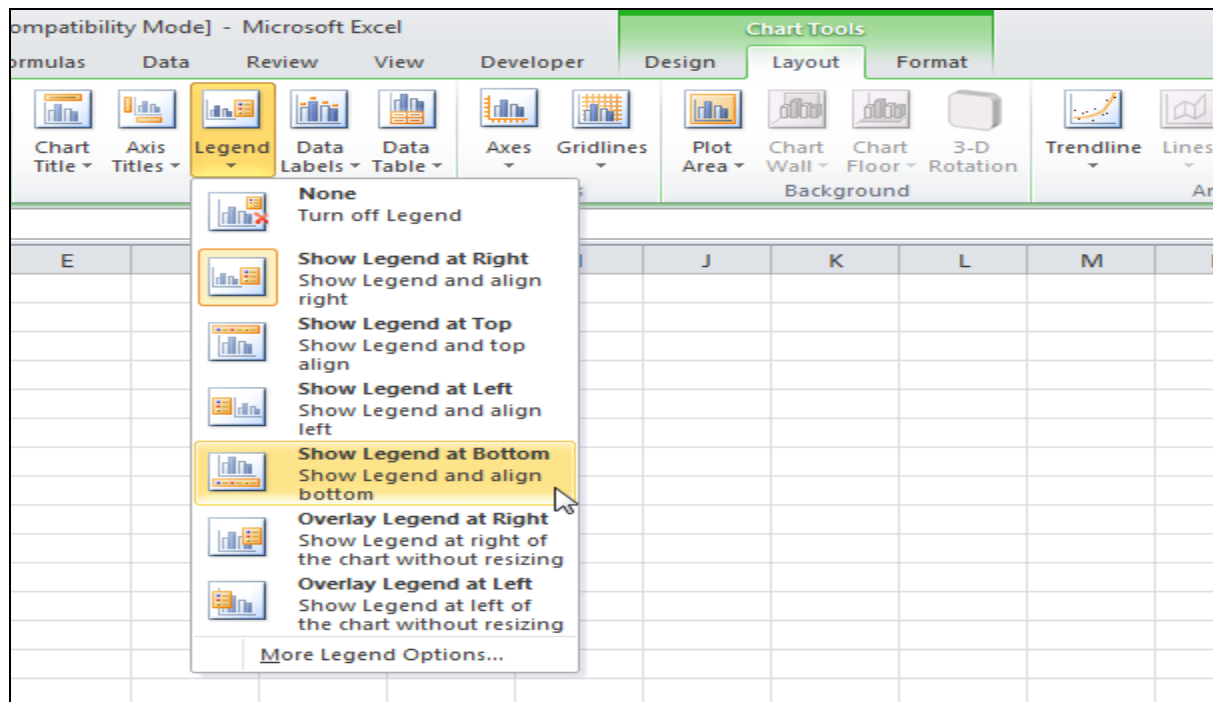
Result:



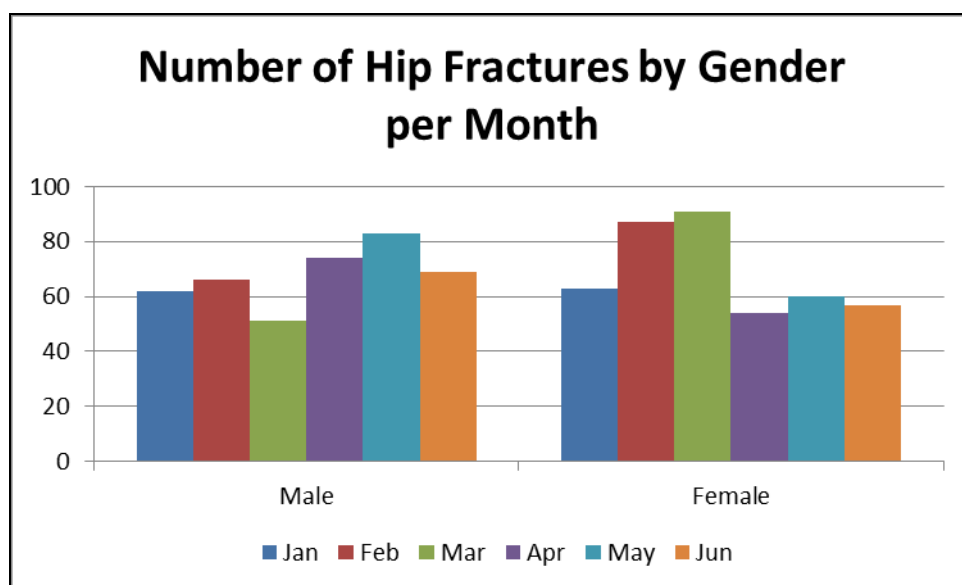
Legend Position

By default, the legend appears to the right of the chart. To move the legend to the bottom of the chart, execute the following steps.

1. Select the chart. The Chart Tools contextual tab activates.
2. On the Layout tab, click Legend, Show Legend at Bottom.



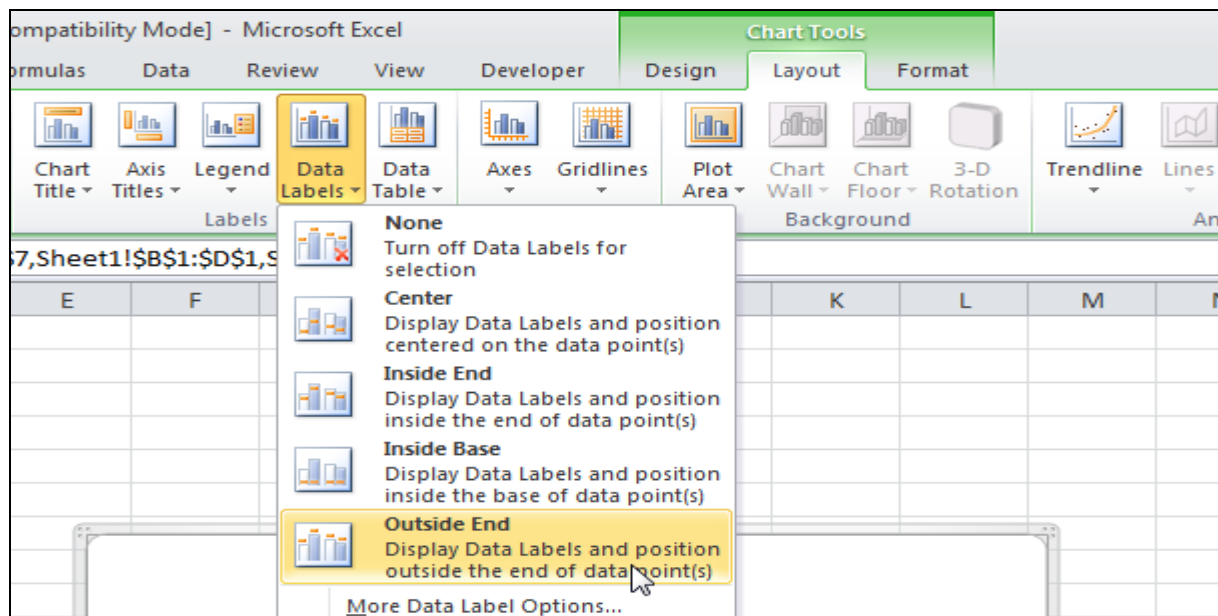
Result:



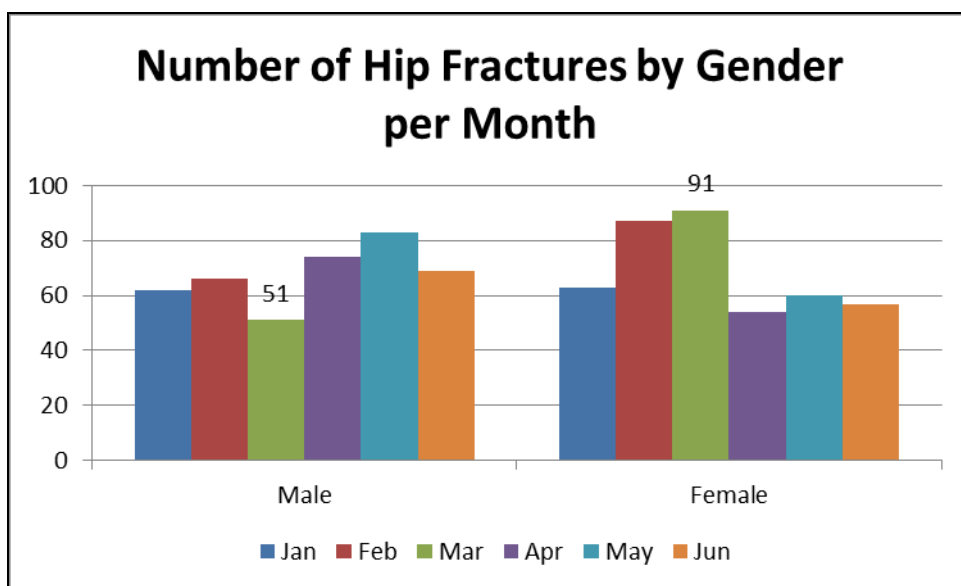
Data Labels

You can use data labels to focus your readers' attention on a single data series or data point.

1. Select the chart. The Chart Tools contextual tab activates.
2. Click a green bar to select the “Mar” data series. Click again on a green bar to select a single data point.
3. On the Layout tab, click Data Labels, Outside End.



