The Impact of Stakeholders After Fall Incident

Patient

- Induce injury and prolong hospitalisation (Wong, 2011).

- If the patients are elderly, falls cause further physical debilitation and comorbidities (Lyons, 2014).

- cause elderly patients to fear falling, leading to a loss of autonomy or even morbidity (Kiyoshi-Teo et al., 2019)

Relatives

- falls suggest that healthcare providers are not paying attention to their family members (Ireland et al., 2013).

Staff

Staff:
- bear the guilt of failing to 'do no harm' based on the complaints of patients and their families (Spring, 2015).

Healthcare organisations:
- increased inpatient fall incidents increase associated costs and affect the organisations' reputations (Bertakis & Azari, 2011).

Falls and bed exist:

- Most falls occur during bed exits, especially in patients with cognitive impairment or mobility problems (Baitar et al. 2012).

- Bed exit behaviour recognition can be the first line of defense for preventing fall injuries.

Associations Between Unattended Bed Exits and Falls

- Approximately 85% of falls were unassisted (Staggs and Dunton 2014)

- Unattended bed exits were a significant reason for falling among high-risk patients and for fall-related injuries (Cortes et al., 2021)
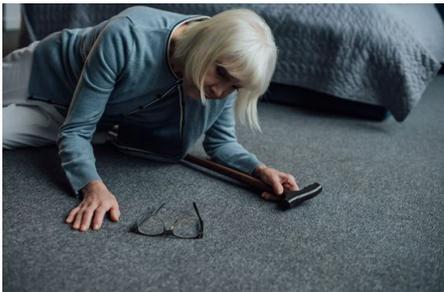
In both public and private hospitals, the common risk factor are "**Unwitnessed bed exist**"

Product Features (together with a start-up company)

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- No camera

- Multi-conditional prediction algorithm
  - **Infrared** (passive infrared)□ Motion detection
  - **Laser** (Laser-Based time on flight) □ Distance measuring

- Cantonese voice reminder to
  remind patient stay at the bed and
  wait for assistance

- Alert to the nurse station within 1s

- Cute design makes

Luna Cat

	Pressure Pad	Passive Infrared Motion Sensor	Luna Cat
Mechanism	**The changing of mass of the patient**	Uses **infrared vision** to detect the patient's movement and temperature changes	**uses infrared vision and temperature changes to detect the patient's movement.** + laser is a secondary detector, which enables more precise detection.
Maintenance	**body weight damage the pad**	durable	durable
Number of sensors	1 Pressure sensor	1 Infrared sensor	2 • PIR for motion detection • ToF for distance measuring
False alarms	**Easy to trigger**	fewer	fewer
Voice prompts	No, only beeps	No, only beeps	Yes
Applicability	Easy to install and remove	**Ward must be modified**	Easy to install and remove

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HONG KONG
港怡醫院

System logic

```
┌─ ─ ─ ─ ─ ─ ─ ─ ─┐
│ ┌──────────────┐│      ┌──────────────┐      ┌──────────────┐            ┌──────────────┐
│ │    Laser     ││ ───▶ │              │ ───▶ │Communication │  ─ ─ ─ ─▶  │    Alarm     │
│ │Time-of-Flight││      │ Alarm device │      │   device     │            │   receiver   │
│ │   sensor     ││      └──────────────┘      └──────────────┘            └──────────────┘
│ └──────────────┘│            │
│ ┌──────────────┐│            │
│ │   Infrared   ││            ▼
│ │    sensor    ││      ┌──────────────┐
│ └──────────────┘│      │    Voice     │
└─ ─ ─ ─ ─ ─ ─ ─ ─┘      │   reminder   │
                         └──────────────┘
```
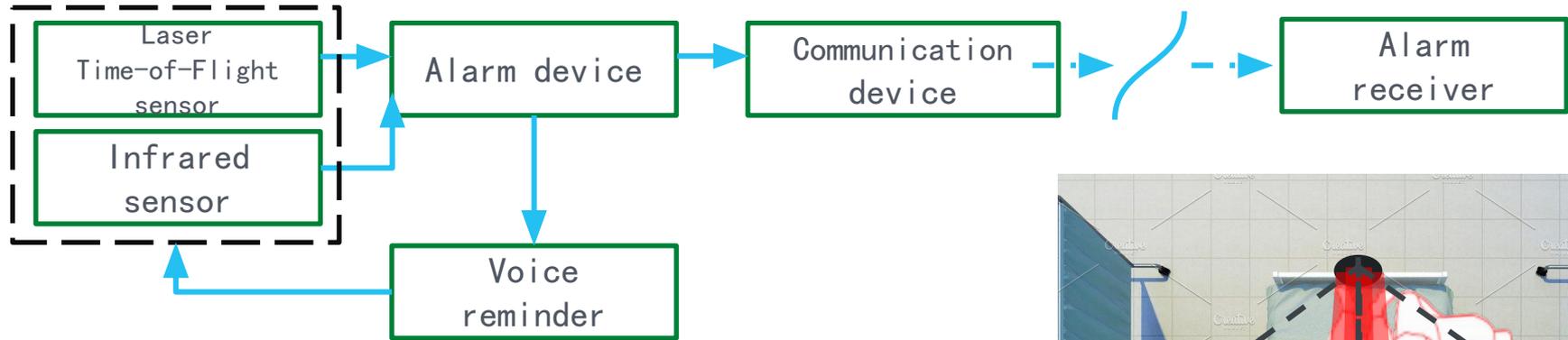
●   Luna Cat

