

An Inter-Hospital Audit and Best Practice Implementation Project

By Mr YC IP, Ms Dora CHAN, Mr Thomas CHEUNG, Ms Miranda LAU, Mr Kelvin LIU, Ms Eva MA, Coordinating Committee of Occupational Therapy (OTCOC)

Preventing Falls

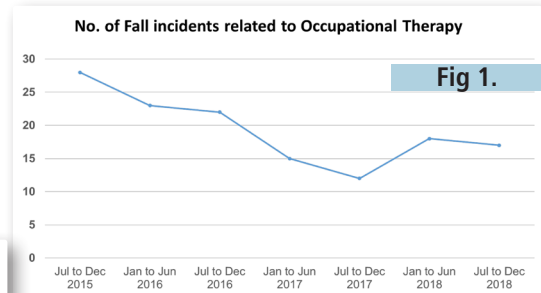
The prevention and management of falls continues to present significant challenges for healthcare. Occupational therapists aim to address this issue. In 2015, the Coordinating Committee of Occupational Therapy (OTCOC) conducted a fall prevention audit across all occupational therapy departments and put forward a series of initiatives to decrease the rate of fall incidences. A fall prevention tool kit was created and promulgated to all settings. In 2018, a subsequent review showed that hospital-wide fall rates decreased by 39%. This seamless collaboration between departments has paved the way for future quality and service improvement projects.

Major Highlights

1. Patient Education- A fall prevention pamphlet series was published and handed out to patient with high fall risk
2. Professional Development- Staff training intervention on 'Occupational Therapy Lifestyle Integration in Fall Management (LIFE)' was organised for serving HA occupational therapists
3. Multi-disciplinary Sharing- Members of OTCOC presented the results at the 'Risk Management Training for Allied Health Professional 2017/18' event.

In This Issue:

- An Inter-Hospital Audit and Best Practice Implementation Project
- Smart Solutions for Fall Prevention in Healthcare Settings
- The Effect of Multi-directional Walking Training with Treadmill on Gait Outcomes and Balance in Subacute Post-stroke Hemiplegic Patients
- Avoiding Free Text Entry of Allergy by Using "Did You Mean" Feature in Clinical Management System (CMS) Alert



Future Development

The OTCOC has already identified new ideas and areas for the next phase of fall prevention development. Updates on intervention for clinical practice and workplace in emerging areas of service would be beneficial. The expansion of which could result in increased functioning and quality of life for many patients.

Editorial Comments

Fall incidents are one of the most frequently reported safety incidents in hospitals which may result in delays in functional recovery and prolonged hospitalization. Identification of underlying risk factors coupled with clear interventions may reduce the risk and impact of falls. Nurturing a culture of vigilant safety consciousness of fall prevention in all staff level and patient empowerment is important to improve patient safety.

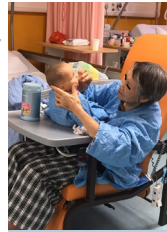
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Smart Solutions for Fall Prevention in Healthcare Settings

By **Nursing Services Department, HAHO**

Introduction

Reducing patient falls is a global public health priority. Nurses in the Hospital Authority (HA) proactively initiate strategies in daily nursing care to prevent falls and potential fall-related injuries. Prevention begins with assessing individuals' risk for falls upon admission or transfer-in. Different interventions will be adopted to meet different patient needs.



Doll Therapy



Pressure Sensor Alarm System



Proactive Approach in Fall Prevention

Fall prevention for patients with cognitive or psychiatric illnesses is challenging. Targeted interventions include doll therapy for dementia patients which reduces their agitation and impulsive behaviour; as well as implementation of pressure sensor, seat belt and roll control belt with alarm system which allow timely assistance for patients in need. These devices are particularly useful for surveillance of dementia and cognitive impaired patients. Other fall-related injury prevention initiatives include hip protectors for high risk elderly and protective non-stigmatising helmet for psychiatric patients to minimise injurious falls.



Protective Non-stigmatising Helmet

For patients in rehabilitation especially in extended care setting, introduction of facilities such as merry walker, geriatric-chair with seat belt and non-slip mat can facilitate safe mobilisation. Visual signage is usually implemented with local design to increase staff alertness on patients with fragile limbs and skin. Slip resistance measures such as non-slip floor mat and non-slip socks may also be adopted in different hospital settings to reduce the risk of slip and falls.



Seat Belt with Central Alarm System

Alternative strategies also play an essential role in fall prevention, such as allowing flexible visiting hours, keeping call bell and necessities within easy reach, and providing regular ward round to keep a close eye on patients in need.



