

**Non-traumatic spinal cord injury**  
**10 years experience**  
**2002 - 2013**


M Mecci

James Cook University Hospital  
Middlesbrough

28 June 2013



**Middlesbrough**

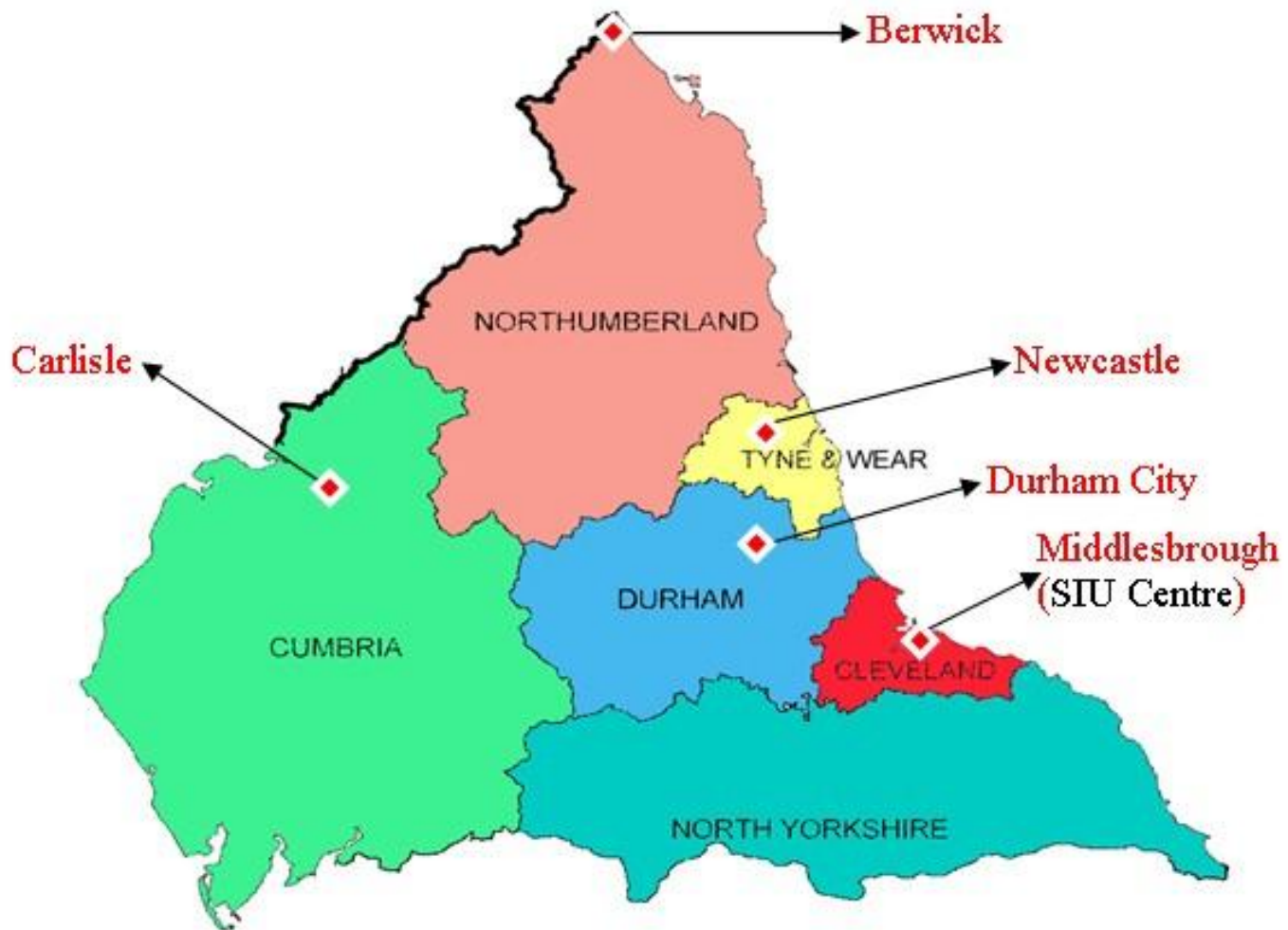
The image shows the exterior of a modern, multi-story building with a mix of grey panels and brickwork. A prominent sign above the entrance reads "THE GOLDEN JUBILEE REGIONAL SPINAL CORD INJURIES CENTRE". The building has a covered walkway leading to the entrance. In the foreground, there is a paved path, some landscaping with green and yellow bushes, and a black and white striped bollard. To the right, a blue van and a red car are parked under a carport. A tall street lamp is visible on the right side of the building.