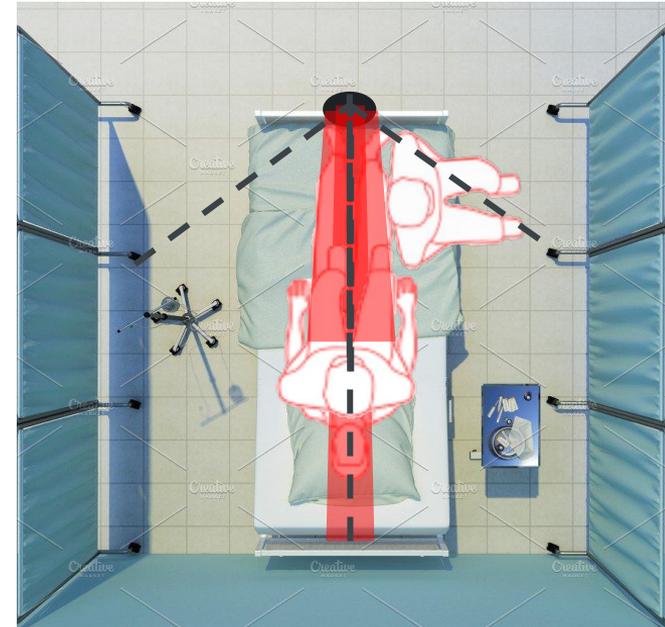- - -   Laser signal

●   Infrared signal
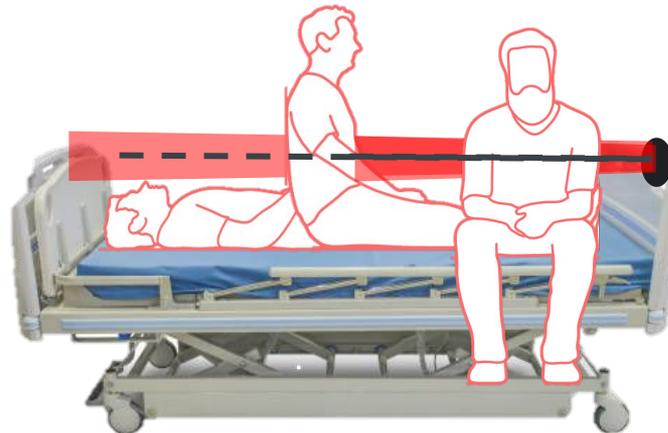
Safety concerns:

2 Sensors:

- PIRs (passive infrared) : only receive heat energy and ***not emit radiation***

- ToF (Laser-Based time on flight): LED that emits 940nm, ***widely used in cameras and mobile phone***

- **Compatible with common equipment** (IEC 60601-1-2:2007 standards) (pace maker, Ve

infusion pump, ECG)
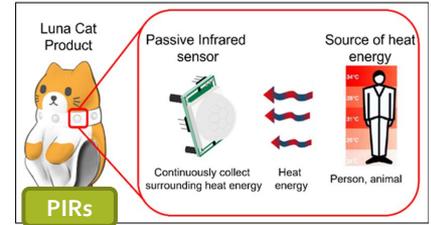
Infection concerns:

- Resin, **can clean by common detergent in hospital** (i.e. bleach)

- **Streamlined shape**: facilitates easy and thorough cleaning

Ethical consideration:

- Consent

 w in any time without reason

Ethical approvals from hospital and University

Study design

Objectives:

- To investigate the **accuracy of Luna Cat system** in detecting bed exits among high fall-risk patient without the need for assistance.

- To assess the effectiveness of the Luna Cat System in **preventing inpatient falls** by promptly alerting healthcare providers (HCPs) when patients to exit their beds unassisted.

Study period:

- May to July 2023 (totally three months)

Setting:

- Location: 5 in-patient wards in Hospital G,

- 1 sensor in each ward.

- General Orthopaedic, Medicine & Surgery

- **Sample size** :

30 patients: study group
30 patients: control group

  ☐ totally 60 patients.

Inclusion criteria:
High fall risk patients (MFS ≥45) or
Nurses identified the patients with fall risk

Exclusion criteria:

- Aged under 18 years old

- Psychiatric patients

- Patient who cannot provide the consent

Measurement:

1. Demographic data

- age
- gender
- date of admission
- reasons of admission
- length of stay

2. Falls rate:

- Fall rates during May to July period from 2021 to 2023 *(three years data)*
- between intervention and control groups

4. Satisfaction:

☐ Health care providers (at the end of pilot)

☐ Patients / relatives (prior his / her discharge)