Non-slip Socks

Smart Hospital Concepts on Fall Prevention

Migration to smart hospital is a global trend in the future. Smart hospital concepts are suggested for new hospitals. Fall safety alert message can be displayed automatically at bedhead after conducting fall risk assessment through electronic devices. Fall alarm pads are recommended for high risk patients which facilitate timely assistance through central monitoring system alerting staff in case unattended patients leave their bed. Movable hoists are available for transporting patient to reduce human error and ensure safe transfer. Smart lighting system providing automatic lighting for patients when they leave their bed during the night will add much value to patient care.

Editorial Comments

Falls with injuries has and continues to be one of the most reportable and potentially life threatening occurrence among hospitalised patients. There is a need to keep patients safe through fall prevention interventions. Different specialties should establish their individualised preventive measures which suit their unique clinical settings. Smart solutions through advanced technology will be our direction for development of safer hospitals.

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The Effect of Multi-directional Walking Training with Treadmill on Gait Outcomes and Balance in Subacute Post-stroke Hemiplegic Patients

By **YT MOK¹, KW CHUI¹, YYC LEUNG¹, TWL WONG^{2,3}**

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Balance impairment and walking instability were commonly manifested among stroke survivors. Backward and lateral walking training have been shown to promote gait function and balance in stroke patients [1, 2]. Therefore, a multi-directional treadmill walking training was designed for sub-acute stroke patients attending the Geriatric Day Hospital (GDH) of Princess Margaret Hospital (PMH). Participants were randomly allocated to either a Multi-Directional Walking Training Group (MDWTG) conducted treadmill walking training in forward, backward and lateral directions or a Forward Walking Training Group (FWTG). Participants in both groups received 15-minute treadmill walking training for 12 sessions.

Results & Outcomes:

Twenty-four eligible participants (mean age = 71.7 ± 8.07 years; 14 female) completed their training sessions from March 2017 to July 2019. Paired samples t-tests revealed a significant improvement in cadence of gait parameters (p<0.05) after training for all participants. Besides, standing balance was also significantly improved in terms of the composite score in Sensory Organisation Test (p<0.05) as well as the movement velocity and maximum excursion in the Limits of Stability (p<0.05). However, no significant interaction effect and/or group difference could be discovered for these outcome measurements in the follow-up analysis using a series of ANOVA with repeated measures.

In conclusion, treadmill walking training is a feasible addition to stroke rehabilitation in enhancing gait parameters and standing balance. Further studies employing larger sample size are warranted to further examine and re-confirm the effectiveness of the multi-directional walking training and its long-term effect.

References:

1. Yang YR, Yen JG, Wang RY, Yen LL, Lieu FK. Gait outcomes after additional backward walking training in patients with stroke: a randomized controlled trial. *Clinical Rehabilitation*. 2005; 19(3): 264-273.
2. Kim CY, Lee JS, Kim HD. Comparison of the effect of lateral and backward walking training on walking function in patients with poststroke hemiplegia. A pilot randomized controlled trial. *American Journal of Physical Medicine & Rehabilitation*. 2017; 96(2): 61-67.

Table 1. Gait parameters and standing balance (p<0.05 as significant result)

Outcome measures	Pre-training	Post-training	Difference	p value
Gait parameters measured by G-walk				
Gait speed (m/min)	0.53	0.61	0.08	0.082
Cadence (step/min)	64.4	73.7	9.23	0.035
Stride length (m)	1.00	1.04	0.04	0.189
Standing balance measured by Balance Master				
Sensory Organization Test (SOT)	58.4	67.3	8.90	0.001
Limits of stability:				
Reaction time (sec)	0.98	1.05	0.08	0.487
Movement velocity (deg/sec)	2.01	2.62	0.61	0.004
Maximum excursion (%)	57.0	66.0	9.42	0.045
Directional control (%)	57.5	61.5	4.00	0.342



Figure 2. Forward and backward walking



Figure 3. Lateral walking

Editorial Comments

Rehabilitation is a key part of stroke recovery. It helps patients to regain independence and improve their quality of life. The provision of evidence-based rehabilitation program (based on sound research, not opinion) is undoubtedly an essential aspect of stroke care and should be advocated. The above small trial was well conducted and gave insight into this important area.