THE GOLDEN JUBILEE REGIONAL SPINAL CORD INJURIES CENTRE

The Golden Jubilee Regional  
Spinal Cord Injuries Centre



# Catchment Area



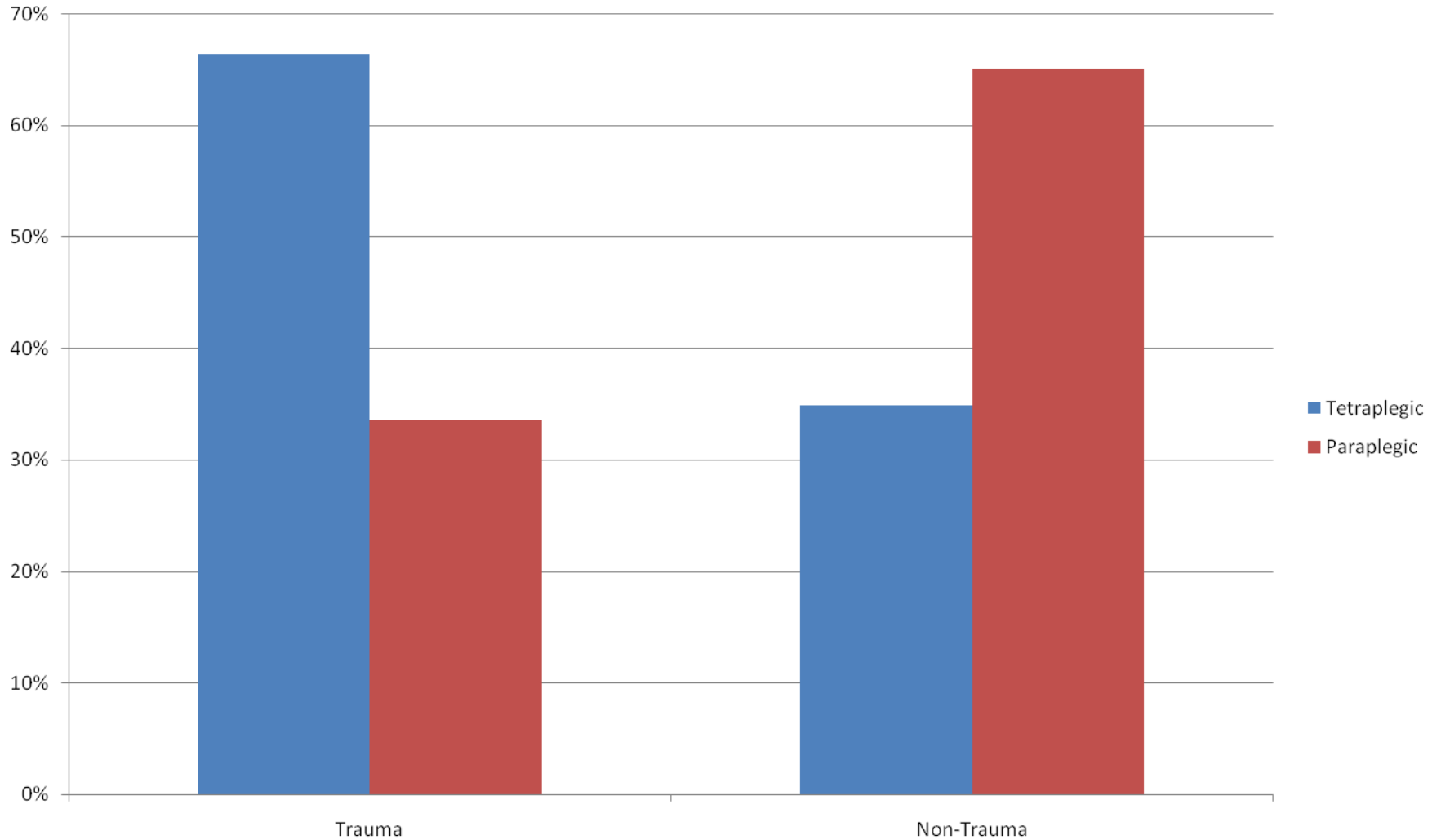
# Patients

- **441 Admissions**
- **282 Traumatic vs 159 non-traumatic**

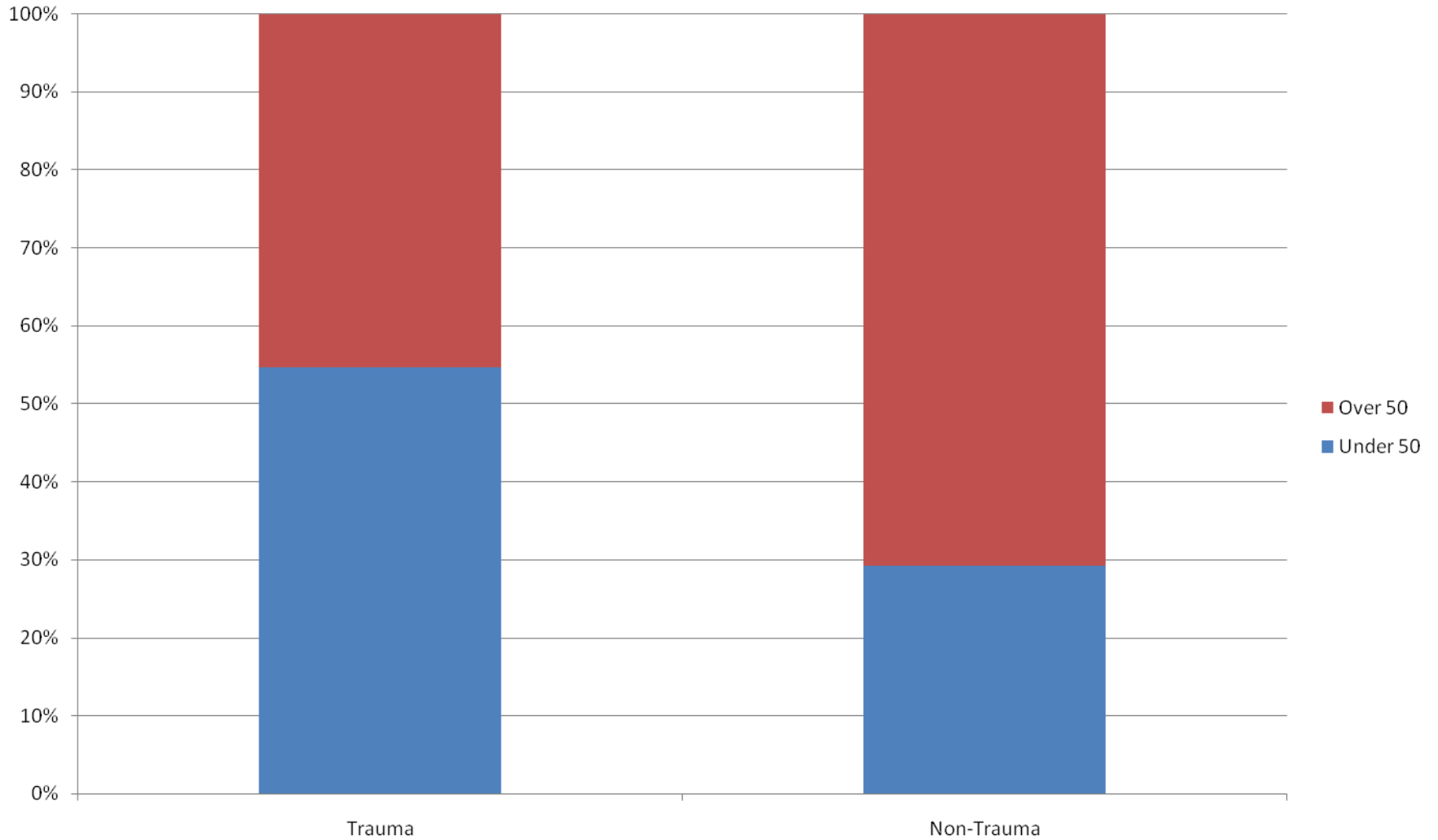
# Demographic Variations

		Trauma	Non-Trauma
<b>N</b>		<b>282</b>	<b>159</b>
<b>Sex</b>	<b>Male</b>	<b>217 (77%)</b>	<b>102 (64%)</b>
	<b>Female</b>	<b>65 (23%)</b>	<b>57 (36%)</b>
<b>Avg Age at Injury</b>		<b>47.9 (STDev 21.0)</b>	<b>58.0 (STDev 17.1)</b>
	<b>Male</b>	<b>46.2 (STDev 20.8)</b>	<b>57.5 (STDev 15.7)</b>
	<b>Female</b>	<b>53.7 (STDev 20.4)</b>	<b>58.9 (STDev 19.4)</b>