---

mean, median, standard deviation, and frequency

Pearson correlation coefficients with significance level of 0.05

Check against the system record & alarm record sheet

Self design questionnaire

Likert scale from 4 to 0

Result

Patient Recruitment

72 eligible patients

60 patients agreed to join the study

12 patients refused to join the study

Available of Luna Cat sensor

No

Yes

30 patients in control group

30 patients in intervention group

10 patients claimed had family members to accompany

2 patients afraid Luna Cat system with camera
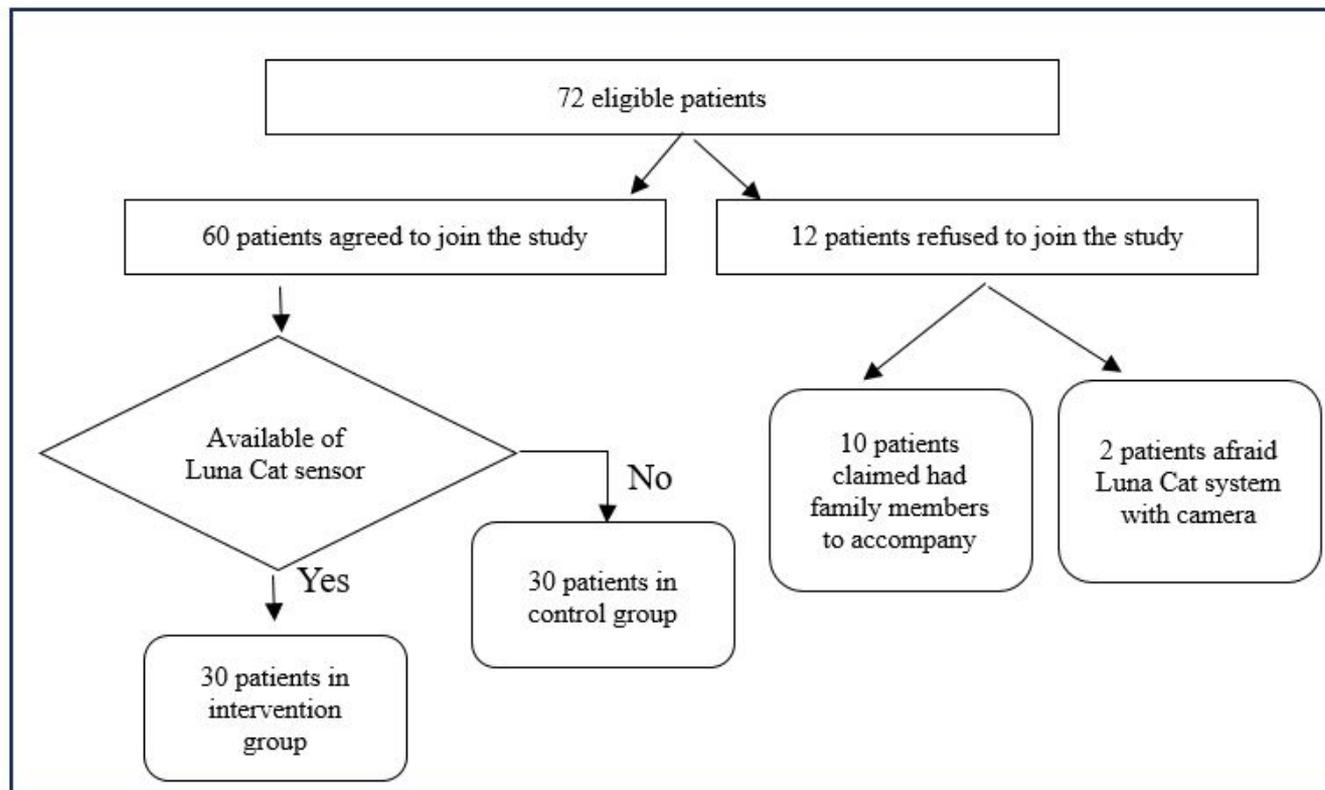
Result_Demographic data

Similar in intervention and study groups.

	Intervention Group (n = 30)	Control group (n = 30)
Age (years old)	51 - 95 (□:75.2, median:72, SD: 12.21)	45 - 94 (□ 72.8, median:72,SD:13.66)
Gender F: Female; M: Male	13 (F), 17 (M)	17 (F), 13 (M)
MFS (Morse fall Score)	45 - 85 (□:57.3, median: 60, SD:17)	45 - 100 (□:59, median: 60, SD: 13)
The total inpatient bed days	1 - 18 days (□:7.26 days, median: 6, SD: 5.06)	2 - 25 days (□:9.4 days, median: 8, SD: 6.43)

Result_Falls data:

Comparison of Fall Rate in Hospital G from 2021 to 2023:

	2021	2022	2023
Fall Rate: May to July	0.8	0.6	0.2 (3 falls cases)
Fall Rate: Whole year	0.7	0.3	0.3

No fall incident in both control and intervention group

Result_Number of Alarms Triggered: TPs, FNs, and FPs

Alarm Triggered	Number of Alarms and Percentage of Total Alarms
True positive (TP): An alarm followed by an observation of a patient exiting the bed.	73 (76.8%)
False negative (FN): A patient left the bed without an alarm triggering.	1 (1.1%)
False positive (FP): An alarm followed by either the patient exiting their bed with assistance or the patient remaining in bed.	21 (22.1%)

<u>**cross-checking**</u> the alarm message stored in the **system** and the ward staff documentation in the **alarm record sheet** which documented by the HCPs

Result_Sensitivity and specificity of Luna Cat

		Results
Sensitivity		**98.6%**
Specificity		**72.3%**
Adjusted Specificity		**88%**

