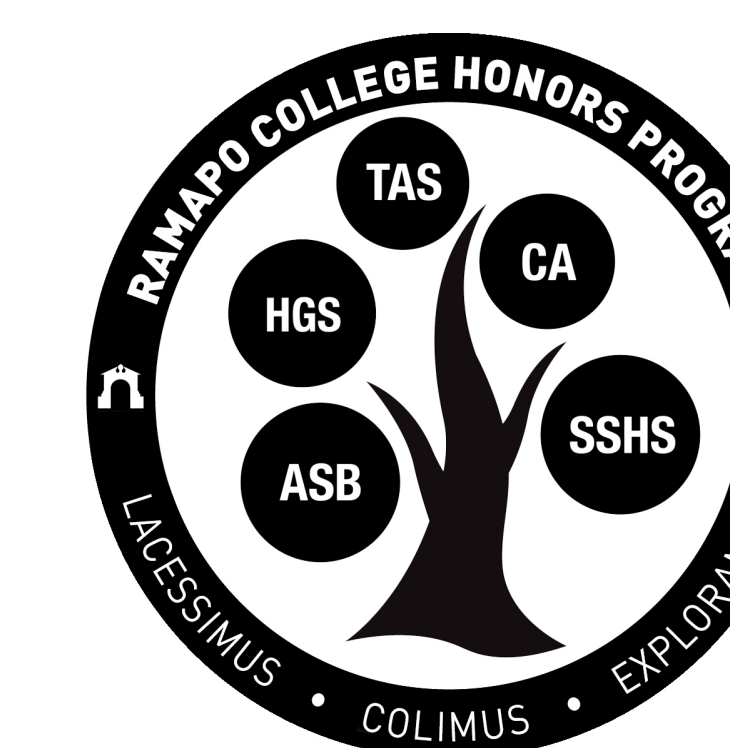


# Fall Risk in Oncology Patients: What Factors Contribute to its Increase?

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## Introduction:

Across the healthcare system, falls are a common event, especially within the older adult population, and prevention is a healthcare priority. It is estimated that about 1 in 3 adults over the age of 65 fall every year, with at least 10% of these falls leading to further complications like fractures and injuries to the head (Wildes et al, 2015). Older age may be considered a top risk factor, but falls are not only limited to older-age adults. Individuals with cancer at any age are at an increased risk for falling, as well. Factors including older age, gender, history of previous falls, and the inability to perform activities of daily living independently help explain an increased fall risk in the general population, but not in oncology patients (Campbell, Wolfe, & Klem, 2018). Reported fall rates of patients within oncology units are greater than those of patients within acute care settings according to The Patient Safety Observatory (Stone, Lawlor, Savva, Bennett, & Kenny, 2012). Since the incidence of new cancer cases is rising every year, healthcare workers will need to be cognizant of the possibility of falls and determine which oncology patients are at an increased risk.

## Objective:

To identify the number of falls and unique risk factors predisposing falls, focusing specifically on oncology patients.

## Methods:

Performed a chart audit of oncology patients that were admitted to and suffered a fall at St. Joseph's University Medical Center on Regan 4 South between January 2017 & December 2019. The sample size included 36 patients (n=36).

## References:

Campbell, G., Wolfe, R. A., & Klem, M. L. (2018). Risk Factors for Falls in Adult Cancer Survivors: An Integrative Review. *Rehabilitation Nursing: The Official Journal of the Association of Rehabilitation Nurses*, 43(4), 201-213. doi:10.1097/rnj.0000000000000173

Stone, C.A., Lawlor, P.G., Savva, G.M., Bennett, K., & Kenny, R.A. (2012). Prospective Study of Falls and Risk Factors for Falls in Adults with Advanced Cancer. *Journal of Clinical Oncology*, 30(17), 2128-2133. doi: 10.1200/JCO.2011.40.7791

Wildes, T. M., Dua, P., Fowler, S. A., Miller, J. P., Carpenter, C. R., Avidan, M. S., & Stark, S. (2015). Systematic Review of Falls in Older Adults with Cancer. *Journal of Geriatric Oncology*, 6(1), 70-83. doi:10.1016/j.jgo.2014.10.003