Result:

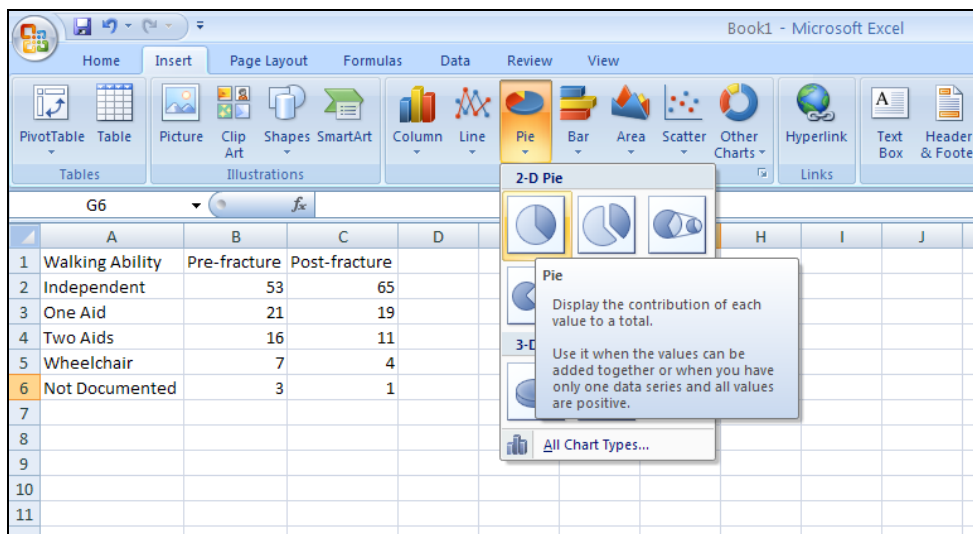


Pie Chart (examples based on Dataset 2)

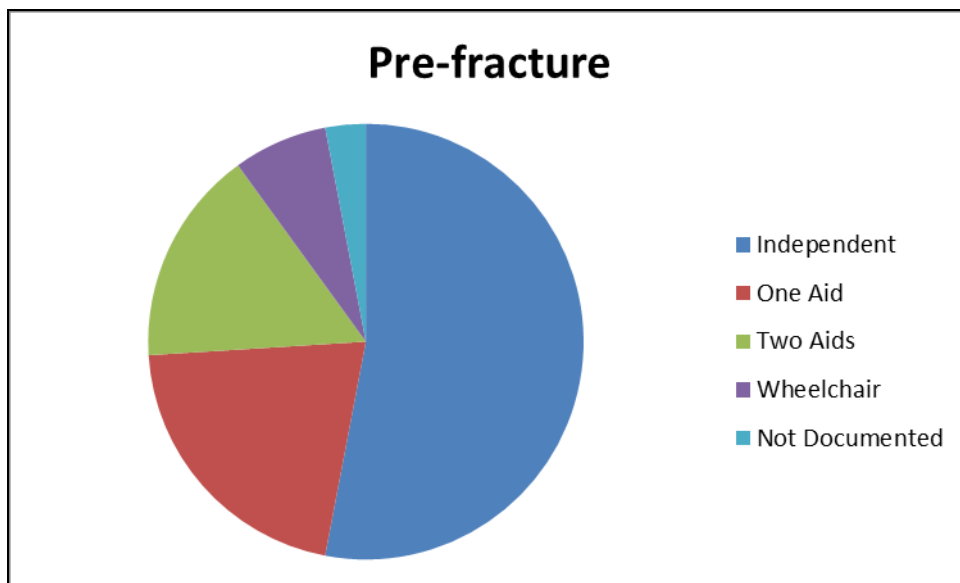
Pie charts are used to display the contribution of each value (slice) to a total (pie). Pie charts always use one data series.

To create a pie chart of the patient's Pre-fracture walking ability data series, execute the following steps.

1. Select the range A1:B6.
2. On the Insert tab, in the Charts group, choose Pie, and select Pie.

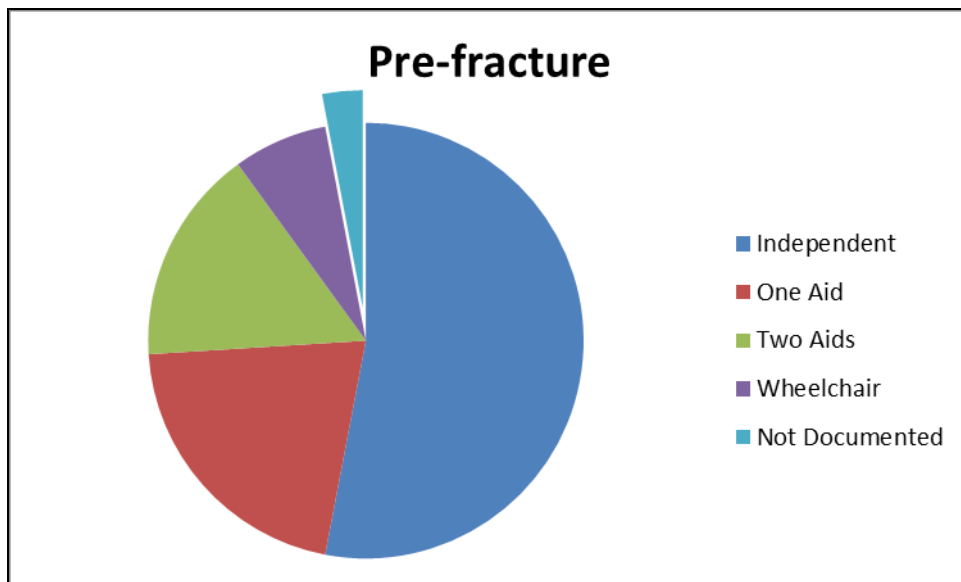


Result:



3. Click on the pie to select the whole pie. You can click on a slice to drag it away from the centre.

Result:

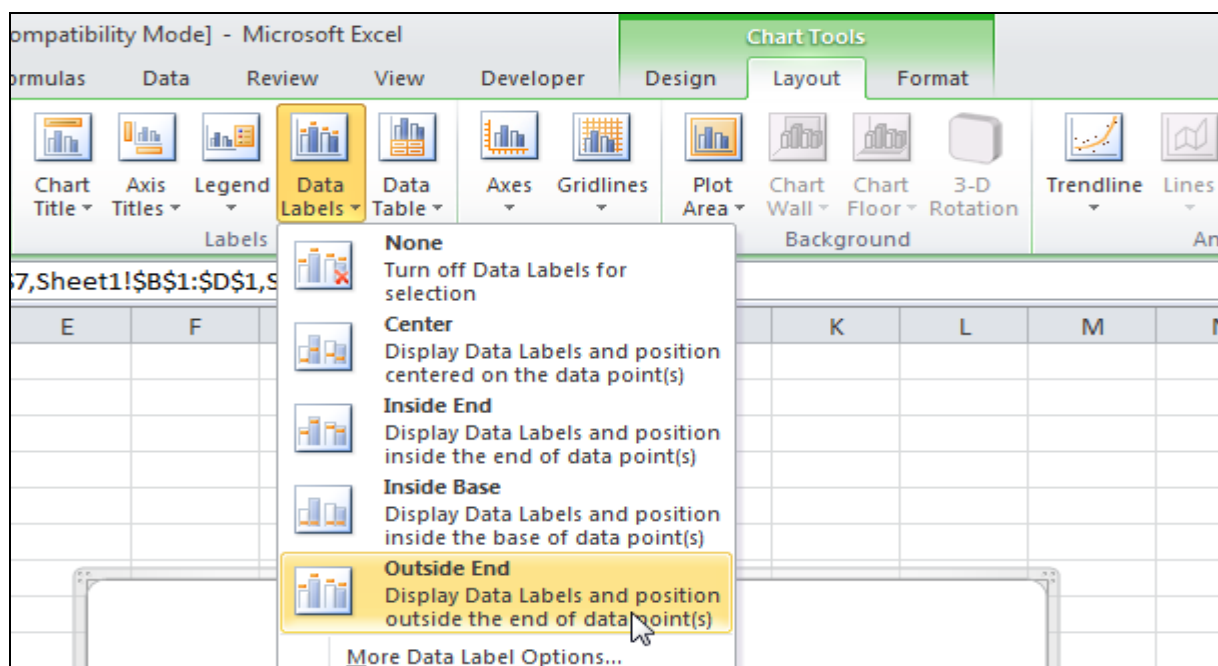


Remember to set Data Labels

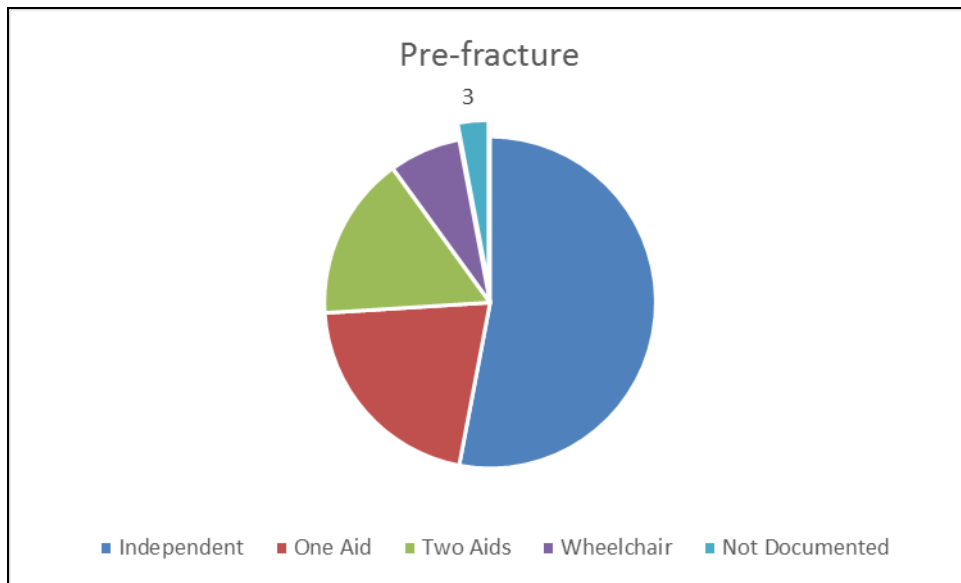
You can use data labels to focus your readers' attention on a single data series or data point.

1. Select the chart. The Chart Tools contextual tab activates.

2. On the Layout tab, click Data Labels, Outside End.



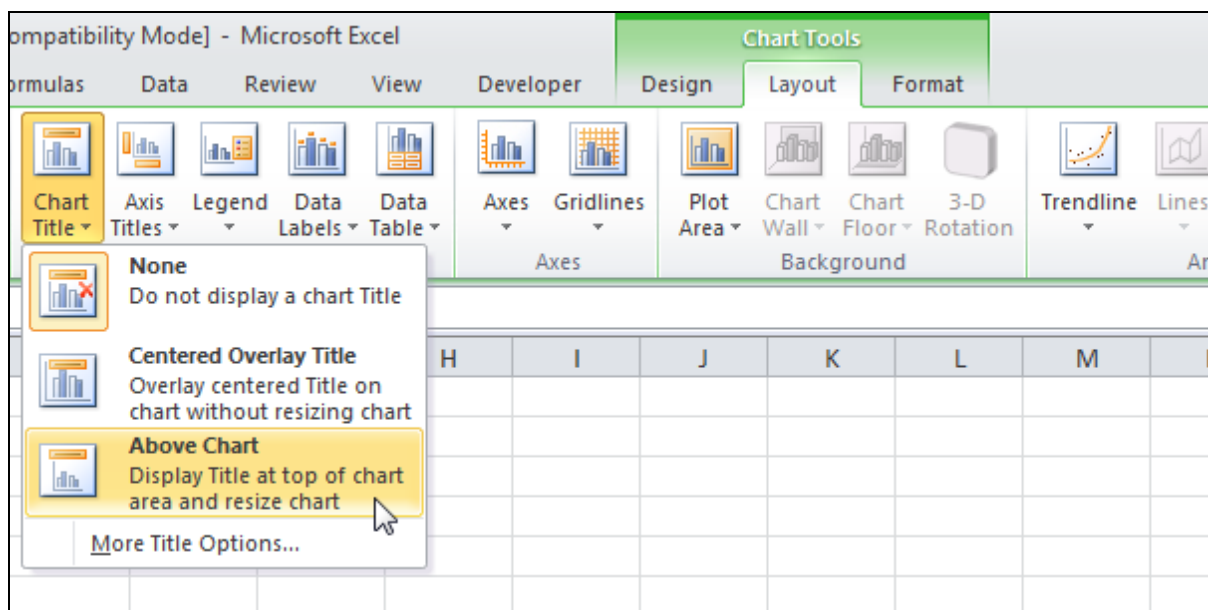
Result:



Remember to Check Chart Title

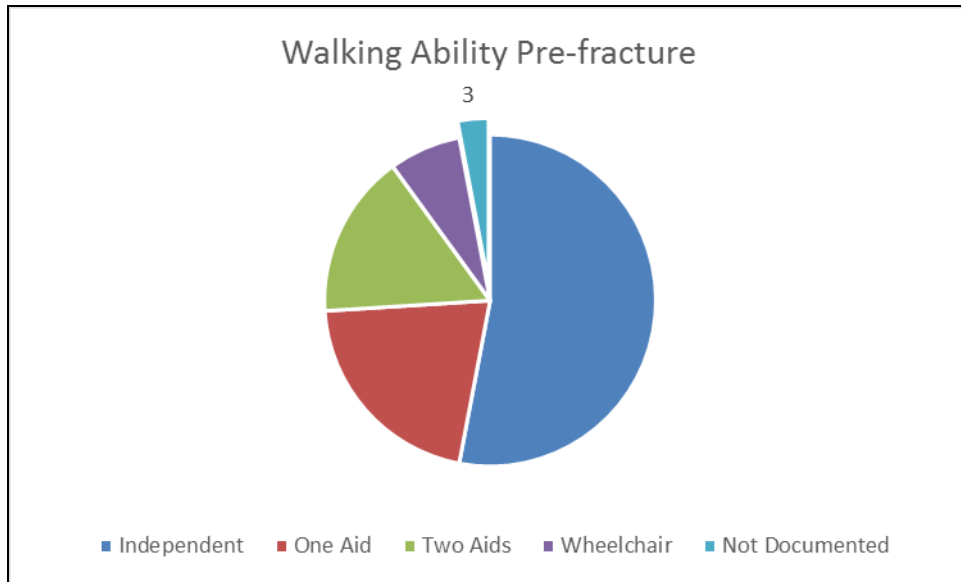
To add or amend a chart title, execute the following steps.

1. Select the chart. The Chart Tools contextual tab activates.
2. On the Layout tab, select Chart Title, Above Chart.



3. Enter a new title. For example, Walking Ability Pre-Fracture.

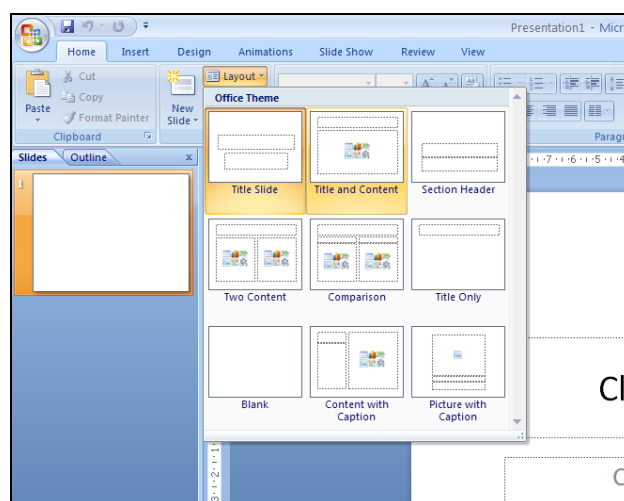
Result:



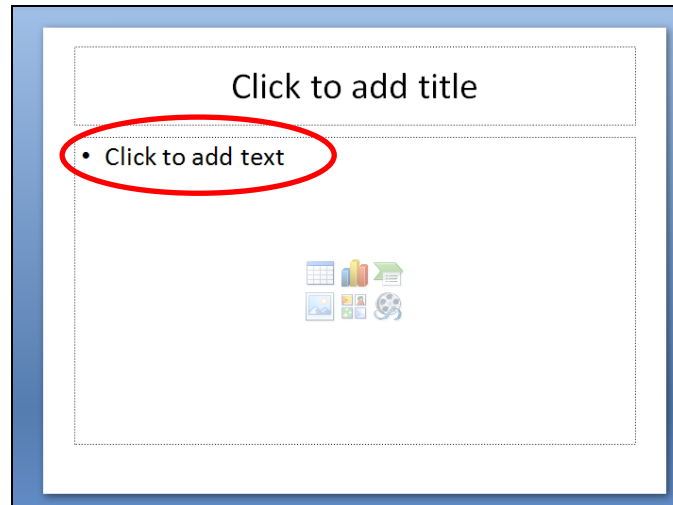
To copy/bring existing charts from Excel into MS PowerPoint:

For presentations, you can copy/bring the excel charts that you have created into PowerPoint.


1. Open PowerPoint and create a new slide.
2. For charts, change the layout of the slide to Title and Content



3. Click on the area box – “Click to add text” so that it is the active.




4. Open Excel or Go to Excel if already open (leaving PowerPoint open in the background) and find the chart you want to add to the presentation.

5. Click on the chart so that it is highlighted and either select the copy icon  or press Ctrl +C to copy the chart.

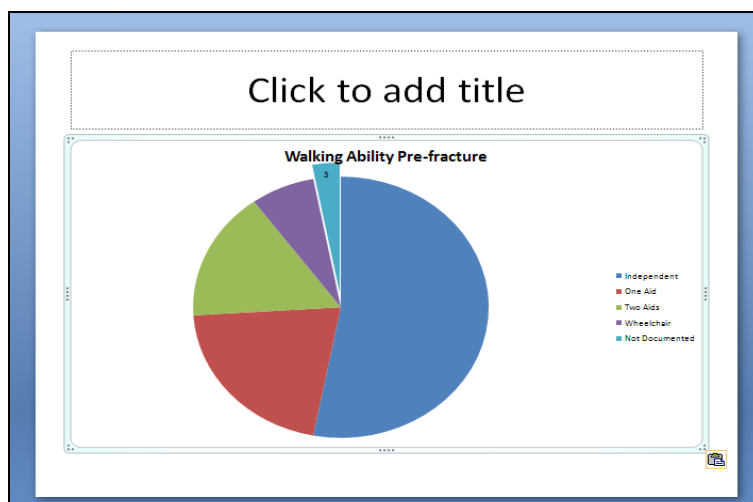
6. Switch back to PowerPoint by selecting Alt+Tab or by selecting the open icon on your taskbar



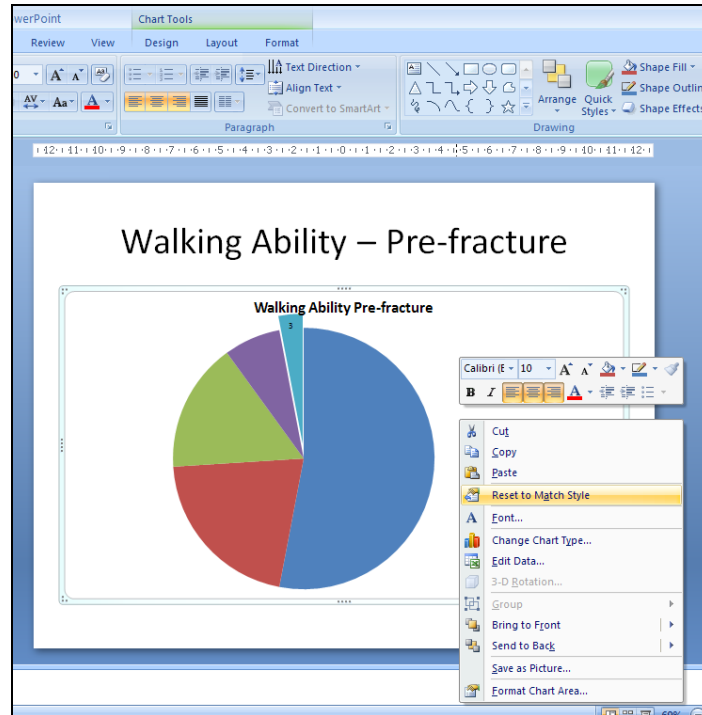
8. Paste your chart into the active box in PowerPoint by either selecting the Paste icon on the

toolbar  or by entering Ctrl+V

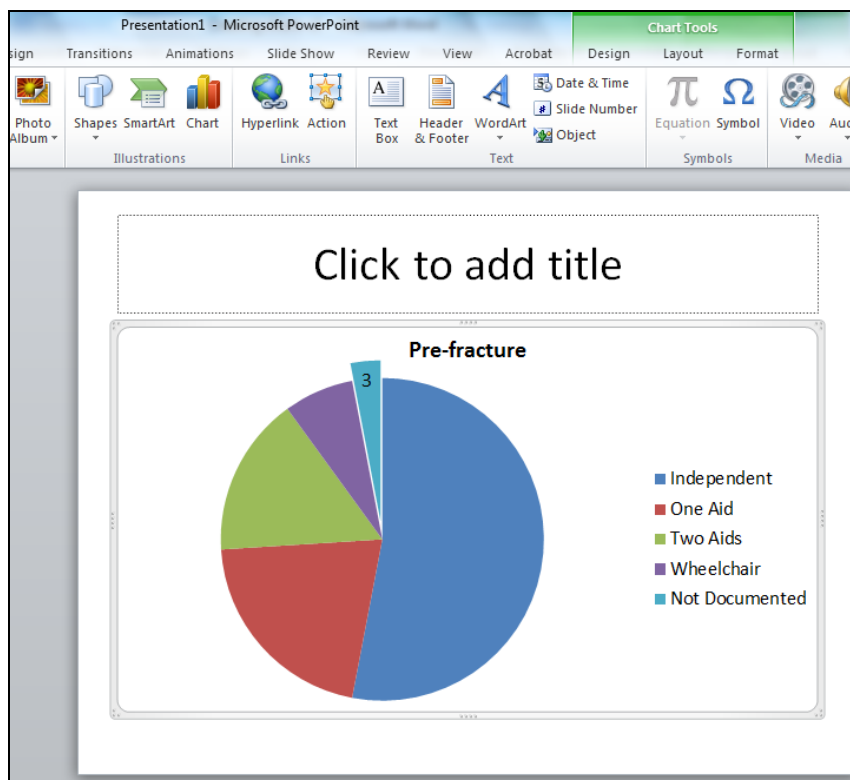
Result:



9. If when you copy the chart into PowerPoint and the style is different, you can right click on the Chart and Select Reset to Match Style.




Result:




Note the size of legend text after you reset Match Style.