Result_Level of satisfaction: patient and carers group

30 questionnaires were received: 20 patients and 10 relatives or carers

Items	Number of Responses ($n = 30$)					Remarks
	Strongly agree (4)	Agree (3)	Fair (2)	Disagree (1)	Strongly disagree (0)	
1) This infrared bed exit sensor can **remind patients not to leave their beds on their own.**	15 (50%)	12 (40%)	3 (10%)	0	0	**Mean = 3.4** Median = 3.5 SD = 0.66
2) This infrared bed exit sensor can **prevent patient falls.**	9 (30%)	18 (60%)	3 (10%)	0	0	**Mean = 3.2** Median = 3 SD = 0.60
3) This sensor can remind the patient to stay in bed and **wait for HCPs' assistance.**	13 (43.3%)	15 (50%)	2 (6.7%)	0	0	**Mean = 3.4** Median = 3 SD = 0.60
4) You will suggest **using this sensor to prevent patient falls.**	13 (43.3%)	15 (50%)	2 (6.7%)	0	0	**Mean = 3.4** Median = 3 SD = 0.60

Result_Level of Satisfaction in the HCP Group

Experience of HCPs

The experience of the HCP in healthcare industry

- over 10 years experience
- 7 to 10 years experience
- 4 to 7 years experience
- 1 to 3 years experience
- less than 1 year experience

1,3%
3,10%
4,13%
13,43%
9,30%

Items	Number of Responses ($n = 30$)					Remarks
	Strongly agree (4)	Agree (3)	Fair (2)	Disagree (1)	Strongly disagree (0)	
❏ This infrared bed exit sensor **can prevent patients from leaving their beds** without assistance.	19 (63.3%)	11 (36.7%)	0	0	0	Mean = **3.5** Median =4 SD = 0.71
❏ This infrared bed exit sensor can **save time monitoring patients** leaving their beds without assistance.	17 (56.7%)	10 (33.3%)	2 (6.7%)	1 (3.3%)	0	Mean = **3.4** Median = 4 SD = 0.76
❏ This infrared bed exit sensor **can prevent patient falls.**	16 (53.3%)	11 (36.7%)	2 (6.7%)	1 (3.3%)	0	Mean =**3.4** Median =4 SD = 0.76
❏ This sensor is **easy to apply.**	24 (80%)	6 (20%)	0	0	0	Mean = **3.8** Median = 4 SD = 0.40
❏ The operation is **user-friendly.**	24 (80%)	6 (20%)	0	0	0	Mean = **3.8** Median = 4 SD = 0.40
❏ You will **use this sensor to prevent patient falls.**	17 (56.7%)	11 (36.7%)	2 (6.7%)	1 (3.3%)	0	Mean = **3.5** Median = 4 SD = 0.72

Disccusion_Related to objectives:

(1) **accuracy of Luna Cat system** in detecting bed exits among high fall-risk patient

 Yes, Sensitivity is 98.6%,

   Adjusted Specificity is 88% ✔

Agreed:

   - patient & relatives group: 3.4/4

   - HCP group: 3.5/4

AGREED

(2) Prevent the potential in-patient falls

 No fall incident in control and intervention groups within study period

 73 true positive alarm detected

 Agreed:

   - patient & carers group: 3.2/4

   - HCP group: 3.4/4

AGREED

Disccusion_Related to Luna cat design:

Design: (good points)

- **easy to use**

- **plug-and-play device**

- Can be mounted at the target patient's bed end **without ward modification**

Discussion_related to Luna cat design. To be improve:

1 FN alarm

- Due iPad battery failure

- Improvement □ Isolated panel as the receiver with cont' electricity supply

False Alarm

- Still have false alarms

- installing a lidar camera and analysing the image in the algorithm since this technology could capture the patient's figure but not the actual image

2nd version of Luna Cat: Lidar camera

Voice concerns

- Add directional speaker

Limitations:

Cannot perform double blind RCT

- it was difficult to blind patients and healthcare providers, especially since this study was conducted in a real hospital setting

Limited resources

- only five Luna Cat sensors were available in the five wards during the pilot period.

- Therefore, some eligible cases were not recruited in the intervention group due to the Luna Cat sensor already being used on that ward.

Way Forward:

Clear explanation

- During the study: the purpose of the Luna Cat sensor was fully explained to the patients.

- However, after the study, nurses and HCPs should adequately explain to the patients and families that the **purpose of this sensor** and the **expected length of use** are necessary.
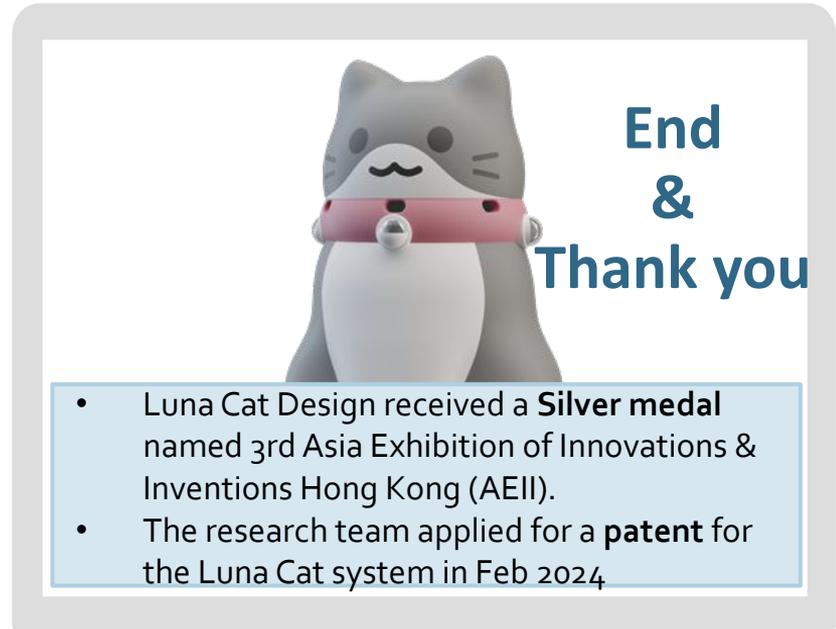
Make Luna Cat system more humanistic

- **record the voices of patients' relatives,** such as grandchildren, as the preset voice prompt

- **Integrating artificial intelligence (AI)** into the Luna Cat system so that the targeted patients can talk to the system in the future.