Figure 1: Ages of Oncology Patients

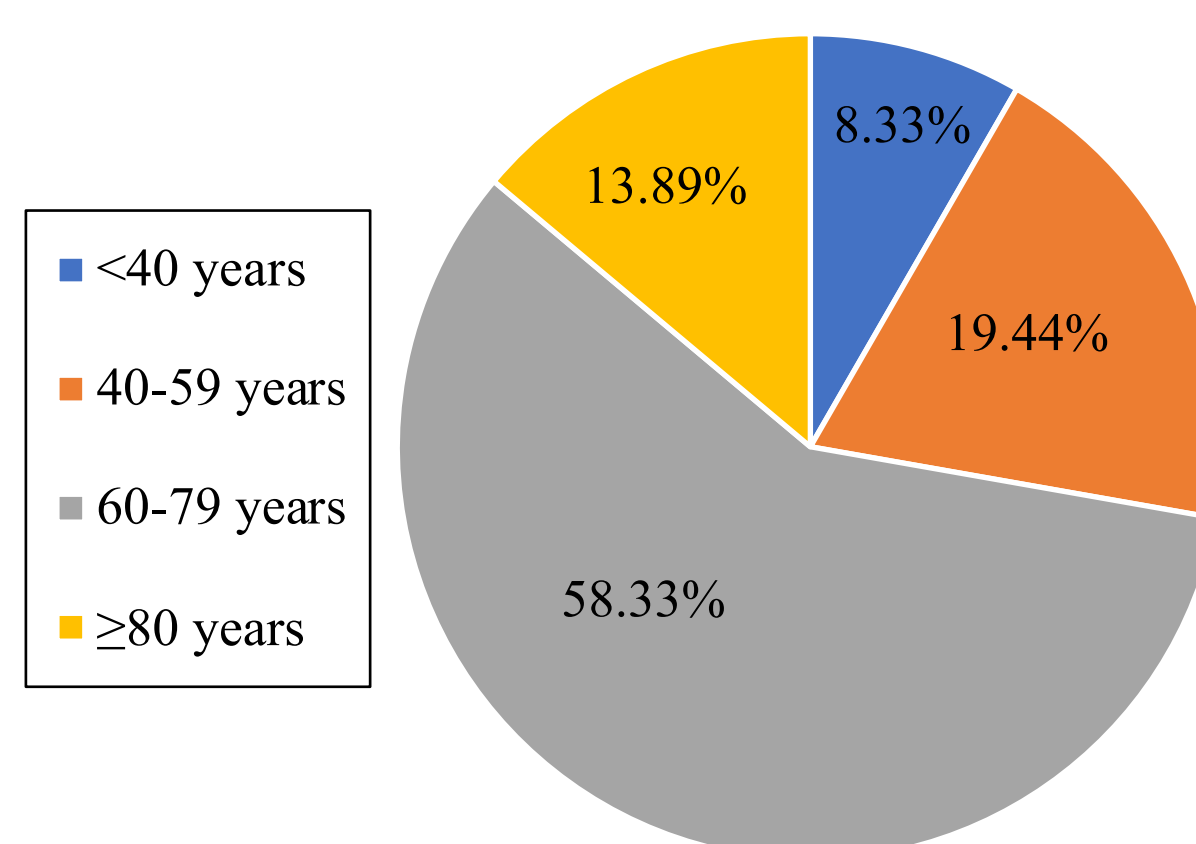