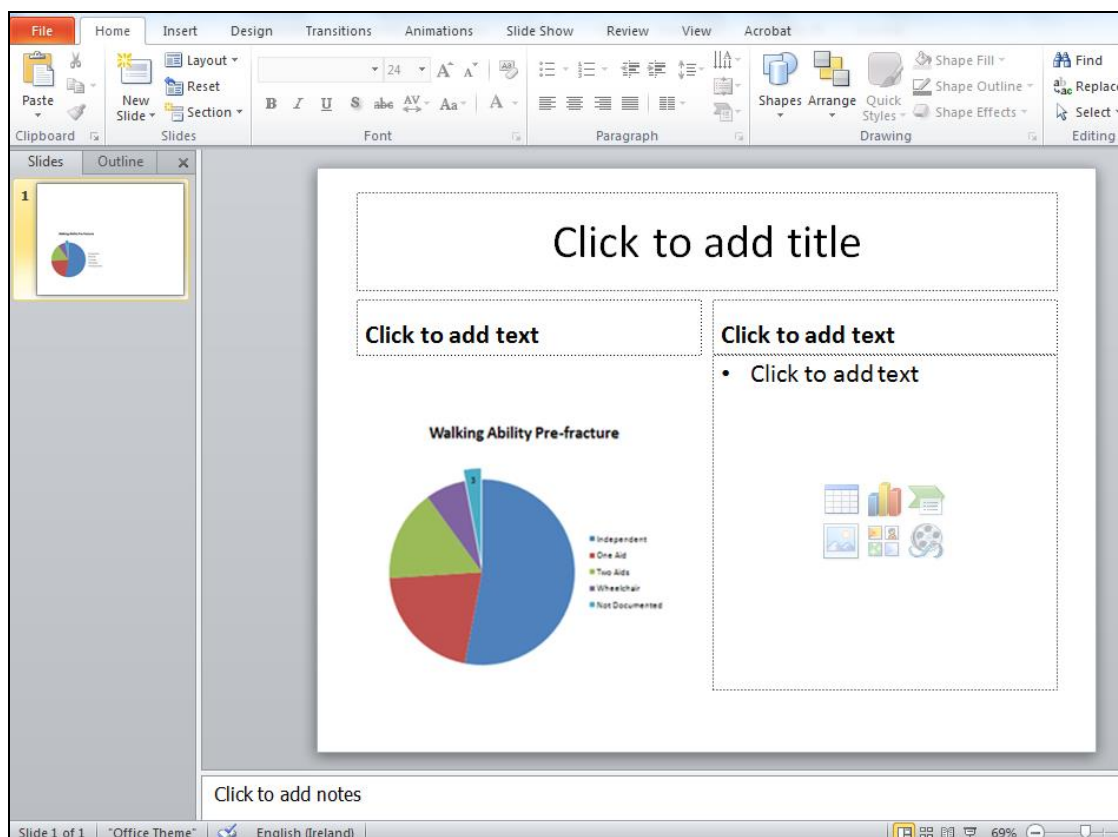
Displaying comparative charts

1. Create a new slide.
2. For comparative charts, change the layout of the slide to Comparison.
3. As before, click on the area box – “Click to add text” on the **Left** side first so that it is the active area on the slide.
4. Open Excel or go to Excel if already open (leaving PowerPoint open in the background) and find the chart you want to add to the presentation.
5. Click on the chart so that it is highlighted and either select the copy icon  or press Ctrl +C to copy the chart.
6. Switch back to PowerPoint by selecting Alt+Tab or by selecting the open icon on your taskbar



7. Paste your chart into the active box in PowerPoint by either selecting the Paste icon on the toolbar  or by entering Ctrl+V. Your copied chart should now appear on the **Left**.

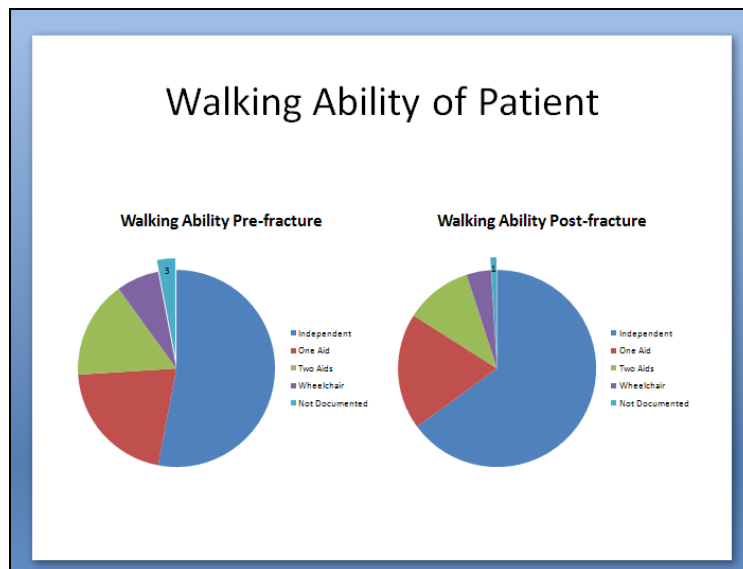
Result:



8. As before, click on the area box – “Click to add text” on the **Right** so that it is the active.


9. Repeat steps 4 to 7 above. When steps are complete your slide should contain two charts.

Result:



Customizing the Background of your Slides

You can customize the background of individual slides by changing the colour and adding shading, texture, or patterns.

- First select the slide you want to customize.
- Under the **Design** tab in the **Background** group, either click the **Background Styles** button and choose "**Format Background...**" or click the menu arrow  to bring up the Format Background dialog.
- Select a Fill Style. You can choose from a solid fill, a gradient, or a picture/texture. Play around with the settings until you're satisfied.
 - *Hint: As you adjust the settings in this menu, PowerPoint will preview the changes on your slide.*

To apply the changes only to the current slide, click **Close**.

To apply the changes to all your slides, click **Apply to All**.

To undo any changes, click **Reset Background**.

Customizing Colour Schemes

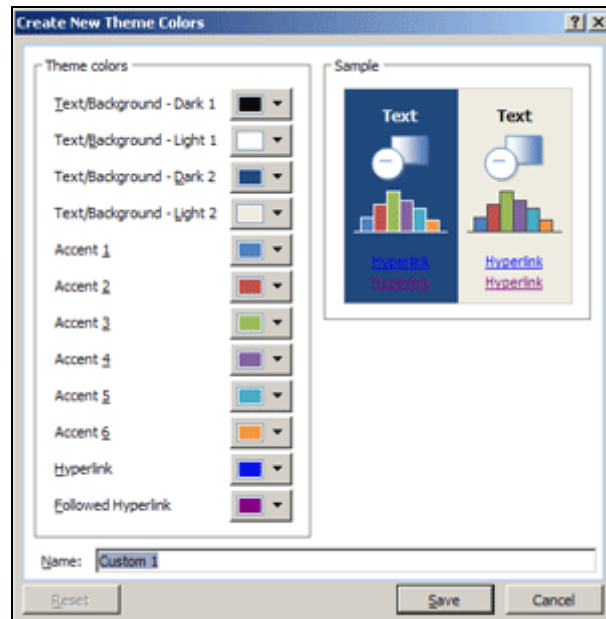
If none of the built-in colour schemes work for your presentation you can create a custom palette.

Choose a Theme from the **Theme gallery** under the **Design tab**, or move to the next step and start from scratch.

Under the **Design tab** in the **Themes group** click on the **Colours button**.

In the drop down menu select "**Create New Theme Colours...**" to bring up the Create New Theme Colours dialog box.

Select colours for the elements of your slide by clicking the **colour button** beside the item you wish to change and choosing a new colour from the pull-down menu. You can also click **More Colours** for more custom colours.



Note: The Sample on the left of the menu shows an image that is representative of different elements of your slide, so you can see how well the colours match. The image will change as you choose new colours.

To start over with the colours you began with click **Reset**.

To save your colour palette, type a name for your palette in the **Name** field and then click **Save**. Your palette will be added to the Colours pull-down gallery.

How to screenshot and image on your desktop and crop image

A screenshot (also sometimes called a 'screen grab', 'screen dump' or 'capture') is a bit like taking a photograph of whatever is currently on your screen, which could be a website, a window or just the desktop. The image can then be pasted into a word-processed document.

Step 1: Unless you're taking a screenshot of just your desktop, make sure that the window you want to include in your screenshot is open.

Step 2: Press the 'Print screen' key: **Prt Sc** or **PrtScn**. This is usually on the top row of the keyboard. When you press this, you'll be taking a screenshot of the desktop. On some laptop keyboards, if the Prt Sc text is on the top line of a button, you will need to press and hold the **Shift** key and then press **Prt Sc**.

Step 3: Immediately open a new Word document and click the 'Paste' icon, or hold down **Ctrl** on the keyboard and press **V**. Your screenshot will now appear as an image in your document.



Step 4: You can also take a screenshot of just the active window. To do this, hold down **Alt** while you press **Prt Sc** or **PrtScn**.



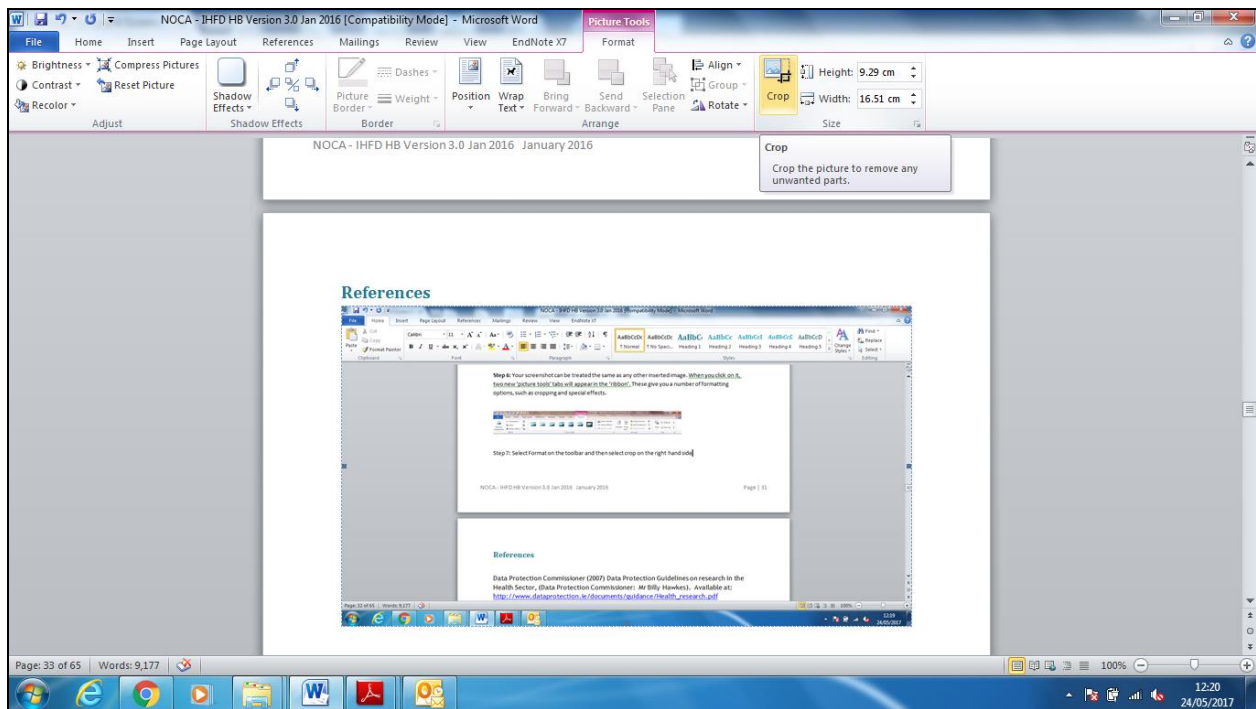
Step 5: You can resize your screenshot. Click on it and a frame will appear around the outside with small 'handles' on the corners and sides. You can change the size of the image by dragging on one or more of these handles with your mouse, making sure that the left mouse button is pressed down.