**End
&
Thank you**

- Luna Cat Design received a **Silver medal** named 3rd Asia Exhibition of Innovations & Inventions Hong Kong (AEII).
- The research team applied for a **patent** for the Luna Cat system in Feb 2024

- This study was presented as oral presentation in an international conference named EU FALLS festival 2024 (Malta)

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Supplementary:
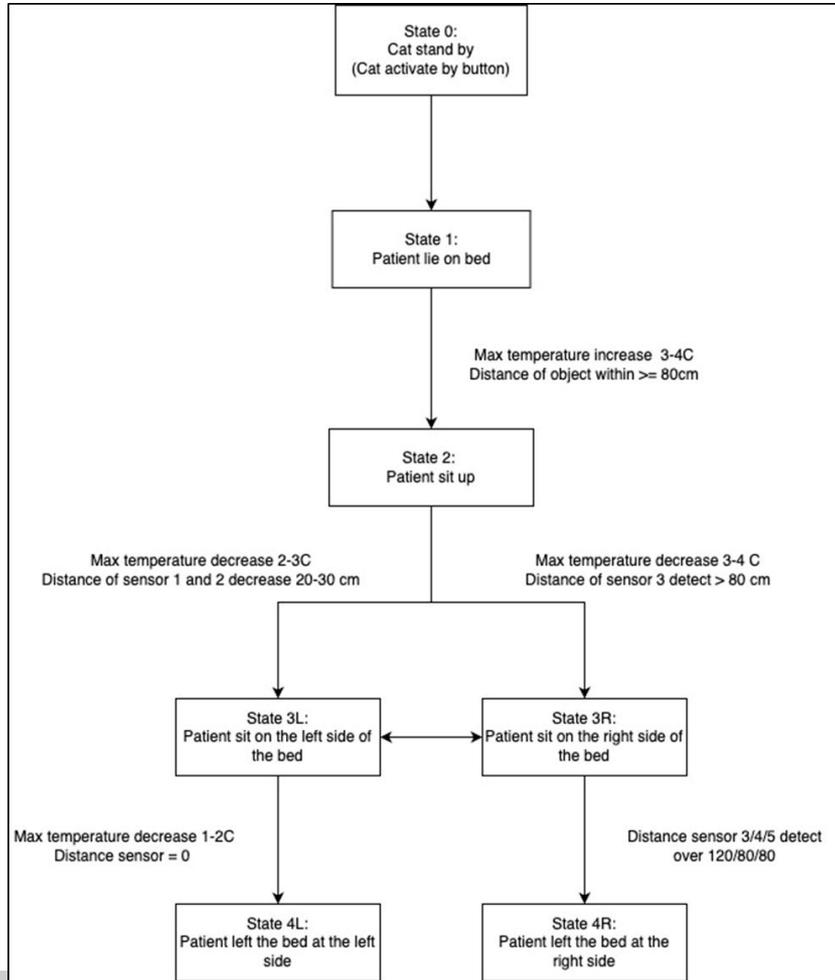
States of Detected Bed-Leaving

State	Function	Detail
0	Activation	Luna Cat is powered on and starts monitoring.
1	Lie down	The patient is sleeping or resting on the bed.
2	Sit up	The patient is sitting up.
3	Bedside	The patient is moving to the bedside (both left and right side).
4	Left	The patient is leaving the bed (both left and right side).

Patient's bed

When the sensor detected patient had left the bed, a 4 was triggered in the system.

When the sensor detected the patient moving to the bedside, a 3 was triggered in the system.