Figure 2: Type of Patient Fall

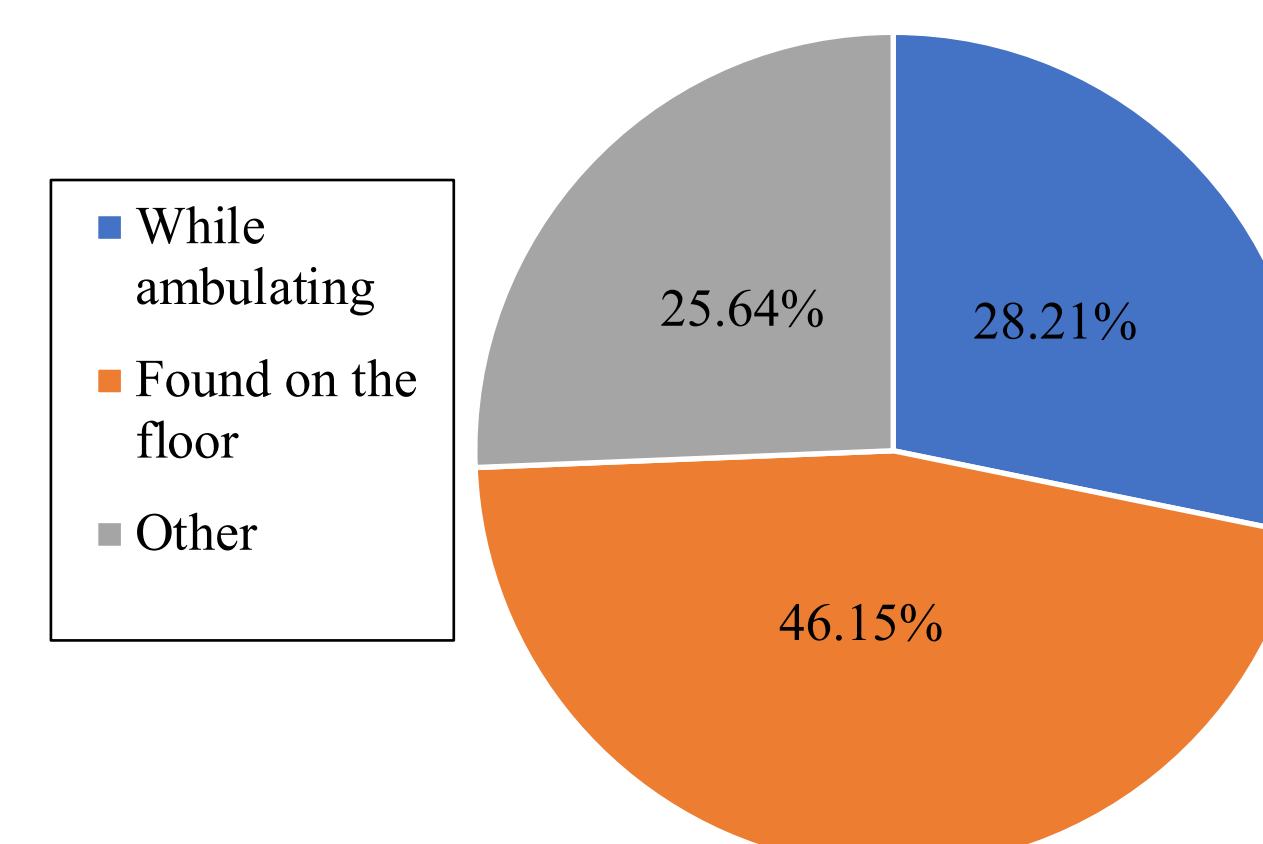


Figure 3: Time of Patient Fall