Step 6: Your screenshot can be treated the same as any other inserted image. When you click on it, two new 'picture tools' tabs will appear in the 'ribbon'. These give you a number of formatting options, such as cropping and special effects.



Step 7: Select Format on the toolbar and then select crop on the right hand side



References

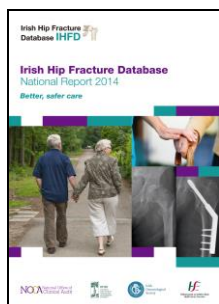
Data Protection Commissioner (2007) Data Protection Guidelines on research in the Health Sector, (Data Protection Commissioner: Mr Billy Hawkes). Available at: http://www.dataprotection.ie/documents/guidance/Health_research.pdf (accessed on 05/06/2014)

Health Information and Quality Authority (2013) Guidance on information governance for health and social care in Ireland. Available at: <http://www.hiqa.ie/publications/guidance-information-governance-health-and-social-care-services-ireland> (Accessed 30/05/2014)

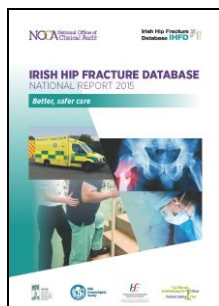
Health Services Executive (2013), A practical guide to Clinical Audit. Available at: http://hse.ie/eng/about/Who/qualityandpatientsafety/Clinical_Audit/clauditfilespdfs/practicalguideclaudit2013.pdf (Accessed 30/05/2014)



Irish Hip Fracture Database National Report 2013. Available at: https://www2.noca.ie/wp-content/uploads/2015/05/IHFD_National_Report_2013.pdf (Accessed 22/12/2015)



Irish Hip Fracture Database National Report 2014. Available at: <https://www.noca.ie/wp-content/uploads/2015/11/IHFD-National-Report-2014-Online-Version.pdf> (Accessed 22/12/2015)



Irish Hip Fracture Database National Report 2015. Available at: <https://www.noca.ie/wp-content/uploads/2015/04/NOCA-IHFD-National-Report-2015-FINAL.pdf> (Accessed 06/07/2017)

APPENDIX I: Dataset Dictionary

HIPE Portal Data Entry / Hip Fracture Admission (V5.0.1) 13 Dec 2016

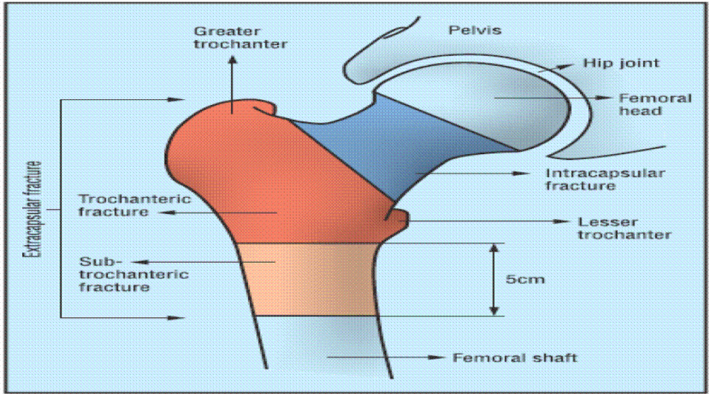
Question	Options	Explanation
1. Date of trauma causing hip fracture		Date fracture happened
1A. Time of trauma causing hip fracture		Time fracture happened (very seldom recorded see ED admission and orthopaedic admission)
2. Type of trauma	1 High energy trauma 2 Low energy trauma 8 Unknown 9 Not documented	1= fall from above standing height ie. ladder, steps, RTA 2= fall from standing height or less 8= unknown mechanism of injury or no trauma 9= not documented
3. Date of arrival at first presenting hospital		Hospital that the patient first arrives at, this can be the peripheral hospital or the operating hospital
3A. Time of arrival at first presenting hospital		Hospital that the patient first arrives at, this can be the peripheral hospital or the operating hospital
4. Admission via ED in operating hospital	1 Yes 2 No	1= they were admitted directly to the hospital that will operate on them 2= no they came via another hospital
4A. Date of arrival in ED of operating hospital		Date of arrival in the hospital that will operate on them

Question	Options	Explanation
4B. Time of arrival in ED of operating hospital		Time of arrival in the ED of the hospital that will operate, this time is recorded on the ED admission page
4C. Date left ED in operating hospital		Date the patient left the ED to be admitted to a ward in the operating hospital
4D. Time left ED in operating hospital		Time the patient left the ED to be admitted to a ward in the operating hospital (see ED notes or the time of arrival on the ward, usually recorded in the nursing notes)
4E. Did patient go directly to theatre from ED	1 Yes 2 No	Was the patient fast-tracked and go directly to theatre without being admitted to an acute orthopaedic ward first?
4F. Date seen by trauma team in operating hospital (if not admitted via ED)		Date that the orthopaedic team saw the patient either in the ED or on the ward directly if they were fast-tracked
4G. Time seen by trauma team in operating hospital (if not admitted via ED)		Time that the orthopaedic team saw the patient either in the ED or on the ward directly if they were fast-tracked
4H. Did patient fall during an existing inpatient admission in operating hospital	1 Yes 2 No	Was patient already admitted as a patient and then fell and sustained a hip fracture while in the operating hospital?
5. Type of ward admitted to in operating hospital	1 Orthopaedic Ward 2 Never Admitted to Orthopaedic Ward 9 Not Documented	1= if they were admitted to an orthopaedic ward at any point during their admission 2= never admitted to an orthopaedic ward during this admission 9= not documented, this field should rarely be selected as the ward admitted to should be available in the nursing notes.

Question	Options	Explanation
5A. Date of admission to orthopaedic ward		Date admitted to the orthopaedic ward
5B. Time of admission to orthopaedic ward		Time admitted to the orthopaedic ward
6A. Pre-fracture Indoor walking	0 Unable 1 Assistance of one person 2 With an aid 3 Independent	1: Unable to mobilise independently 2: Mobilises with the assistance of one person 3: Mobilises independently with an aid 4: Mobilises independently
6B. Pre-fracture Outdoor Walking	0 Unable 1 Assistance of one person 2 With an aid 3 Independent	1: Unable to mobilise independently 2: Mobilises with the assistance of one person 3: Mobilises independently with an aid 4: Mobilises independently
6C. Pre-fracture Shopping	0 Unable 1 Assistance of one person 2 With an aid 3 Independent	1: Unable to mobilise independently 2: Mobilises with the assistance of one person 3: Mobilises independently with an aid 4: Mobilises independently

6D. Pre fracture New Mobility Score (NMS) (Sum A+B+C)		NMS Sum will total automatically calculate if there is a value entered for 6A, 6B & 6C
7. AMT Performed	1 Yes 2 No 3 Patient Refused 9 Not Documented	AMT= Abbreviated Mental test Score 1: Yes they had an AMT performed (you will then be prompted to put in the score out of ten, this is usually done by a geriatrician or can be included in the ortho admission of the ICP) 2: They did not have an AMT performed (we are not measuring any other assessment tool apart from AMT eg. MMSE not included) 3: Patient refused to have AMT recorded. (this will most likely be recorded in the medical notes) 9: not documented
7A. AMTS	00 Zero 01 One 02 Two 03 Three 04 Four 05 Five 06 Six 07 Seven 08 Eight 09 Nine 10 Ten	Self explanatory These results are for the AMT only no other cognitive assessment tool
8. Side of fracture	1 Left 2 Right 3 Both	1 & 2 self explanatory 3: on a rare occasion a patient will present with bilateral hip fractures, in this instance you will be prompted to fill in the fracture details and types of fixation for both sides in one single episode.

<p>8A. Type of fracture</p>	<p>1 Intracapsular - displaced 2 Intracapsular - undisplaced 3 Intertrochanteric 4 Subtrochanteric 5 Periprosthetic 8 Other 9 Not documented</p>	<p>For <u>all</u> hip fractures the type of fracture <u>must</u> be written at the top of the operation note:</p> <p>The fracture may not be actually described in the admission notes, often #NOF is all that is documented but you can find more detail usually on the consent form. 3 =Intertrochanteric (Basal and basiocervical fractures are to be classed as intertrochanteric)</p> <p>8= Other this is if is something other then 1-4 but still in the proximal femur.</p> <p>See below for details of dropdown help box on portal for this question</p> <div data-bbox="1236 699 2004 1059" style="border: 1px solid black; padding: 5px;"> <p>1 Intracapsular displaced may include Garden III or IV / Displaced Subcapital / Displaced Femoral Neck</p> <p>2 Intracapsular undisplaced may include Garden I or II / Impacted Intracapsular / Impacted Subcapital Fracture</p> <p>3 Intertrochanteric may include Pertrochanteric / Extracapsular / Basalcervical</p> <p>4 Subtrochanteric may include Reverse Oblique</p> </div> <p>See diagram below re fracture type</p>
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		 <p>Classification of hip fractures. Fractures in the blue area are intracapsular and those in the red and orange areas are extracapsular</p> <p>Parker & Johansen, 2006, Page 27)</p>
8B. Type of fracture (Other, please specify)		This field is for a hip fracture on the contra lateral side only ie. if the patient has bilateral hip fractures on this admission
8C. Type of fracture (Right)	1 Intracapsular - displaced 2 Intracapsular - undisplaced 3 Intertrochanteric 4 Subtrochanteric 5 Periprosthetic 8 Other 9 Not documented	As above 8A
8D. Type of fracture (Right, Other, please specify)		
9. Pathological	1 Atypical 2 Malignancy 3 No	1 = Atypical fractures are defined as resulting typically from prolonged bisphosphonate use. They present differently to normal hip fractures as they tend to be

	9 Not documented	<p>transverse, non-comminuted and in the subtrochanteric region of the femur</p> <p>2= Malignancy refers to pathological fracture, often samples will be taken from the fracture site and this will be documented on the consent.</p> <p>3= No refers to low trauma fractures, so the majority of the hip fractures will fit into this category. This is the osteoporotic hip fracture group or low trauma fracture group.</p> <p>9= It is rare that you will be unable to determine which section it is.</p>
10. History of previous fragility fracture(s)	<p>1 Yes</p> <p>2 No</p> <p>9 Not documented</p>	<p>1= if they have a history of other low trauma fractures resulting from a fall from standing height or less, typical sites are the wrist, vertebrae, hip, humerus.</p> <p>2= no fractures or other fractures resulting from higher trauma fall into this group</p> <p>9= self explanatory</p>
11. Pre-op medical assessment	<p>1 Routine by Geriatrician</p> <p>2 Routine by Medical Physician</p> <p>6 None</p> <p>7 Geriatrician review following request</p> <p>8 Medical Physician review following request</p> <p>9 Not Documented</p>	<p>1= Routine pre-operative review by a Geriatrician</p> <p>2 = Routine pre-operative review by a Medical Physician (Registrar level or above)</p> <p>6= none of the above (this does not include the orthopaedic team)</p> <p>7 = Geriatric assessment following request</p> <p>8 = Medical Physician assessment following request</p> <p>9 = Not documented</p> <p>** pre-operative= before surgery</p>
11A. Assessment by Geriatrician during Acute Admission	<p>1 Yes</p> <p>2 No</p> <p>9 Not documented</p>	<p>Did patient have an assessment by Geriatrician during acute admission at any stage</p>