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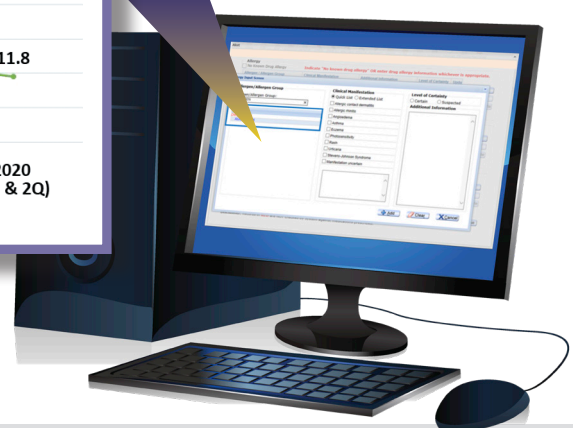
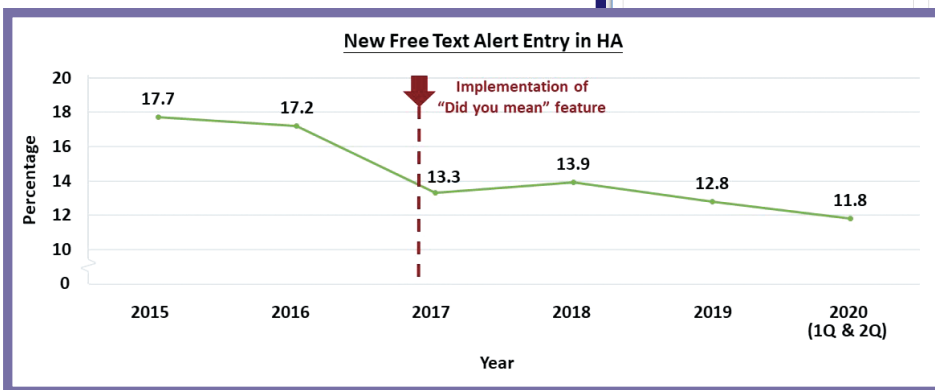
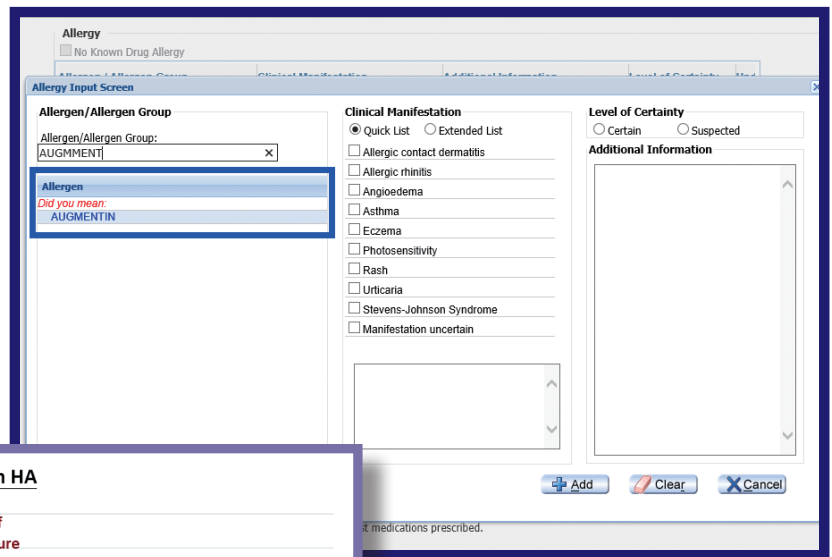
Avoiding Free Text Entry of Allergy by Using “Did You Mean” Feature in Clinical Management System (CMS) Alert

By **Dr Joyce Chan**, Senior Health Informatician, Information Technology and Health Informatics Division, HAHO

There were a number of medication incidents related to the free text entry of allergy in CMS Alert without medication decision support. With this “Did you mean” feature in CMS Alert, a much more user-friendly interface by providing suggestion of structured allergen / allergen group / drugs in Allergy input screen and Adverse Drug Reaction input screen of CMS Alert. Free text entry can be avoided and medication decision support for allergen and adverse drug reaction can be executed. Since the implementation of “Did you mean” feature in Oct-Nov 2016, the percentage of new free text alert entry in HA was decreased continuously from 17.7% in 2015 to 11.8% in 2020.

Details of “Did you mean” in CMS Alert:

When the drug name is entered and no structured allergen / allergen group is matched, “Did you mean” suggestion will be triggered automatically and shown in blue. The same logic will be applied for the input of Adverse Drug Reaction.



Editorial Comments

Accurate and clear documentation of allergy and adverse drug reaction is very important in patient care. The “Did You Mean” Feature in CMS Alert has made structured documentation easier, which can enhance medication safety through allergy checking in Medication Ordering Entry System. With the information on clinical manifestation and level of certainty, it can also facilitate clinicians’ decision making in choosing the appropriate drugs for patients.

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