# Tetra/Paraplegic



# Age





# **Aetiology**

**Infection – abscess/discitis**

**Haematomas**

**Disc prolapse**

**Aortic Aneurysm**

**AVM, ASA Thrombosis**

**Benign tumours**

**Neurological ( Transverse myelitis )**

**Others**

# **Aetiology - Others**

**Diving Decompression**

**Space Occupying Lesion**

**Spinal Stenosis**

**Morquiois Syndrome**

**Subarachnoid Cyst**

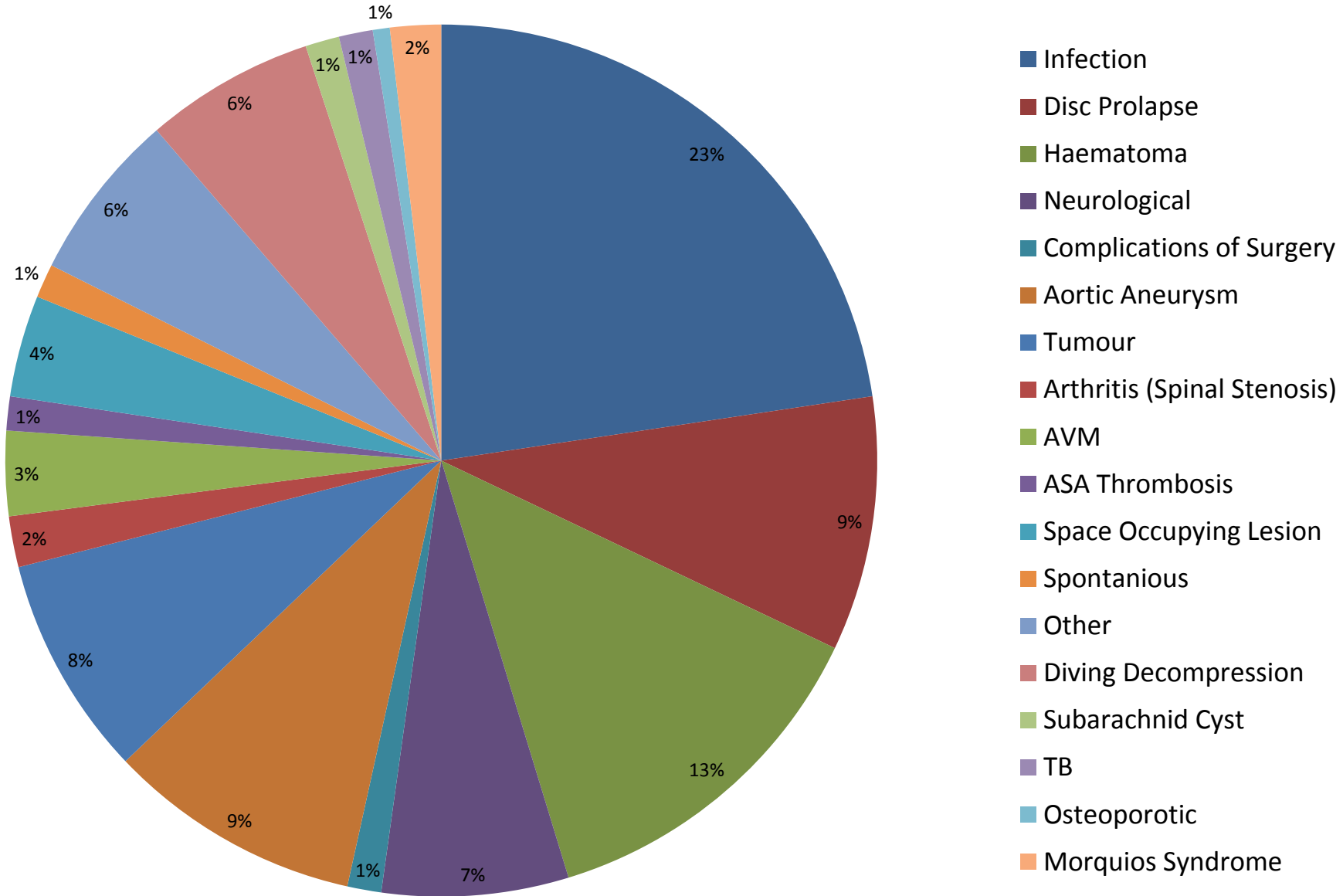
**Complications of Surgery**

**TB**

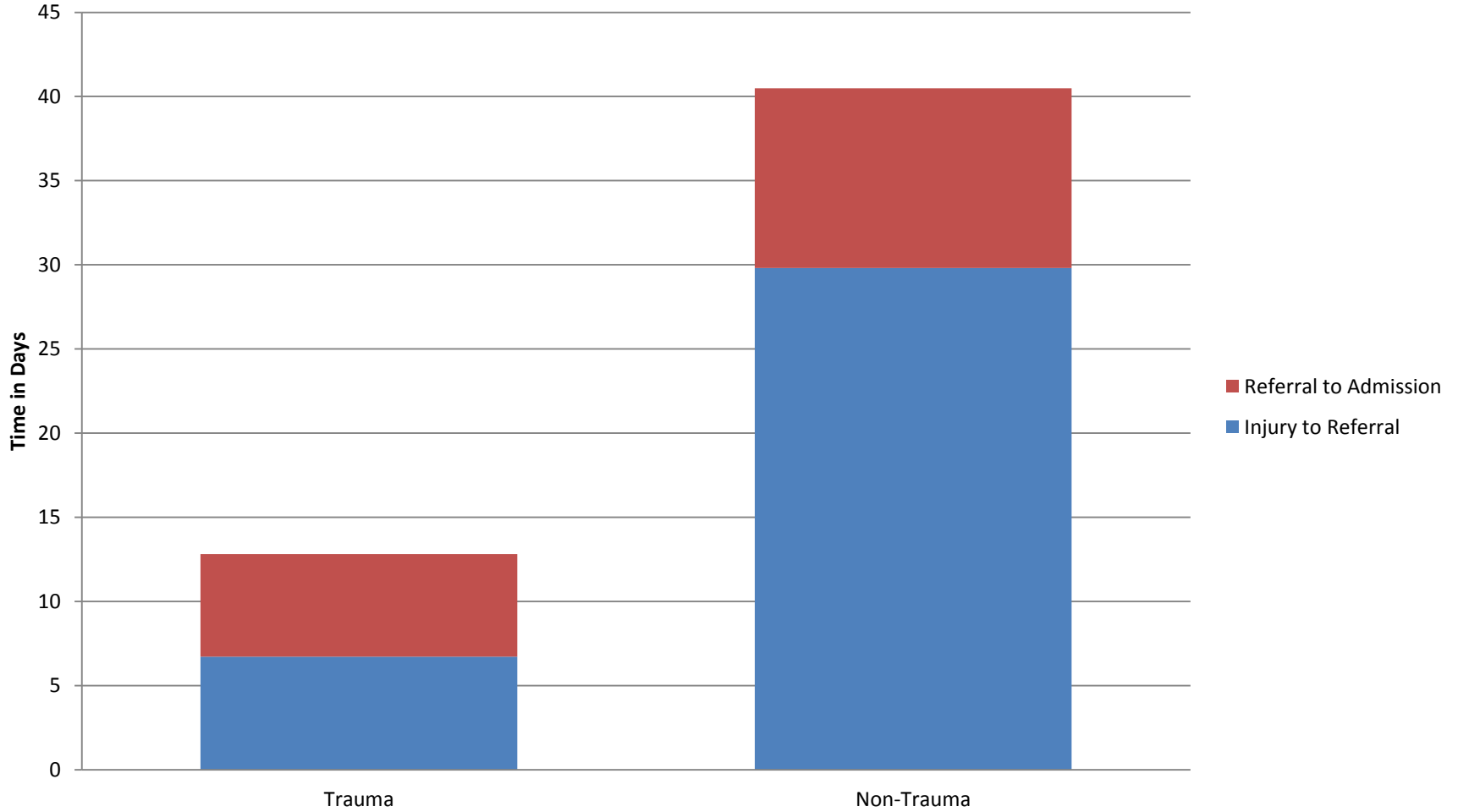