IIB. Geriatrician Assessment Date		If answer to Q11 is 1. Or 7. Or answer to Q11A is 1, then enter date of Geriatric assessment
IIC. Geriatrician Assessment Time		If answer to Q11 is 1. Or 7. Or answer to Q11A is 1, then enter time of Geriatric assessment
IID. Geriatrician Grade	1 Consultant 2 SpR 3 Registrar 8 Other 9 Not Documented	Grade of Geriatrician who assessed patient
12. Operation	00 no oper. performed 01 int fix DHS 02 int fix Screws 03 int fix IM nail long 04 int fix IM nail short 05 art uni-p hemi uncem uncoated 06 art uni-p hemi uncem coated 07 art uni-p hemi cem. 08 art bi-p hemi uncem uncoated 09 art bi-p hemi uncem coated 10 art bi-p hemi cem. 11 art THR uncem uncoated 12 art THR uncem coated 13 art THR cem. 88 other 99 not documented	New Drop Down Help Boxes will assist with this question 00= definite diagnosis of a fracture but not surgery completed either as a conservative option was chosen perhaps for an impacted old fracture or a stable greater or lesser trochanter fracture, or in some cases for palliative reasons. 01= dynamic hip screw (DHS) 02= cannulated screws 03= in excess of 180mm, often 300mm 04= usually less than 180mm 05-10 should be amalgamated into two choices I think either cemented or uncemented hemi and maybe with a drop down for uni/bi-polar if its stated on the operation note 11-13 should be amalgamated into THR cemented and uncemented 88= all other types of fixation for the proximal femur eg. DCS plate 99= the consent and theatre documentation should definitely have this recorded so this option should rarely be left blank.

12A. ASA Grade	<ol style="list-style-type: none"> 1. Healthy person. 2. Mild systemic disease. 3. Severe systemic disease. 4. Severe systemic disease that is a constant threat to life. 5. A moribund person who is not expected to survive without the operation 9 Not documented 	This is self explanatory and normally determined by the anaesthetist and recorded on the anaesthetic record sheet or within the theatre documentation.
12B. Type of Anaesthesia	<ol style="list-style-type: none"> 1 GA only 2 GA + nerve block 3 GA + spinal anaesthesia 4 GA + epidural anaesthesia 5 SA only 6 SA + nerve block 7 SA + epidural (CSE) 8 Other 9 Not documented 	<p>GA= General anaesthetic</p> <p>SA= Spinal anaesthetic</p> <p>This is usually documented on the anaesthetic record sheet and possibly within the theatre documentation</p>
12C. Surgeon Grade	<ol style="list-style-type: none"> 1 Consultant 2 Specialist Registrar 3 Registrar 4 SHO 8 Other 9 Not documented 	<p>All of the choices opposite refer to orthopaedic doctors of each grade specified.</p> <p>The person carrying out the surgery generally gets documented on the consent and within the theatre documentation.</p>
12C2. Was consultant orthopaedic surgeon present in the operating room	<ol style="list-style-type: none"> 1 Yes 2 No 9 Not documented 	

I2D. Anaesthetist Grade	1 Consultant 2 Specialist Registrar 3 Registrar 4 SHO 8 Other 9 Not documented	All of the choices opposite refer to anaesthetic doctors of each grade specified. This is usually documented on the anaesthetic record sheet and possibly within the theatre documentation
I2D2. Was consultant anaesthetist present in the operating room	1 Yes 2 No 9 Not documented	
I2E. Date of primary surgery		Date when the surgery to fix the hip fracture occurred
I2F. Time of primary surgery		The time of primary surgery is taken from the time of induction of anaesthesia. The time is shown in hours to 2 decimal place, e.g. 1.25 = 1 hr 15 mins, 3.5 = 3hrs 30 mins, 2.67=2hrs 40 mins. This time will be found in the theatre documentation.
I2G. Time from arrival in ED / seen by trauma team to surgery (hrs in decimal)		If you have completed the time fields for question 4B & I2E & F you just need to hit enter and this time will automatically be calculated. It is important to enter all times in four digits with no dots in between for example 1330 for have one and always use a 24 hour clock.
I2H. Reason if delay >48 hours	0 No delay - surgery < 48 hours 1 Awaiting orthopaedic diagnosis or investigation 2 Awaiting medical review investigation or stabilisation 3 Awaiting inpatient or high dependency bed 4 Awaiting space on theatre list 5 Problem with theatre/equipment	0= If surgery occurs within 48 hours 1= If the surgery is delayed due to the need for further investigations for example a CT to determine if there is a fracture 2= If the patient needs a medical review pre-operatively to stabilise or determine suitability to proceed with surgery

	<p>6 Problem with theatre/surgical/anaesthetic staff cover</p> <p>7 Cancelled due to list over-run</p> <p>8 Other</p> <p>9 Not documented</p>	<p>3= If patients is awaiting a bed or HDU bed prior to surgery</p> <p>4= If the patient is awaiting space on the theatre list</p> <p>5= If problems with theatre or equipment are preventing surgery going ahead</p> <p>6= If staffing issues in theatre are preventing the surgery going ahead</p> <p>7= Cancelled due to other surgical cases preventing enough time on the trauma list</p> <p>8= Other (see I2H2)</p> <p>9= Not documented (It is often difficult to determine why a case is cancelled, the nursing notes is often a good place to look for the reason, or the orthopaedic notes.)</p>
I2H2. Other Reason if delay >48 hours	8 Other	This blank box can be populated with the reason for delay
I2J. Mobilised on day of, or day after surgery	<p>1 Yes</p> <p>2 No</p> <p>9 Not documented</p>	
I2J2. Mobilised by	<p>1 – Physiotherapist</p> <p>8 – Other</p> <p>9 - Not Documented</p>	<p>If answer to I2J is YES then who mobilised patient on day of or day after surgery</p> <p>Physio</p> <p>Other: - If the patient is mobilised by nurses and other healthcare staff on day of or day after surgery</p> <p>Not Documented</p>
I2K. Physiotherapy Assessment on day of or day after surgery	<p>1 Yes</p> <p>2 No</p> <p>9 Not documented</p>	Available in Physio notes

I2L. Cumulated Ambulatory Score – day after surgery (0-6)	0 - 6	<p>Adding the three scores together gives the CAS score</p> <p>Bed mobility: 0 Unable 1 With assistance 2 Independent</p> <p>Sit To Stand (STS): 0 Unable 1 With assistance 2 Independent</p> <p>Mobility: 0 Unable 1 With assistance 2 Independent</p>
I2M. Re-operation within 30 days	0 None 1 Reduction of dislocated prosthesis 2 Washout or debridement 3 Implant removal 4 Revision of internal fixation 5 Conversion to Hemiarthroplasty 6 Conversion to THR 7 Girdlestone/excision arthroplasty 8 Surgery for periprosthetic fracture 9 Not documented	All of the choices here relate to within the first 30 days post hip fracture surgery
I3. Operation (Right)	00 no oper. performed 01 int fix DHS 02 int fix Screws 03 int fix IM nail long 04 int fix IM nail short 05 art uni-p hemi uncem uncoated	As above

	<p>06 art uni-p hemi uncem coated 07 art uni-p hemi cem. 08 art bi-p hemi uncem uncoated 09 art bi-p hemi uncem coated 10 art bi-p hemi cem. 11 art THR uncem uncoated 12 art THR uncem coated 13 art THR cem. 88 other 99 not documented</p>	
14. Pressure ulcers	<p>1 Yes 2 No 9 Not documented</p>	<p>1= This refers to a new pressure ulcer <u>since admission</u> grade 2 or above</p> <p>Grade 2 = Partial thickness loss of dermis presenting as a shallow open ulcer with a red pink wound bed, without slough. May also present as an intact or open / ruptured serum-filled or sero-sanguinous filled blister. Presents as a shiny or dry shallow ulcer without slough or bruising*. This category should not be used to describe skin tears, tape burns, incontinence associated dermatitis, maceration or excoriation. *Bruising indicates deep tissue injury.</p> <p>NPUAP Guidelines</p> <p>NOTE if the patient develops a pressure after 120 days of admission for a hip fracture do not include this.</p>
15. Specialist Falls Assessment	<p>0 No 1 Yes - performed on this admission</p>	<p>0= No falls assessment</p> <p>1= Yes if they are seen by a geriatrician as this will always be a part of</p>

	<p>2 Yes - awaits further out-patient assessment</p>	<p>their assessment</p> <p>Additionally if they have a specialist for falls assessment</p> <p>2= yes if they are referred to a specialist for falls assessment</p> <p><i>Please do not confuse this field with fall interventions, this is just to measure who is having a proper falls assessment</i></p>
16. Bone protection medication	<p>0 No assessment</p> <p>1 Started on this admission</p> <p>2 Continued from pre-admission</p> <p>3 Awaits DXA scan</p> <p>4 Awaits out-patient assessment</p> <p>5 Assessed – no bone protection medication needed/appropriate</p>	<p>0= No assessment done</p> <p>1= started on treatment during this admission see details below which constitute treatments:</p> <p>NOT just calcium and vit D</p> <ul style="list-style-type: none"> • Bisphosphonates (oral, combined with Ca/ Vit D, iv) e.g. Alendronate, Risedronate, Edidronate, Ibandronate, Pamidronate, Zolendronate (Fosamax, Fosavance, Actonel, Bonviva, Aredia, Aclasta) • HRT eg Tibolone • SERMS eg Raloxifene • Parathyroid hormone eg Forsteo, PTH 1-34, PTH 1-84 • Strontium ranelate (Protelos) • Denosumab (Prolia) • Calcium and vitamin D , Calcitrol <p>2= If they came in on one of the above treatments already and this was continued on discharge</p> <p>3= Awaiting a DXA scan</p> <p>4= Awaiting an out-patient appointment in a clinic ie. fracture liaison,</p>

		falls & bone health clinic or geriatric clinic 5= If the patient was assessed for bone health and the decision was made to not treat them for a variety of reasons such as malignancy, unwell, severe renal impairment or that it simply is not required.
17. Multidisciplinary rehabilitation team assessment	1 Yes 2 No 9 Not documented	1 = Yes means they were seen by a variety of professionals such as a nurse, doctor, physiotherapist, occupational etc during their admission.
18. Cumulated Ambulatory Score – day of acute hospital discharge (0-6)		See scoring as for 12L above
19. Where was the patient discharged to following the acute hospital spell?	1 Home 2 On-site rehab unit 2 Off-site rehab unit 3 Convalescence care 5 New admission to nursing home or long-stay care 6 Return admission to nursing home or long stay care 8 Other	Which option represents the reason for discharge to location if other than home Return admission to a nursing home/long stay care should only be selected if source of admission for this acute episode was from a nursing home/long stay care.
19A Discharged to (Other, please specify)		If option 8 answered for Q19 then complete 19A
20. Is admission data entry complete for this episode?	1 Yes 2 No	1 = Yes if you have extracted as much of the information as possible and the patient has been discharged then select yes. If a patient is still an inpatient then you cannot definitively say that they may not develop pressure ulcers or have all their assessments completed <u>so only complete the data entry when you are sure the episode of care is completed.</u> 2= self explanatory