s

Colour Warning

Green :
Normal

Yellow:
Tempt to leave the bed

Red:
Left the bed

Quick Management
Cat & Inpatients

Home

Log

Current Status

Cat001
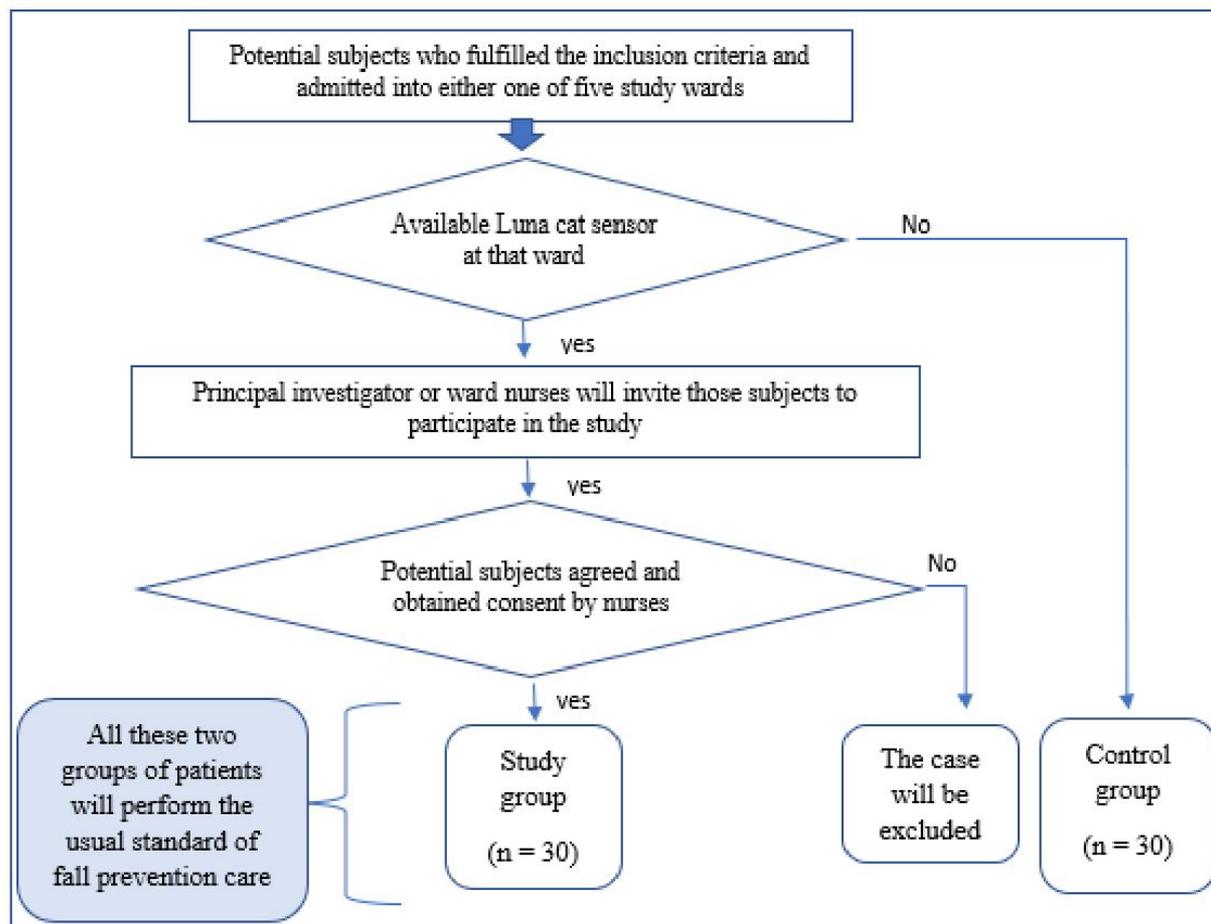updated: 16:40

Set Cat Position

Cat002
Select Bed ⌄

Recent Activities

Cat 001: Bed
Lying   Updated: 16:40

Cat 001: Bed
Left   Updated: 16:39

Cat 001: Bed
Side of the bed   Updated: 16:39

Cat 001: Bed
Sit up   Updated: 16:39

Cat 001: Bed
Side of the bed   Updated: 16:39

Potential subjects who fulfilled the inclusion criteria and admitted into either one of five study wards

Available Luna cat sensor at that ward — No

yes

Principal investigator or ward nurses will invite those subjects to participate in the study

yes

Potential subjects agreed and obtained consent by nurses — No

yes

All these two groups of patients will perform the usual standard of fall prevention care

Study group (n = 30)

The case will be excluded

Control group (n = 30)

31

Case Number	The Duration of Installed Luna Cat Sensor (Days) Mean = 3 Median = 2.5 SD = 1.6	True Positive Alarm (TP) Mean = 2, Median = 2, SD = 2	Reason	False Negative Alarm (FN)	Reason	False Positive Alarm (FP) Mean = 0.9, Median =0, SD = 0	Reason
1	2	1	get off	0		0	
2	1	3	get off	0		0	
3	2	1	get off	0		0	
4	1	8	get off	0		0	
5	2	3	get off	0		0	
6	2	3	get off	1	Ipad shut down	1	patient moving on bed
7	1	1	get off	0		2	sit on the bed
8	1	1	get off	0		0	
9	2	2	get off	0		3	sit on the bed
10	3	0	-	0		8	4 on bed, 4 to Investigation
11	1	9	get off	0		0	
12	1	1	get off	0		0	
13	1	0		0		2	to investigation
14	2	1	get off	0		1	to investigation
15	4	4	get off	0		0	
16	7	9	get off	0		2	physio for walking exercise
17	4	3	get off	0		0	
18	3	4	get off	0		0	
19	2	0	-	0		0	
20	3	2	get off	0		1	blood taking
21	4	0	-	0		1	blood taking
22	7	4	get off	0		1	to investigation
23	3	2	get off	0		1	to investigation
24	3	1	get off	0		0	
25	3	4	get off	0		2	to investigation
26	4	1	get off	0		0	
27	2	1	get off	0		0	
28	3	0	-	0		0	
29	3	4	get off	0		2	to investigation
30	3	0	-	0		1	blood taking

Consent:

Gleneagles Hospital
HONG KONG
港怡醫院

The study of Fall prevention Infrared bed exit sensor

CONSENT FORM

Falls are one of the most inpatient incidents in the hospital. Therefore, in order to find out an effective new initiative infrared bed exit sensor, to alleviate the incidence of falls, it is essential to conduct a research study to compare the effect of this new sensor which differs from the existing standard fall prevention measures.