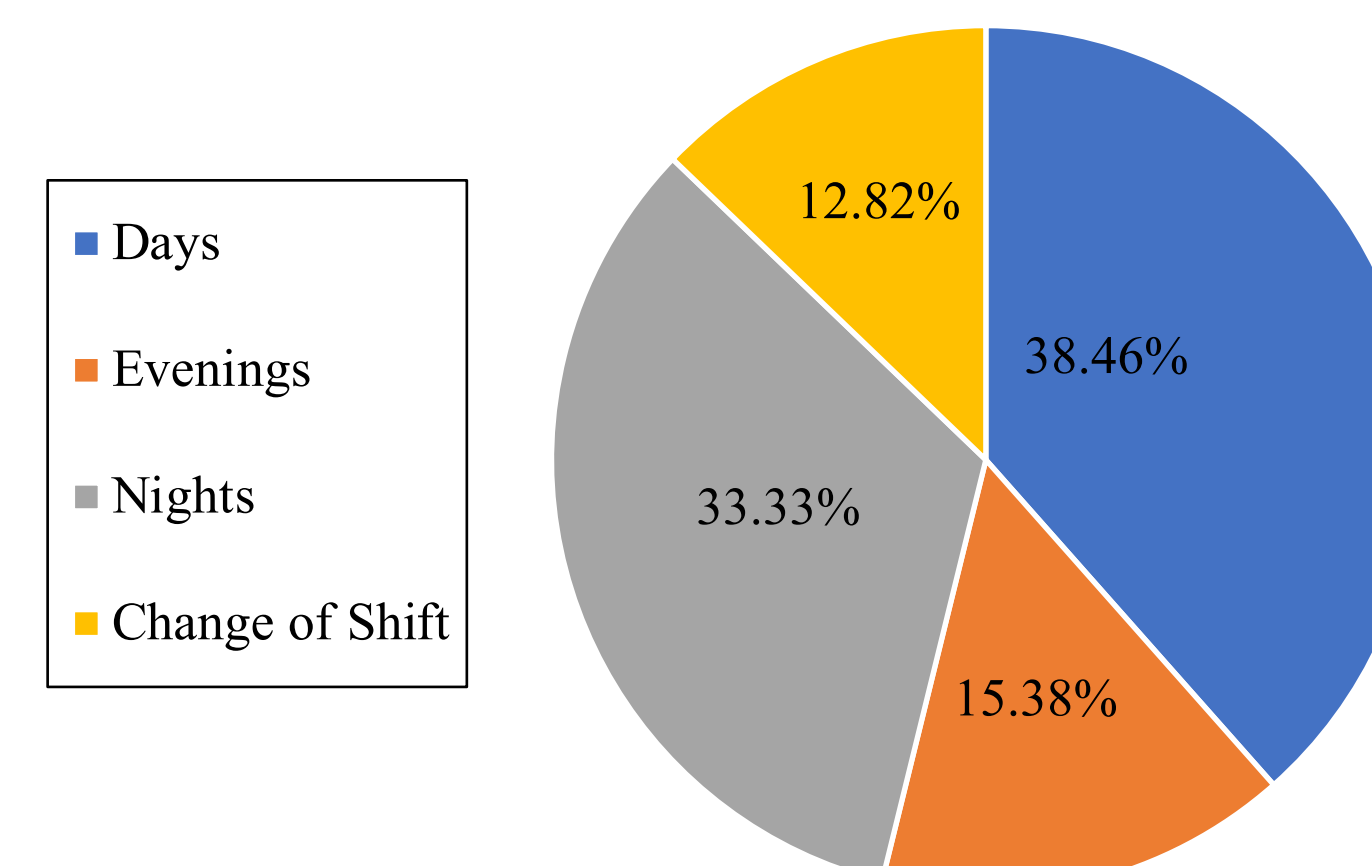


Figure 4: Complete Blood Count Results