**Osteoporotic collapse**

**Spontaneous**

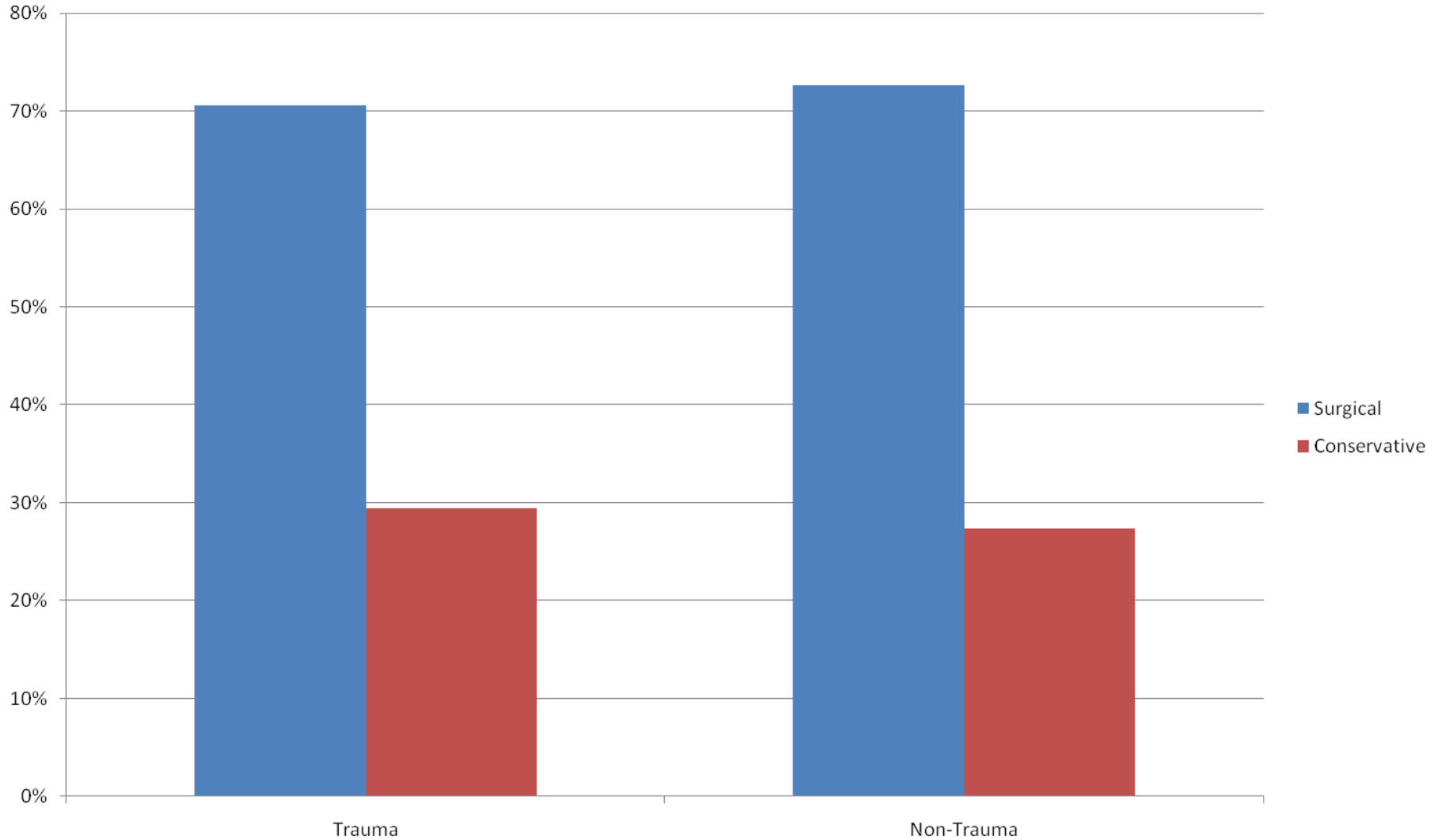
# Aetiologies



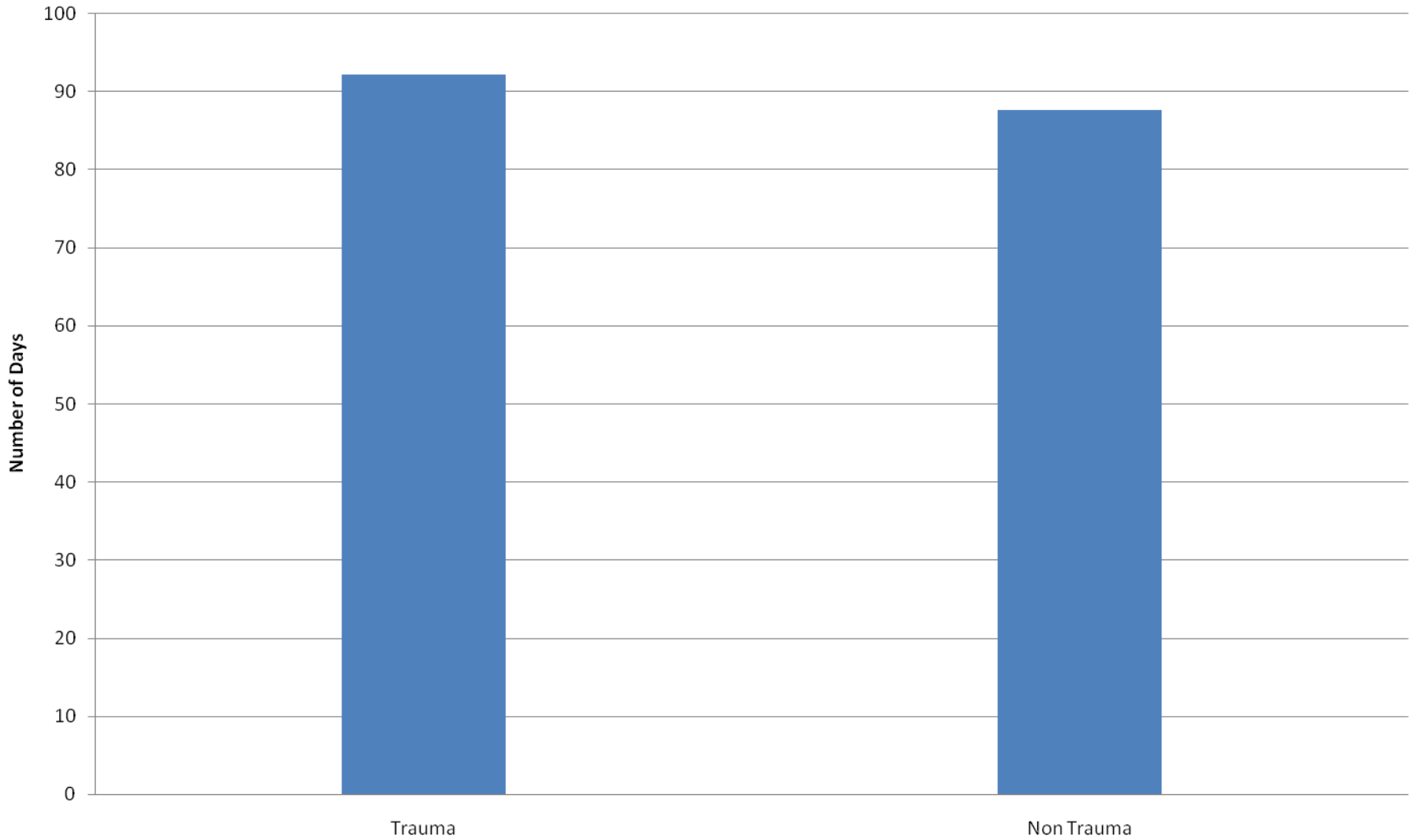
# Time to Admission



# Surgical or Conservative Treatment

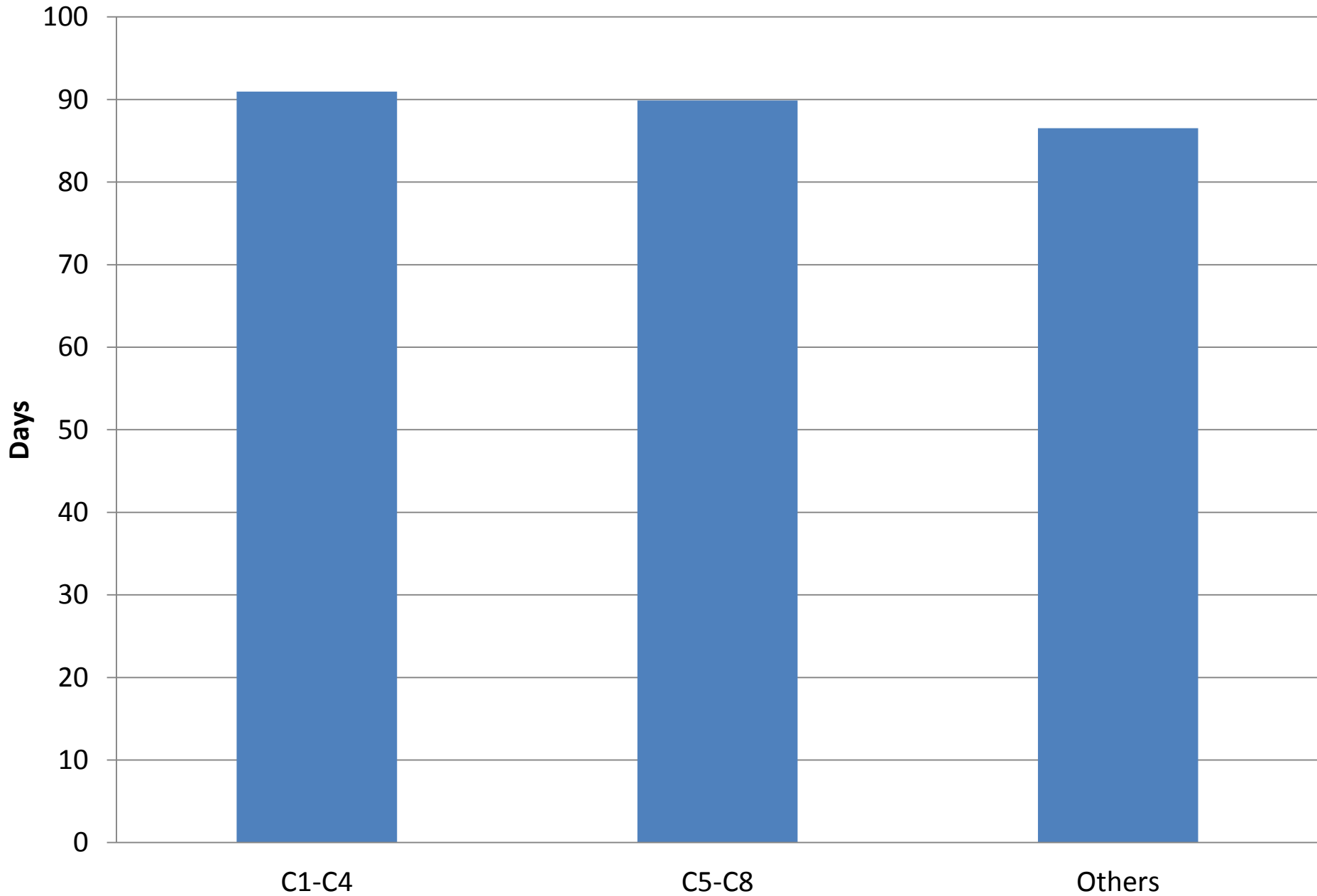


# Length of Stay



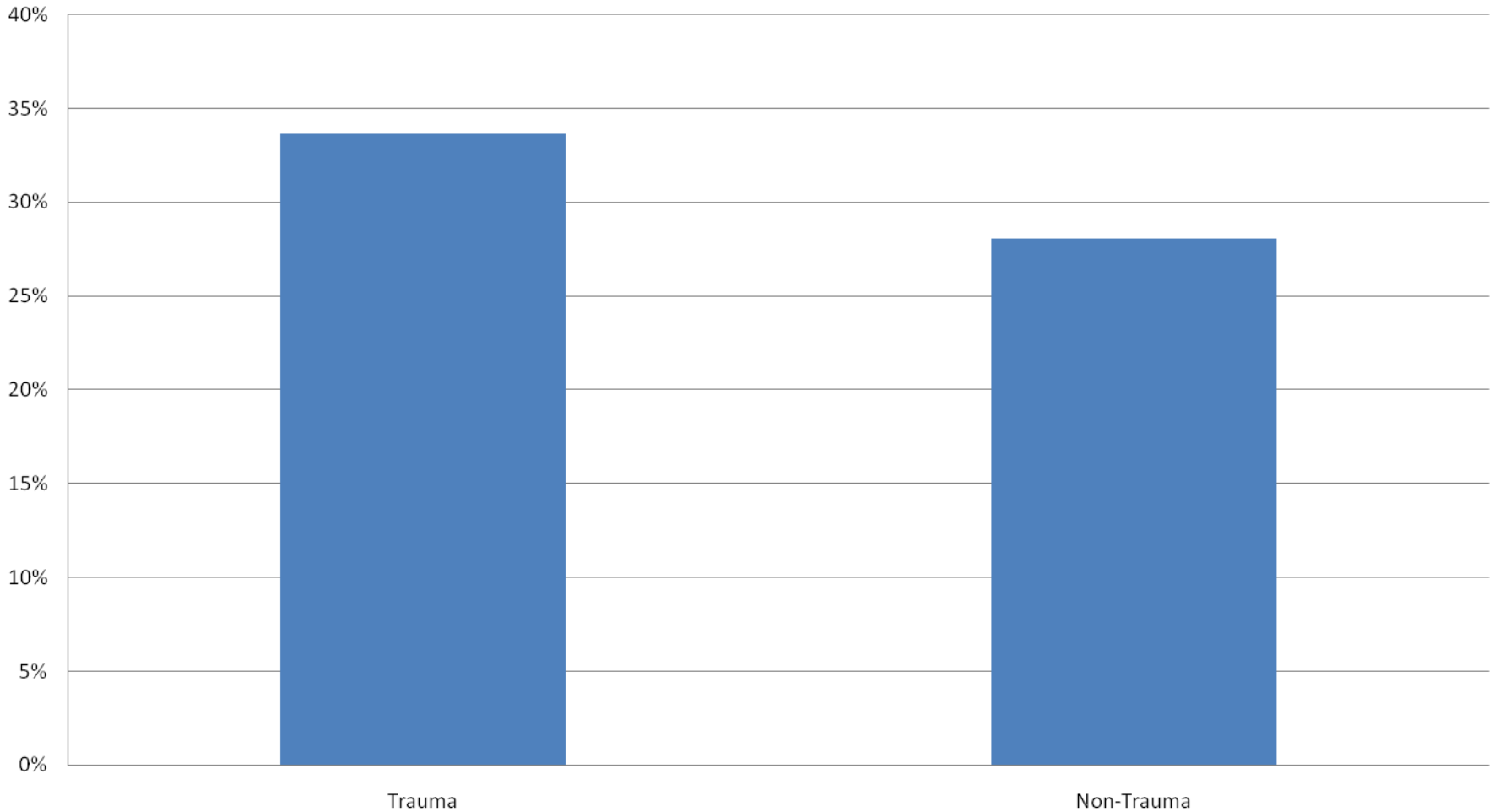


