

## InfraScanner as a screening tool in adjunct to fall protocol in nursing homes

### Introduction:

Nursing home falls frequently cause a disability, functional decline, reduced independence, and reduced quality of life for an elderly person. There is no unified policy addressing falls in nursing homes, but the majority of patients are transferred to medical establishments for routine check ups, often including X-rays and CT scans.

There are three main problems associated with the above:

1. Over 95% of CT scans are negative and represent substantial unnecessary costs.
2. Frequent falls will often result in numerous CT scans to rule out head bleeds.  
Frequent exposure to ionizing radiation can increase the risk of malignancies.
3. Hospital admission increases exposure to pathogens and increase cost of care.

In the past decade there has been an initiative to try and reduce the number of hospital admissions in the elderly population (<https://innovation.cms.gov/initiatives/rahnfr/>)

### The Heinz Center experience:

The H.J. Heinz campus in Pittsburgh is home to a 262-bed community living center as well as an ambulatory care center that offers outpatient services as well as a 65-bed Veterans recovery center and 31 psychiatric residential rehabilitation treatment beds.

Dr. John Oldershaw, Chief of Imaging at Pittsburgh VA system, has adopted Infrascanner 2000 a couple of years ago as part of what he believes can benefit long term care patients admitted to the Heinz Center: *"Long term care patients are often immobile and stability is a challenge in those patients. When a patient falls, he is transported by an ambulance to the closest hospital and in many cases a Head CT is performed. The majority of patients are being transferred back to the Heinz Center with a negative head CT"*

### The Heinz Center experience by numbers:

1. There are about 15 un-witnessed falls a month in the Heinz Center.
2. Pittsburgh VA has acquired Infrascanner 2000 18 month ago.
3. Overall they have scanned over One Hundred and eighty (180) patients.
4. Two (2) patients were scanned positive and confirmed later by a Head CT in the hospital.

5. Two (2) False Positives - sent to the ER – CT came back negative and they were send back to the Center.
6. Zero (0) False Negatives (No missed hematoma cases).
7. The closest VA comprehensive center is 6-8 miles away.

How does it work:

1. Normally scanned patients are low risk for TBI and present high Neurological functions (GCS: 13-15, no LOC).
2. Immediate transport is ordered for any patient that InfraScanner scans as positive.
3. Negative scans under the low risk policy are followed up for at least 24 hours, and Infrascanned every 6 hours (overall 4 scans in 24 hours). If the scans are Negative and the patient is Neurologically intact, he is kept in the facility and observed.

Who has the authority to scan:

- Physicans, PAs, RNs – as long as they have been trained.

What are the benefits you see from using Infrascanner in this environment?

- Financial benefit:
  - In the past 18 month the Heinz Center saved dozens of unnecessary trips for a CT to the local hospitals
- Clinical benefit:
  - Sending a patient to the hospital increases chances for infectious diseases, especially in elderly patients  
(<http://articles.mercola.com/sites/articles/archive/2014/04/09/hospital-acquired-infections.aspx>)
  - Bed-side follow up reduces stress from the patient.

**\* Infrascanner reduces transportation costs.**

**\* Infrascanner reduces unnecessary radiation in low risk patients.**

**\* Infrascanner can be used repeatedly as it uses non ionizing radiation.**