APPENDIX 2:

IHFD Frequently asked questions

Question	Answer
What does IHFD stand for?	Irish Hip Fracture Database
Who are the members of the IHFD Governance Committee?	<p>Mr Conor Hurson, IHFD Clinical lead, Orthopaedic Surgeon</p> <p>Dr Emer Ahern, IHFD Clinical lead, Geriatrician</p> <p>Louise Brent, IHFD Audit Coordinator, Orthopaedic Nurse</p> <p>Philip Dunne, IT Systems Support, Healthcare Pricing Office, Health Services Executive (HSE)</p> <p>Catherine Farrell, Programme Manager Trauma and Orthopaedic Programme</p> <p>Michelle Fitzgerald, Physiotherapy Representative</p> <p>Dr Tara Coughlan, Irish Gerontological Society</p> <p>Mr Paddy Kenny, Irish Institute of Trauma and Orthopaedic Surgeons (IITOS) Representative</p> <p>Dr Michael Looney, Anaesthesia Representative</p> <p>Dr Geraldine McMahon, Emergency Medicine Representative</p>

Question	Answer
How do I get access to the IHFD?	The lead clinician for the IHFD in your hospital should email (from his/her HSE/ Hospital email address) Philip.Dunne@hpo.ie requesting access to the database. The email should include the names, designations and contact details of any personnel within the hospital requiring IHFD access. All subsequent requests for access must also come from the lead clinician.
What do I do if I forget my username and password?	Contact Philip.Dunne@hpo.ie
Can I view anyone else's data?	No, each hospital is registered separately
Can more than one person in a hospital be given access to the database for data entry?	The clinical lead and data coordinator have access, it will be at the discretion of the clinical lead to grant further access. However if access is being requested to gain information that can be exported into a file then access should not be granted and the clinical lead should instruct the data coordinator to share that information. Access to the portal should be kept to a minimum in each site.

Question	Answer
<p>How long will it take to enter data?</p>	<p>There are two options for Data Entry.</p> <p>This will vary according to experience but no more than approximately 1-2 minutes per patient entry.</p> <p>1. Pre-Discharge</p> <ul style="list-style-type: none"> a. Type in the Medical Record Number e.g. 1234567 b. Click on <u>New Case</u> c. Enter the hip fracture data d. Click on Store <p>Note: Only select the option “Store as Non-Admitted Episode” if you are sure the patient was not admitted during this episode of care.</p> <p>If you choose to enter pre-discharge data, the system will automatically merge the hip fracture data and the HIPE data after the patient has been discharged</p> <p>2. Post-Discharge</p> <ul style="list-style-type: none"> a. Type in the Medical Record Number e.g. 1234567 b. Click on the relevant <u>Discharge Date</u> c. Enter the hip fracture data (under “Optional” tab) d. Click on Store

Question	Answer
Once submitted, can I retrieve records to edit content?	Yes, at any time
What if date of Trauma is not documented?	Date of trauma; if unknown enter 99-99-99
What if the patient is transferred from another hospital?	<p>First presenting hospital</p> <p>Document the hospital the patient first presents at e.g. The patient presents at a hospital with no orthopaedic service and has to be transferred to an operating hospital. The time starts ticking from presentation at the first ED or if a transfer from within a hospital with no orthopaedic service to an operating hospital enter 'date and time seen by trauma team' as most likely time when diagnosis is made.</p> <p>In most cases the first presenting hospital will be the same as the operating hospital. This should still be documented</p>
If the patient is fast tracked to surgery before being admitted to orthopaedic ward – how do I record this.	Blue Book Standard I - All patients with hip fracture should be admitted to an acute orthopaedic ward within 4 hours of presentation. We recognise that in the Irish system not all patients are admitted to an orthopaedic ward before being sent to theatre. This is covered in question 4E - Did patient go directly to theatre from ED?
If the patient is admitted from within hospital - how do I record this?	We recognise that some patients may sustain a hip fracture whilst already in hospital or may require acute medical management (i.e. are not admitted primarily as a fractured hip). This is now covered by question 4H -Did patient fall during an existing inpatient admission in operating hospital?

Question	Answer
Admission to orthopaedic ward	Includes dedicated geriatrician-staffed hip fracture wards as well as conventional orthopaedic/trauma wards. Enter Orthopaedic ward if in-patient on an orthopaedic ward at any time during the acute hip fracture spell.
AMTS (Abbreviated Mental Test Score)	This 10 item version is a simple and robust screening tool in the acute patient. Full assessment for confused people (AMTS less than 7) requires more detailed tools for cognition (MMSE) or presence of delirium (CAM).
Fracture type	<p>There are two help boxes to assist with Type of Fracture</p> <p>For <u>all hip fractures</u> the type of fracture <u>must</u> be written at the top of the operation note:</p> <ul style="list-style-type: none"> 1 Intracapsular - displaced 2 Intracapsular - undisplaced 3 Intertrochanteric (Basal and basi-cervical fractures are to be classed as intertrochanteric) 4 Subtrochanteric 5 Periprosthetic 8 Other <p>Other should only be used if fracture does not fit the other options eg trochanteric</p>
Arthroplasty	Any replacement of the upper femur including unipolar, bipolar hemi-arthroplasties and total hip replacements

Question	Answer
What is a pathological fracture?	A bone broken, caused not by trauma alone, but so weakened by disease as to break with abnormal ease. Pathological fractures are characteristic of primary and metastatic malignant disease and myeloma. Answer Malignancy only if primary or secondary malignancy present at the fracture site.
What is an atypical fracture?	Atypical fractures are transverse femoral fractures, with an unusual cortical spike medially, that occur in the subtrochanteric and shaft regions (you should only enter subtrochanteric fractures to the database). They follow low trauma injuries and patients may report pre-injury pain.
Normal working hours?	The National Confidential Enquiry into Peri-operative Deaths (NCEPOD) reports of 1997 and 2003 define “out of hours” as any time outside 08:00 to 17:59 Sunday to Saturday.
When is considered time of primary surgery?	The time of primary surgery is taken from the time of induction of anaesthesia. The time is shown in hours to 2 decimal place, e.g. 1.25 = 1hr 15 mins, 3.5 = 3hrs 30 mins, 2.67=2hrs 40 mins.
When does the clock start ticking?	<p>As soon as the patient arrives in ED or is seen by the trauma team.</p> <p>Scenario 1: Hip pain, initial X-ray, no fracture seen, then CT/ MRI identifies fracture, time of arrival to ED to be used</p> <p>Scenario 2 : SHO misses fracture, radiologist report shows fracture, time of first arrival to ED to be used</p> <p>Scenario 3: Impacted or old fracture, treated conservatively, trial of mobilisation fails, time of arrival to ED to be used</p> <p>Scenario 4: ED diagnosis ? fracture, awaiting CT/ MRI, time of first arrival to ED to be used.</p> <p>Scenario 5: Patient falls as an inpatient, time seen by trauma team to be used</p>

Question	Answer
What is an ASA Score?	<p>The American Society of Anaesthesiologists (ASA) devised a preoperative risk score based on the presence of co-morbidities at the time of surgery</p> <p>American Society of Anesthesiologists⁸ (ASA 1963) physical status classification:</p> <ol style="list-style-type: none"> 1. A normal healthy patient 2. A patient with a mild systemic disease 3. A patient with a severe systemic disease that limits activity, but is not incapacitating 4. A patient with an incapacitating systemic disease that is a constant threat to life 5. A moribund patient not expected to survive 24 hours with or without operation <p>This grading does not take into account acute illness, hence a patient can be ASA I and 'unfit'.</p>
What is meant by 'Routine by Medical Physician'?	Review by a medical physician at Registrar level or above ie not an Orthopaedic Surgeon.
What is meant by 'Routine by Geriatrician'?	Review by a geriatrician at Registrar level or above.
What is meant by 'Medical Physician review following request'?	Review by a member of the medical team at Registrar level or above following a request from the orthopaedic service.

Question	Answer
What is meant by 'Specialist nurse'?	Review by specialist nurse CNM 2 level or above.
Issues surrounding delay to surgery	<p>Please document only the main reason for delay. Options are:</p> <ul style="list-style-type: none"> • Medically unfit - awaiting orthopaedic diagnosis/investigation - this means waiting for MRI scan or other confirmation of diagnosis. • Medically unfit - awaiting medical review/investigation or stability - this means waiting for a medical review as patient remains medically unfit for surgery/anaesthetic • Administrative/logistic - awaiting in-patient or high dependency bed • Administrative/logistic - awaiting space on theatre list • Administrative/logistic - problem with theatre /equipment • Administrative/logistic - problem with theatre/surgical/anaesthetic staff cover • Cancelled due to theatre over-run - this option is to be used when the patient has been allocated a theatre slot - but for some reason the list has over-run. • Other - any other reason than the list above If you select "other" an empty box will appear so you can populate it with the reason for delay • No operation performed
Pressure ulcers	<p>Did patient acquire a new pressure ulcer (Grade 2 or above) during the acute admission?</p> <ul style="list-style-type: none"> • This should be answered as 'yes' <u>only</u> if the patient has developed a grade 2 pressure ulcer or above

Question	Answer
	<p><u>during</u> their acute orthopaedic admission.</p> <ul style="list-style-type: none"> Ignore ulcers acquired during an acute stay but more than 120 days after admission. If nothing is documented and the patient has left the hospital 'not documented' must be recorded.
Definition of a Ward Round	<p>The ward round is a parade through the hospital, of professionals where most decision making concerning patient care is made. The round provides an opportunity for the multidisciplinary team to listen to the patient's narrative and jointly interpret his concerns. From this unfolds diagnosis, management plans, prognosis formation and the opportunity to explore social, psychological, rehabilitation and placement issues.</p> <p>Physical examination of the patient at the bedside still remains important.</p> <p>Anatomy of the ward round, James A. O'Hare European Journal of Internal Medicine - July 2008 (Vol. 19, Issue 5, Pages 309-313, DOI: 10.1016/j.ejim.2007.09.016)</p>
Specialist falls assessment	<p>A systematic assessment by a suitably trained person e.g. Geriatrician or a specialist assessment trained nurse which must cover the following domains:</p> <p>Falls history (noting previous falls),</p> <p>cause of index fall (including medication review),</p> <p>risk factors for falling and injury (including fracture)</p> <p>and from this information formulate and document a plan of action to prevent further falls.</p>

Question	Answer
Definition of Multidisciplinary Rehabilitation Assessment Team	A group of people of different professions (and including as a minimum a physiotherapist, occupational therapist, nurse and doctor) with job plan responsibilities for the assessment and treatment of hip fracture patients, and who convene (including face to face or virtual ward round) regularly (and at least weekly) to discuss patient treatment and care and plan shared clinical care goals.