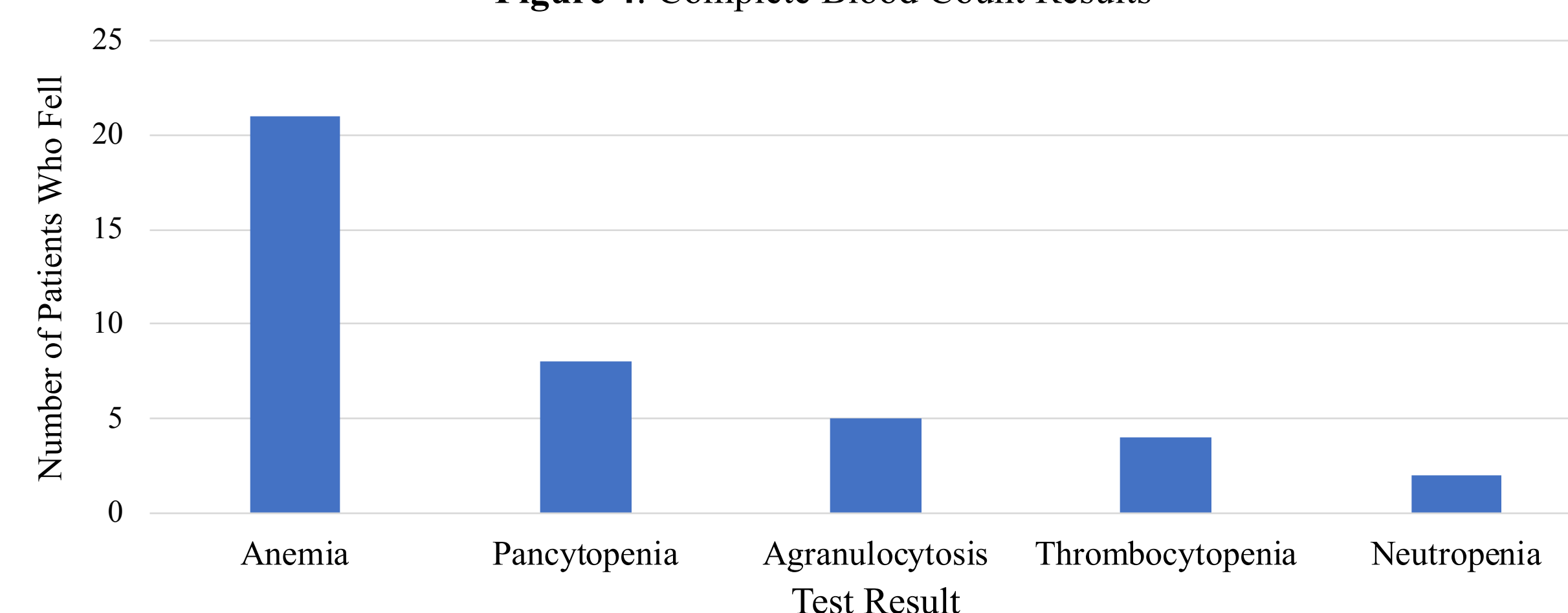
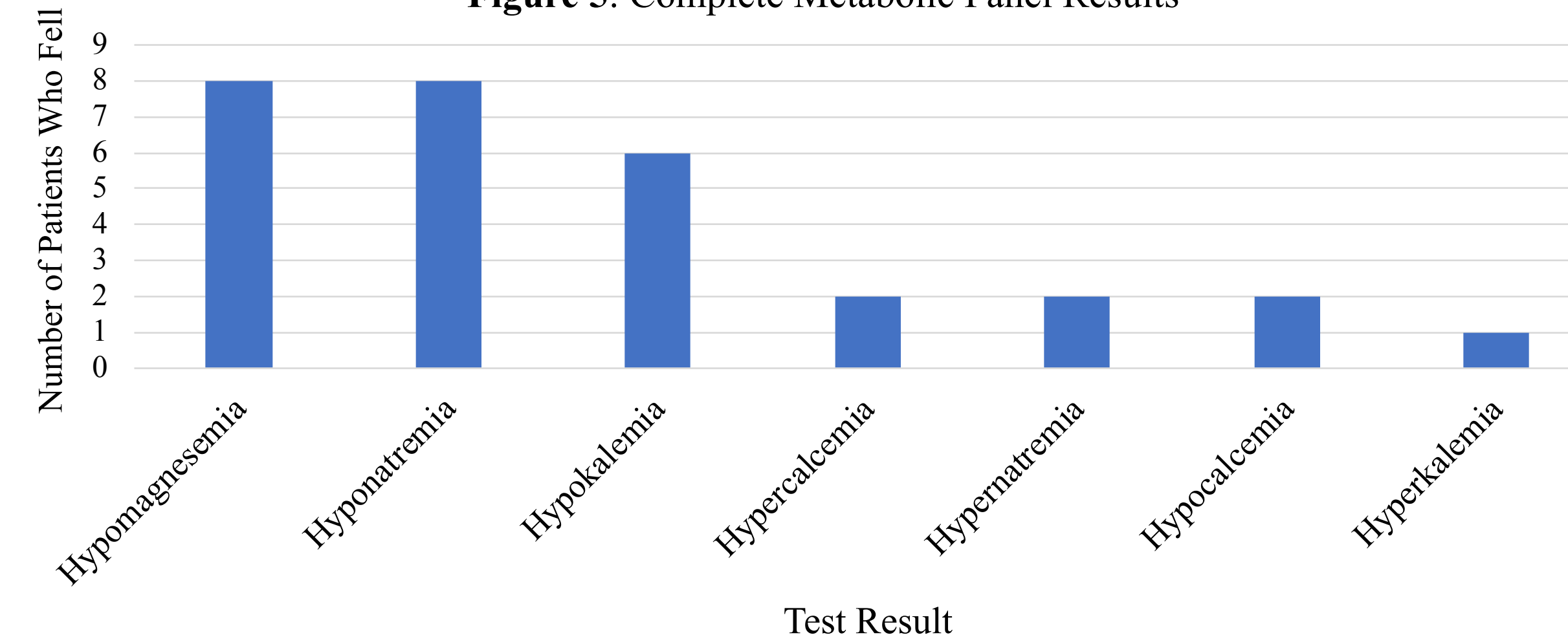