# Length of Stay



# Functional Outcome

## Frankel Improvement



# **Sub Group Analysis**

## **1. Infection**

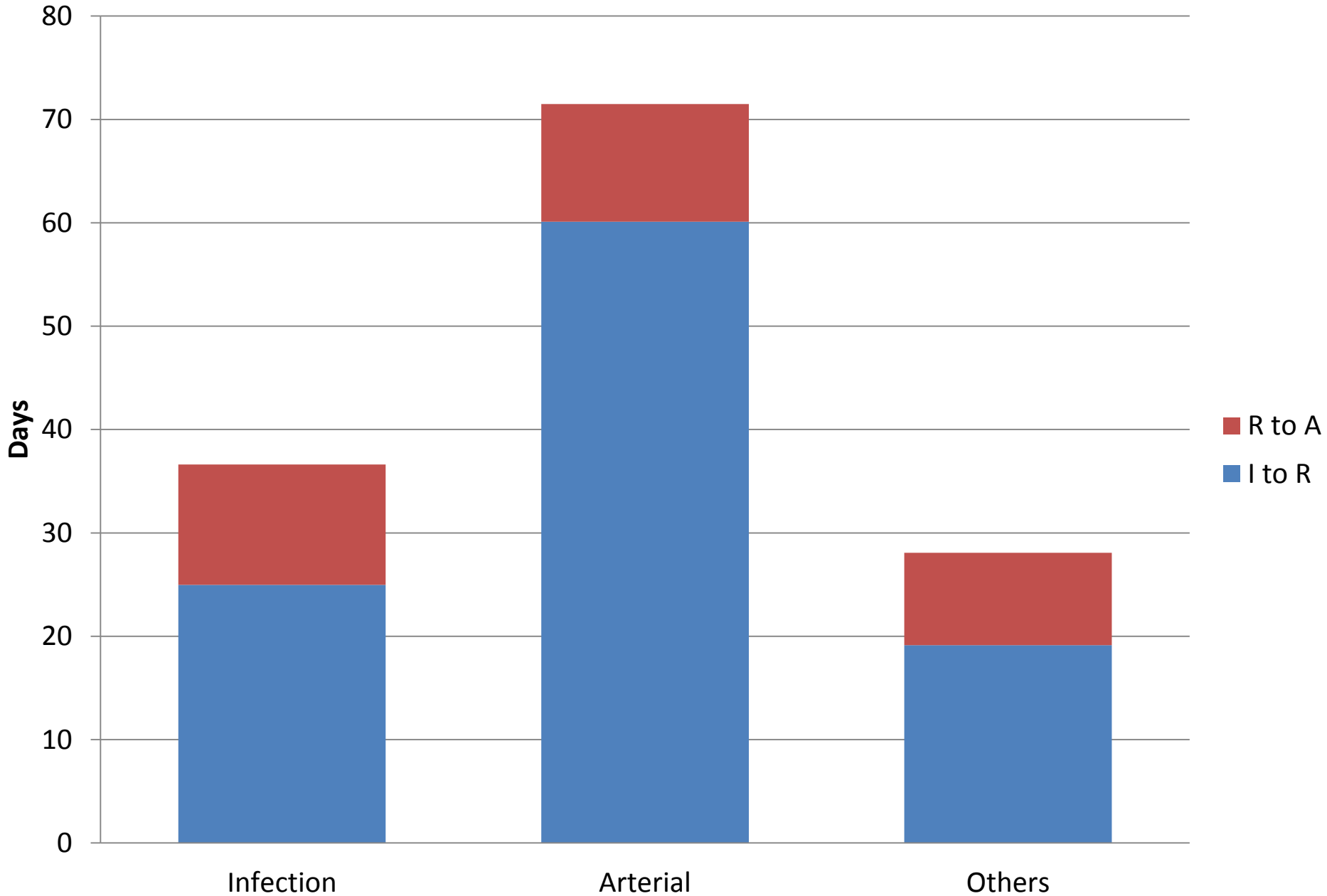
## **2. Arterial**

**Aortic Aneurysm, AVM, ASA Thrombosis**

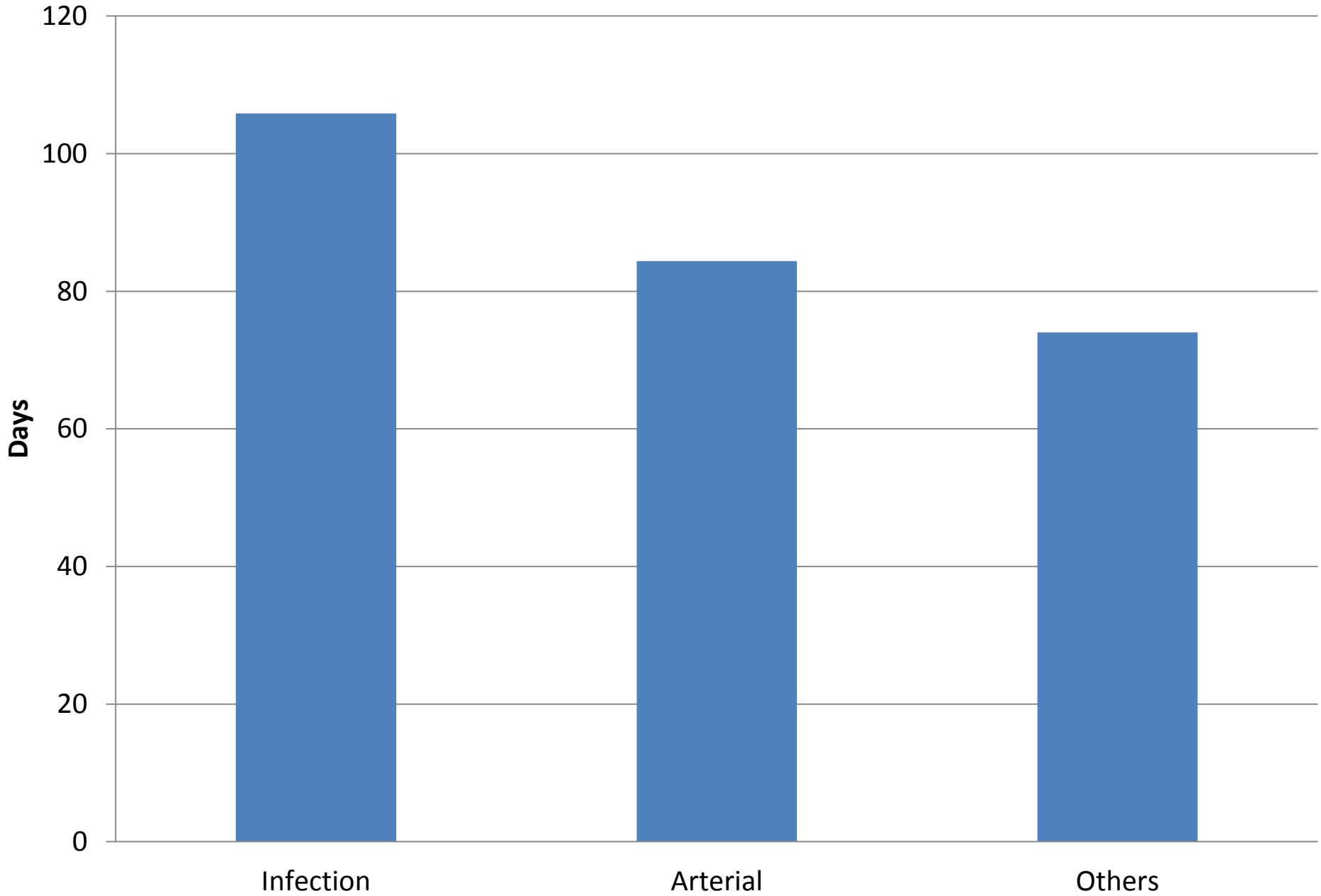
## **3. Others**

**Haematoma, Disc Prolapse, Tumour,  
Neurological, Other, Diving Decompression,  
Space Occupying Lesion, Spinal Stenosis  
Morquois Syndrome, Subarachnoid Cyst,  
Spontaneous, Complications of Surgery, TB,  
Osteoporosis.**