In this study, when you / your family member joins the study, you / he / she will be assigned into study group or control group. If assigned into study group, this new initiative infrared bed exit sensor will be installed at the bed end and monitoring during hospitalisation.

During the study period, a nurse investigator will monitor the frequency of alarms, and the total falls incidents in hospitals and satisfaction from patients and nurses.

For both study group and control group subjects will received the usual fall prevention care.

Each patient's data will be kept confidential, and all collected information will be used for research purposes.

If any questions about this study, please feel free in contact the principal investigator. (Ms FOK, Senior Manager of Quality, safety, and Risk management in GHK: telephone number: 3153 9546)
Thank you!

Patient's / patient's next of kin consent statement:

I have read the forgoing information, or it has been read to me. I have the opportunity to ask questions about it, and any questions I have asked and have been answered to my satisfaction. I _____ consent _____ (relationship), the name of _____ voluntarily to participate as a subject in this study and allow myself / my family member (the above name) to receive the monitoring of this new initiative infrared bed exit sensor. I understand I / my family member (the above name) has the right to withdraw from the study at any time that does not affect my / my family member's (the above name) further medical care.

Name of patient: Signature of patient:

Name of relative: Signature of relative:
(if the patient cannot give the consent) (if the patient cannot give the consent)

Name of investigator: Signature of the investigator:
FOK SEE KEE

Date:

預防跌倒_紅外綫監測儀調查

同意書:

病人跌倒是醫院內最常發生的意外。這個調查是測量這紅外綫監測儀,相對現有病人預防跌倒的措施,是否何以監測病人因離開病床而引起的跌倒的危險。

你或你的家人,在住院其間,將會安排在監測組或對照組,而在監測組之病人,將會在床尾加裝此紅外綫監測儀監測。

在這調查中,護士調查員會記錄紅外綫監測儀響鬧資料,全醫院病人跌倒數字以及病人和護士對此紅外綫監測儀的滿意度。

兩組病人都會同樣接受相同的防跌護理。

若對此調查有任何疑問,歡迎與主調查員聯絡。謝謝!

主調查員:

霍小姐,質素安全及危險管理高級經理,電話: 3153 9546。

本人已閱讀或已聽過有關資料,本人有機會發問問題,並已得到完滿答案。本人/本人家人現自願參與這調查,並保留在似何情況下退出這調查之權利而不影響本人或本人家人的治療。

病人姓名: 病人簽署:

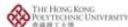家屬姓名: (如病人未能簽予同意書)   家屬簽署: (如病人未能簽予同意書)

調查員姓名: 調查員簽署:

FOK SEE KEE

日期:

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Information sheet:

Appendix 2: Information sheet

Gleneagles
Gleneagles Hong Kong Hospital 港怡醫院
1 Nam Fung Path, Wong Chuk Hang, Hong Kong

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

A quasi-experimental study to evaluate the effectiveness of a new initiative infrared bed exit sensor to prevent potential in-patient falls in one Hong Kong private hospital

INFORMATION SHEET

You are invited to participate in the above project conducted by Ms Fok See Kee, who is a post-graduate student of the Department of Health Science in The Hong Kong Polytechnic University. The project has been approved by the PolyU Institutional Review Board (PolyU IRB) (Reference Number: HSEARS###########) and GHK-HKU IRB. The sensor also vented by the GHK physicist which is safe in clinical environment.

The objective of this project is to examine the effectiveness of a self-designed infrared bed exit sensor in preventing the fall incident among high fall risk patients due to unattended bed exit in one Hong Kong private hospital (Hospital G).

After the assessment by the professional nurses, you are identified as high fall risk patient according to the Morse Fall Scale which is the Universal fall assessment tool. You are invited to join the study to prevent fall incident during your hospitalization. A sensor will place at the bed end during your hospitalization to detect you are wanting to leave the bed and inform the health care provider to offer assistance When you are leaving the bed, the sensor will broadcast a message to remind you to stay at bed and wait for the assistance. This sensor is similar with the traditional sensor, but the alarm message will change to voice reminder instead of buzzer sound. The testing should not result in any undue discomfort. Your standard fall prevention care, such as fall prevention education, will remain unchanged.

Prior to your discharged from hospital, you are invited to complete a questionnaire (only 4 questions), which will take you about 5 minutes in asking your satisfaction about this sensor.

The information you provide as part of the project is the research data. Any research data from which you can be identified is known as personal data. Personal data does not include data where the identity has been removed (anonymous data). We will minimize our use of personal data in the study as much as possible. The researcher and her team and supervisor will have access to personal data and research data for the purposes of the study. Responsible members of The Hong Kong Polytechnic University may be given access for monitoring and/or audit of the research.

All information related to you will remain confidential and the hard copy of clinical data collected from this study, it will be locked in a double-lock drawer; for the electronic files, all the patients'

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names will be transcribed into case numbers and saved in an encrypted electronic file. The information collected will be kept until February 2024.

You have every right to withdraw from the study before or during the measurement without penalty of any kind.

If you have any questions, you may ask our helpers now or later, even after the study has started.

You may contact Ms Fok See Kee (principal investigator at telephone number 3153 9546 under the following situations:

a. if you have any other questions in relation to the study;
b. if, under very rare conditions, you become injured as a result of your participation in the study; or
c. if you want to get access to/or change your personal data before February 2024.