Figure 5: Complete Metabolic Panel Results



## Results (cont.):

- 47.22% of patients who fell (n=17) had type II diabetes mellitus which may lead to a decline in sensory function.
- 33.33% of patients (n=12) were delirious or went through an abrupt mental confusion, posing a risk for falls and injury.
- 41.67% of patients (n=15) had at least 1 infection including pneumonia, sepsis, UTI, and bacteremia.
- 33.33% patients (n=12) had been diagnosed with either acute or chronic kidney disease.
- 22.22% of patients (n=8) had COPD, 19.44% had symptoms of fluid volume deficit (n=7), 13.89% had a self-care deficit documented (n=5), 11.11% were in CHF (n=4), 8.33% had osteoarthritis (n=3), 8.33% had a protein-calorie malnutrition (n=3), 8.33% were cachectic (n=3), 5.56% were dehydrated (n=2), 5.56% had a DVT (n=2), 5.56% were extremely obese (n=2), and 2.78% had rhabdomyolysis (n=1).

## Predictive Modeling & Discussion:

Even though there was no control group present in the research consisting of oncology patients who did not fall, it is difficult to make cause and effect claims based on the comparison, although it is still possible to draw conclusions and speculate with the strong evidence. Twenty-five percent of patients (n=9) were both, type 2 diabetics and anemic. With diabetes decreasing a patient's sensory function and anemia accentuating fatigue levels, one can speculate that if a patient has both diagnoses, their risk for falls is higher compared to someone without them. Furthermore, when analyzing the times that patients had fallen, change of shift had the highest incidence with a total of 5 falls over 2 hours, compared to the other 22 hours of the day where there was a total of 34 falls. If this was analyzed further, there should have been 11 times as many falls in 22 hours compared to 2 hours, which would be equal to 55 falls over 22 hours, and not 34 falls like the research shows. This proves that the probability of falling during change of shift hours is a lot higher than at all other hours of the day, further enforcing the need for interventions during these two hours to decrease the incidence of falls.

In the patients who were between the ages of 60 and 79 years old (n=21), 3 were ambulating and fell at night, 4 were found on the floor at night, and 3 had an unspecified "other" fall-related incident at night. The interpretation of the data could be that there is not enough rounding and some of the reasons why patients fall include ambulation due to needing to use the restroom, thirst, confusion, or healthcare personnel suffering from alarm fatigue, not being responsive to the call bell and bed alarms.

There are many assessment tools used widely across all hospitals, but specific floors should have unique tools tailored to their specialty, like oncology. The benefit of using tools that are more specific to the patient population enable staff to be able to identify the risk factors during their assessments, leading to a more realistic fall risk score. Including use of chemotherapy, medications, comorbidities, cognition, falls history, electrolyte and blood count abnormalities leads to a more precise score. This score can be an indicator to begin preventative interventions for the patient right upon admission.