Question	Answer	
What drugs constitute bone protection therapy?	<p>NOT just calcium and vitamin D</p> <p>1. Bisphosphonates (oral, combined with Calcium/Vitamin D, intravenously)</p> <ul style="list-style-type: none"> • Etidronate • Alendronate • Risedronate • Ibandronate • Zoledronate • Pamidronate <p>2. Denosumab</p> <p>3. HRT and SERMS</p> <ul style="list-style-type: none"> • HRT (various) • Tibolone • Raloxifene 	<p>4. Parathyroid hormone</p> <ul style="list-style-type: none"> • PTH 1-34 • PTH 1-84 <p>5. Strontium Strontium ranelate</p> <p>6. Calcium and vitamin D Calcitriol Calcium and vitamin D – various Alpha-calcidol (or one alpha)</p> <p>7. Calcitonin</p>

Question	Answer
Minimum age?	We collect the data on all patients over the age of 30 but to date only report on those 60 and above.
Pre fracture New Mobility Score	<p>This is a new field for 2016 and there has been communication directly to Physiotherapy departments regarding the collection of the scores</p> <p>If you do not have a score recorded for any of Q6A, Q6B & Q6C then leave them blank</p>
How do I calculate Question 6D if not all fields are answered?	Q6D will auto calculate
Cumulated Ambulatory Score (CAS) Score 0 - 6	<p>Bed mobility:</p> <p>0 Unable</p> <p>1 With assistance</p> <p>2 Independent</p> <p>Sit To Stand (STS):</p> <p>0 Unable</p> <p>1 With assistance</p> <p>2 Independent</p> <p>Mobility:</p> <p>0 Unable</p> <p>1 With assistance</p> <p>2 Independent</p>

Question	Answer
CAS day after surgery - Does score need to be recorded daily?	No, just on day after surgery and again on day of acute discharge
CAS – day of acute hospital discharge -What if happens if patient is discharged at the weekend and there are no physio's on duty?	Retrospectively fill it in on Monday based on the nursing note on day of discharge, or the last physio note if it was recent.
What is required for Q18 - Where was the patient discharged to following the acute hospital spell?	Fill in the option which represents the reason / intent for patient's initial care after being discharged to a location other than home.

APPENDIX 3: Data Collection Proforma Sheets

IRISH HIP FRACTURE DATABASE DATA COLLECTION SHEET V5.0.1

Question	Options	Answer (Complete date/ time in 24h clock or circle relevant answer)
1. Date of trauma causing hip fracture		Date:
1A. Time of trauma causing hip fracture		Time:
2. Type of trauma	1 High energy trauma, 2 Low energy trauma 8 Unknown, 9 Not documented	1 2 8 9
3. Date of arrival at first presenting hospital		Date:
3A. Time of arrival at first presenting hospital		Time:
4. Admission via ED in operating hospital	1 Yes, 2 No	1 2
4A. Date of arrival in ED of operating hospital		Date:
4B. Time of arrival in ED of operating hospital		Time:
4C. Date left ED in operating hospital		Date:
4D. Time left ED in operating hospital		Time
4E. Did patient go directly to theatre from ED	1 Yes, 2 No	1 2
4F. Date seen by orthopaedic team in operating hospital (if not admitted via ED)		Date:
4G. Time seen by orthopaedic team in operating hospital (if not admitted via ED)		Time:
4H. Did patient fall during an existing inpatient admission in operating hospital	1 Yes, 2 No	1 2
5. Type of ward admitted to in operating hospital	1 Orthopaedic Ward 2 Never Admitted to Orthopaedic Ward 9 Not Documented	1 2 9
5A. Date of admission to orthopaedic ward		Date:
5B. Time of admission to orthopaedic ward		Time:
6A. Pre-fracture Indoor Walking	0 Unable 1 Assistance of one person 2 With an aid 3 independent	0 1 2 3
6B. Pre-fracture Outdoor Walking	0 Unable 1 Assistance of one person 2 With an aid 3 independent	0 1 2 3
6C. Pre-fracture Shopping	0 Unable 1 Assistance of one person 2 With an aid 3 independent	0 1 2 3
6D. Pre-fracture New Mobility Score (Sum A+B+C)		/9
7. AMT Performed	1 Yes, 2 No 3 Patient Refused, 9 Not Documented	1 2 3 9
7A. AMTS	00 - 10	/10
8. Side of fracture	1 Left, 2 Right, 3 Both	1 2 3
8A. Type of fracture	1 Intracapsular – displaced 2 Intracapsular - undisplaced 3 Intertrochanteric 4 Subtrochanteric	1 2 3 4 5 8 9

	5 Periprosthetic 8 Other 9 Not documented	
8B. Type of fracture (Other, please specify)		If answer is 8 specify:
8C. Type of fracture (Right)	See Q8A	
8D. Type of fracture (Right, Other, please specify)		
9. Pathological	1 Atypical, 2 Malignancy 3 No, 9 Not documented	
10. History of previous fragility fracture(s)	1 Yes, 2 No, 9 Not documented	1 2 9
11. Pre-op medical assessment	1 Routine by geriatrician 2 Routine by medical physician 6 None 7 Ger review following request 8 Med physician review following request 9 Not documented	1 2 6 7 8 9
11A. Assessed by Geriatrician during this acute admission	1 Yes, 2 No, 9 Not documented	1 2 9
11B. Geriatrician Assessment Date		Date:
11C. Geriatrician Assessment Time		Time:
11D. Geriatrician Grade	1 Consultant 2 SpR 3 Registrar 8 Other 9 Not documented	1 2 3 8 9
12. Operation	00 no oper. Performed 01 int fix DHS 02 int fix Screws 03 int fix IM nail long 04 int fix IM nail short 05 art uni-p hemi uncem uncoated 06 art uni-p hemi uncem coated 07 art uni-p hemi cem. 08 art bi-p hemi uncem uncoated 09 art bi-p hemi uncem coated 10 art bi-p hemi cem 11 art THR uncem uncoated 12 art THR uncem coated 13 art THR cem. 88 other 99 not documented	00 01 02 03 04 05 06 07 08 09 10 11 12 13 88
12A1. Type of implant (fx type = intracapsular)	1 ETS 2 Bipolar Exeter 3 Corail 4 Austin Moore 5 C Stem 6 Thompsons 7 Charley Bipolar 8 Trilliance 9 Pinnacle	1 2 3 4 5 6 7 8 9
12A2. Type of implant (fx type = intertrochanter)	1 Screws 2 DHS 3 Gamma nail long 4 Gamma nail short 5 Intertan	1 2 3 4 5
12A3. Type of implant (fx type = periprosthetic)	1 ORIF 2 Revision	1 2
12A. ASA Grade	1 Normal healthy individual 2 Mild systemic disease that does not limit activity 3 Severe systemic disease that limits activity but is not incapacitating 4 Incapacitating systemic disease which is constantly life-threatening 5 Moribund - not expected to survive 24 hours with or without surgery 9 Not documented	1 2 3 4 5 9
12B. Type of Anaesthesia	1 GA only 2 GA + nerve block 3 GA + spinal anaesthesia 4 GA + epidural anaesthesia 5 SA only 6 SA + nerve block 7 SA + epidural (CSE) 8 Other 9 Not documented	1 2 3 4 5 6 7 8 9
12C. Surgeon Grade	1 Consultant 2 Specialist Registrar 3 Registrar 4 SHO 8 Other 9 Not documented	1 2 3 4 8 9
12C2. Was consultant orthopaedic surgeon present in the operating room	1 Yes 2 No 9 Not documented	1 2 9
12D. Anaesthetist Grade	1 Consultant 2 Specialist Registrar 3 Registrar 4 SHO 8 Other 9 Not documented	1 2 3 4 8 9
12D2. Was consultant anaesthetist present in the operating room	1 Yes 2 No 9 Not documented	1 2 9
12E. Date of primary surgery		Date:



12F. Time of primary surgery		Time:
12H. Reason if delay >48 hours	0 No delay - surgery < 48 hours 1 Awaiting orthopaedic diagnosis or investigation 2 Awaiting medical review investigation or stabilisation 3 Awaiting inpatient or high dependency bed 4 Awaiting space on theatre list 5 Problem with theatre/equipment 6 Problem with theatre/surgical/anaesthetic staff cover 7 Cancelled due to list over-run 8 Other 9 Not documented	0 1 2 3 4 5 6 7 8 9
12H2. Other Reason if delay >48 hours		If answer is 8 specify:
12J. Mobilised on day of, or day after surgery	1 Yes 2 No, 9 Not documented	1 2 9
12J2. Mobilised by	1 Physiotherapist 8 Other, 9 Not documented	1 8 9
12K. Physiotherapy Assessment on day of, or day after surgery	1 Yes 2 No, 9 Not documented	1 2 9
12L. Cumulated Ambulatory Score – day after surgery (0 - 6)		/6
12M. Re-operation within 30 days	0 None 1 Reduction of dislocated prosthesis 2 Washout or debridement 3 Implant removal 4 Revision of internal fixation 5 Conversion to Hemiarthroplasty 6 Conversion to THR 7 Girdlestone/excision arthroplasty 8 Surgery for periprosthetic fracture 9 Not documented	0 1 2 3 4 5 6 7 8 9
13. Operation (Right)	See Q12	
14. Pressure ulcers	1 Yes, 2 No, 9 Not documented	1 2 9
15. Specialist Falls Assessment	0 No, 1 Yes - performed on this admission 2 Yes - awaits further out-patient assessment	0 1 2
16. Bone protection medication	0 No assessment 1 Started on this admission 2 Continued from pre-admission 3 Awaits DXA scan 4 Awaits out-patient assessment 5 Assessed – no bone protection medication needed/appropriate	0 1 2 3 4 5
17. Multidisciplinary rehabilitation team assessment	1 Yes, 2 No, 9 Not documented	1 2 9
18. Cumulated Ambulatory Score – day of acute hospital discharge (0 - 6)		/6
19. Where was the patient discharged to following the acute hospital spell?	1 Home 2 On-site rehab unit 3 Off-site rehab unit 4 Convalescence care 5 New adm to nursing home or long-stay care 6 Return adm to nursing home or long-stay care 8 Other	1 2 3 4 5 6 8
19A. Discharged to (Other, please specify)		Is answer is 8 specify:
20. Is admission data entry complete for this episode?	1 Yes, 2 No	1 2

NCCA National Office of
Clinical Audit



+353 1 4028577



ihfd@noca.ie



@noca_irl



www.noca.ie