In the event you have any complaints about the conduct of this research study, you may contact Secretary, PolyU Institutional Review Board in writing (institutional.review.board@polyu.edu.hk) stating clearly the responsible person and department of this study as well as the Reference Number.

Thank you for your participating in this study.

Ms Fok See Kee
Principal Investigator

Gleneagles 港怡醫院
Gleneagles Hong Kong Hospital 港怡醫院
1 Nam Fung Path, Wong Chuk Hang, Hong Kong

THE HONG KONG POLYTECHNIC UNIVERSITY 香港理工大學

預防住院病人之紅外線監測器研究 —-資料

誠邀閣下參加上述研究，此研究由香港理工大學醫療科學部博士生霍斯琪主理。此研究巳獲得香港理工大學倫理部 以及港怡與香港大學倫理部批准。此紅外線監測器亦得到物理學家查閱和在臨床使用安全。

此研究目的是要測試此自行研發的紅外線監測器是否可以避免高危病人因意外下床而跌倒。

閣下由專業護理人員，跟據全球廣泛使用的評估工具(Morse Fall Scale)評定為跌倒高危病人。誠邀閣下，在你的住院其間參加此研究。此紅外線監測器將會放置於床的末端，以監測你下床情況，及早通知護理人員前來協助。當你下床時，此紅外線監測器會發出語音提示，提醒閣下留在床上等候護理人員協助。紅外線監測器亦會即時傳送閣下的下床的訊息到護士站，通知護理人員及早前來協助。此紅外線監測器並不會帶來不適。而閣下的所有防止跌倒護理亦會如常。

閣下出院前，會誠邀閣下填寫此紅外線監測器之滿意度問卷，一共四題題目，約需五分鐘填寫。

閣下資料會用作此研究。所有個人資料將會用號碼代替及只採用此研究有關資料。所有此研究人員，只會因此研究才會接觸閣下資料。此研究資料會被存放在加密電子檔案，所有資料只會保存至研究完畢 (2024 年 2 月)。

閣下有權隨時終止此研究而無任何理由。

若有任何問題，請聯絡研究主理霍斯琪，電話：3153 9546。若閣下想對此研究作出投訴，請聯香港理工大學倫理部 (institutional.review.board@polyu.edu.hk)

Alarm record form:

Gleneagles
港怡醫院
Gleneagles Hong Kong Hospital 港怡醫院
1 Nam Fung Path, Wong Chuk Hang, Hong Kong
香港黃竹坑南風徑1號

THE HONG KONG
POLYTECHNIC UNIVERSITY
香港理工大學

Pilot Study: Infrared bed exit sensor to prevention potential inpatient falls: alarm record chart
Period: May to July 2023

Date	
Ward	
Bed number	

The alarm is cored as "True Positive" (TP), "False Positive" (FP), "False negative (FN)

*TP (病人真正下了床): a patient leaving the bed and with alarm triggered

*FN (病人真正下了床但無響警號): a patient leaving the bed, but NO alarm triggered

*FP (誤鳴): (a) The patient gets out of bed but with accompany with family / staffs (i.e.to CT scan but did not switch off the alarm) OR
(b) The patient did not get out of bed

Date	Time	TP/FP	Remarks	Date	Time	TP/FP	Remarks

Please return to QSR: Ms Fok See Kee after completion.
For any enquiry, please call 3153 9546 < **Thank You** >

Satisfaction questionnaires HCW:

Satisfaction questionnaires: Patient / relatives

Appendix 4: Satisfaction survey
(Patient or relatives: English and Chines version)

The study of fall prevention infrared bed exit sensor : Satisfaction survey

(Patient / Relatives)

Thank you for being participated in the study. To evaluate this infrared bed exit sensor's effectiveness in preventing inpatient falls, I would like to invite you to fill out this short questionnaire so that we can have further analysis. appreciated.

You are: ☐ Patient   or   ☐ Relatives

Please "✓" your rating in the appropriated boxes (from very agree to not agree) Thank you.

items	Strongly agree	Agree	Fair	Disagree	Strongly disagree
(1) This infrared bed exit sensor can remind patient did not leave his / her bed unintentional.					
(2) This infrared bed exit sensor can prevention patient fall.					
(3) This sensor did not bring any discomfort.					
(4) You will suggest using this sensor to prevent patient's falls.					

Any comment

_____

Thank you for your time!

Please return to the principal investigator: MS Fok See Kee (SM, LBK) thank you.

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防跌器倒_紅外線監測儀報告

問卷調查

(病人或家屬)

多謝你/你的家屬參與此預防跌倒_紅外線監測儀調查，為了評估此紅外線監測儀的成效，現誠邀閣下參與以下問卷，感謝。

為患_ ☐ 病人 或 ☐ 家屬

請存要選答案格內加以"✓"。

項目	非常同意	同意	一般	少許不同意	非常不同意
(1) 上紅外線監測儀可以提醒病人，在沒有注視下，不可以下床。					
(2) 上紅外線監測儀可以減少跌倒。					
(3) 上紅外線監測儀沒有帶來不便。					
(4) 你會支持使用此紅外線監測儀以減少病人跌倒。					

其他意見: _____

_____

感謝你的參與!

Please return to the principal investigator: MS Fok See Kee (SM, LBK) thank you.

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