

# The Incidence and Risk Factors for Development of Post-Operative AKI in NOF Patients

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## Background:

It has been found that **1 in 3** cases of AKI occur **post-operatively**<sup>1</sup>.

Existing evidence has found **NOF fractures** to be the **most common cause of AKI overall**, and the **most common cause of death as a result of AKI 3** when compared to other common medical and surgical diagnoses<sup>2</sup>.

It has been shown that **AKI following hip fracture surgery** is associated with **longer hospital stay, higher costs of treatment and increased morbidity**<sup>3</sup>.

## Methods:

**137 patients** identified using a trust NOF bank who underwent **surgical management** between **January and October 2019** in a North-West District General.

U&E and haemoglobin reviewed at **24, 48, 76 and 94 hours post-operatively**.

Patients identified as having AKI based on **KDIGO guidelines**.

Medical notes reviewed to assess **demographics, baseline renal function, nephrotoxic use, AMTS on admission and operation delay >36 hours**.

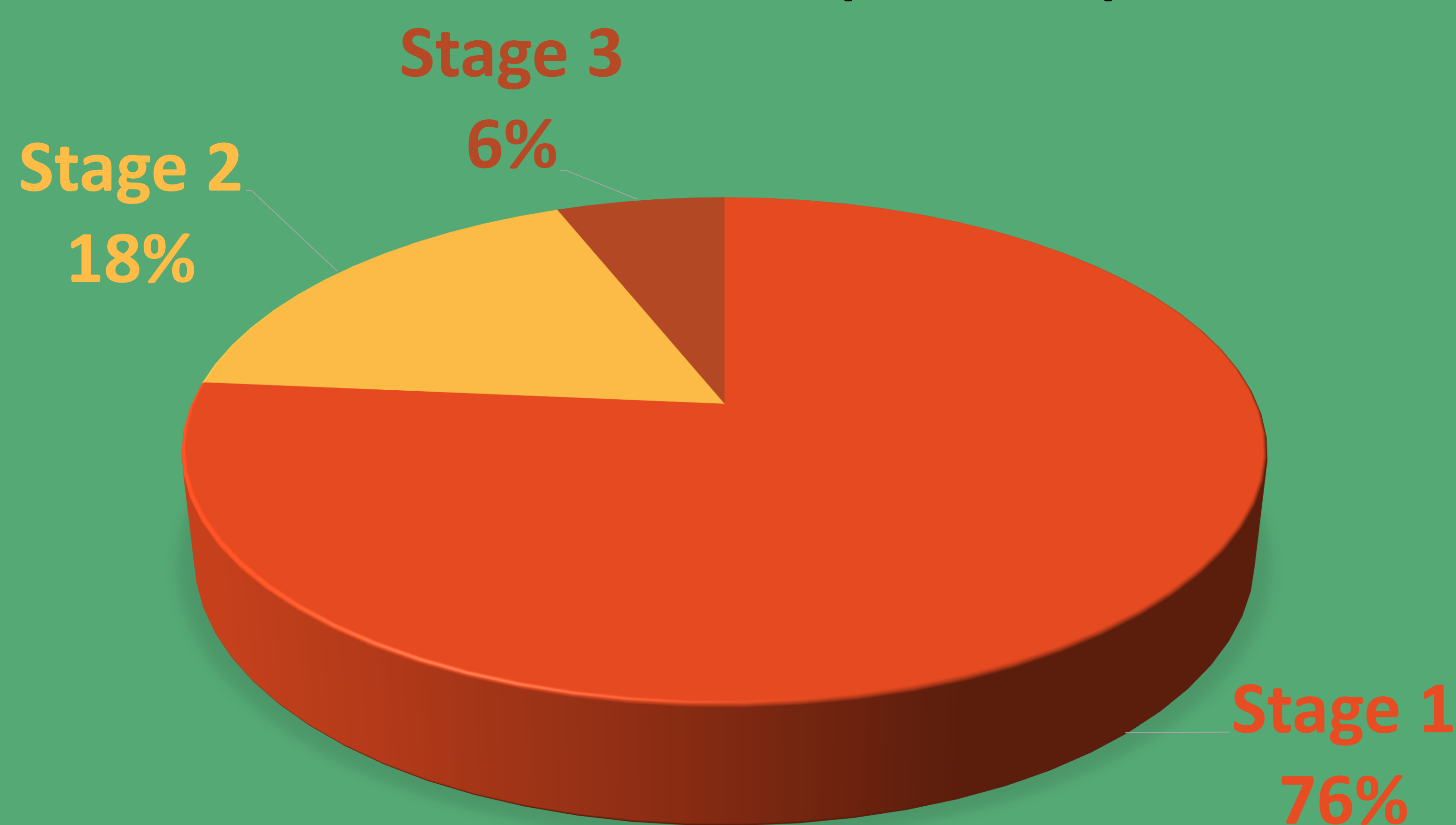
## Results:

- 12.4% of patients developed AKI post-operatively
- 18% of AKIs were unresolved at 2 weeks post-op

Risk Factor	AKI	No AKI
Evidence of pre-existing CKD	65%	37.5%
Taking any nephrotoxic on admission	84%	59%
Taking ACE-i on admission	47%	17%
Taking CCB on admission	41%	26%
Post-operative Hb drop of >21g/L	89%	60%
AMTS <7	47%	31%
Operation delayed past 36 hours	53%	63%
Received IV fluids within 24 hours post-operative	70.6%	-
Post-operative blood pressure drop >20mmHg	75%	-

Identified risk factors include **pre-existing CKD, nephrotoxic medication use, AMTS <7 and Hb drop >21 post-operatively**.

**ACE-I and CCBs were most strongly associated** with post-op AKI.



## References:

1. Romagnoli S, Ricci Z, Ronco C, Perioperative Acute Kidney Injury: Prevention, Early Recognition, and Supportive Measures
2. Sykes L, Kalra PA, Green DG, Comparison of impact on death and critical care admission of acute kidney injury between common medical and surgical diagnoses
3. Ulucay U, Eren Z, Kaspar EC, Ozler T, Yuksel K, Kantarci G, Altintas F, Risk Factors for acute kidney injury after hip fracture surgery in elderly individuals