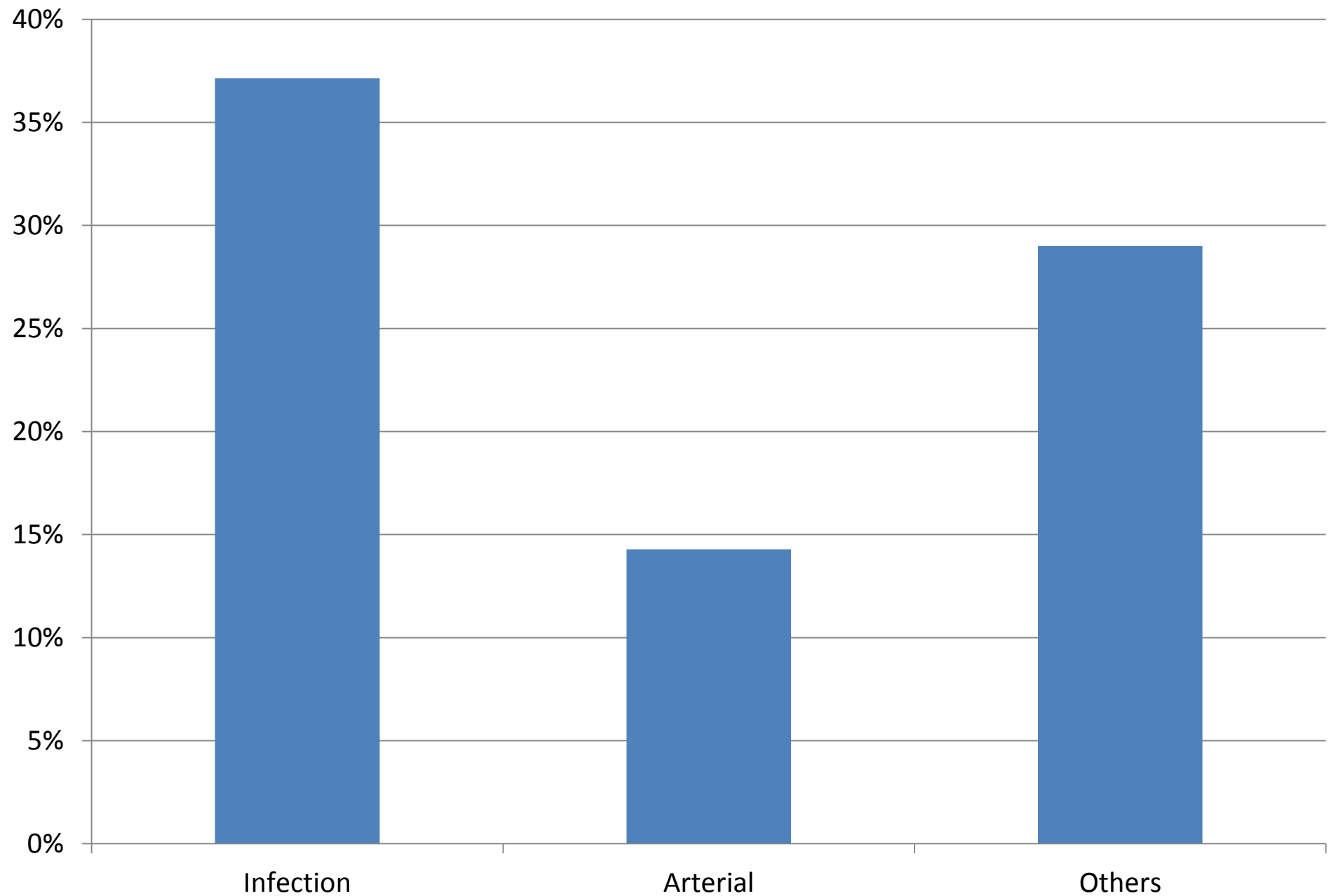
# Time to Admission



# Length of Stay



# Number achieved Frankel Improvement





# **Infection**

**Epidural abscesses and cord compression :  
retrospective audit, 2004-2008, JCUH**

# Infection

## Previous results

- **16.5 % of total admissions,**
- **No clustering**
- **No evidence of poor socio-economic conditions, needle sharing or drug abuse as reported in the North American literature**

# **Non-specific Symptoms in Infection Group**

- **Fever**
- **Pain: back or neck (common)**
- **Weakness in limbs (common)**
- **'Unwell'**
- **Head-cold**
- **Loss of appetite**
- **Feeling sick**
- **Pyelonephritis**
- **Cellulitis of forearm**
- **Umbilical piercing**

**More than one symptom present at any one time**

# **Non-traumatic Clinical Presentation**

- **Delay in referral**
- **Delay in admission**
- **Older age**
- **More females**
- **Co-morbidities invariable**
- **LOS the same**

# **Non-traumatic Clinical Presentation**

- **Paraplegia more likely**
- **Less severe neurological impairment**
- **Motor incomplete**
- **Most likely related to aetiology and location of spinal involvement**
- **Insidious onset; lower limb weakness, bladder, bowel etc**

# Discussion

- **Large discrepancy in admission time and between tetra/paraplegic.**
- **Non-traumatic injuries tend to be in older patients.**
- **No Difference in Surgical or conservative treatment, length of stay and improvements in functional outcomes between Traumatic and Non Traumatic Onset**



# Discussion

- **Non Traumatic group present with more medical comorbidities which makes rehabilitation that much more challenging**
- **Infection most common**
- **Arterial causes referred later and show smaller improvement**

# Discussion

- **Proposal: offer CQUIN pathway to the non-traumatic group**



**THANK YOU**