

***This Policy applies at Cortellucci Vaughan Only**

Title:	RTLS Patient Security Tag Policy		
Manual:	Corporate		
Section:	Professional Practice		
Approval Body:	SLT Final – CNE, COO, EVP		
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Key Words:	infant protection, patient wandering, safety, surveillance, abduction, environmental restraint, observation levels		
Developed by: (Name & Title)	RTLS Patient Security Tag Working Group	Owner: (Name & Title)	Director, Professional Practice, Education and Risk

POLICY:

Mackenzie Health Cortellucci Vaughan Hospital will provide a safe and secure environment for patients. The real-time location system (RTLS) is a security system that employs the use of wireless monitoring technology to quickly visualize the location of patients wearing security tags (positioning device). The security level can be set differently for each patient to offer freedom of movement while ensuring patients only have access to safe and authorized areas of the facility. There are different requirements and considerations for security tags based on patient population as outlined below.

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DEFINITIONS:

Real-Time Location System (RTLS) — a technology that uses RTLS tags attached to assets or worn by individuals to wirelessly transmit real-time location information to sensors placed throughout a facility to a user interface where the information can be viewed.

Security Solutions — a security software application that shows tag alarms and other door conditions as pop-ups on the screen and calls up cameras to show the location of the alarm. Note: *This software is installed on a Dell monitor (“workstation”) typically located at the Team Station in patient care units.*

PROCEDURE

Criteria for Application of Security Tags

a) Newborn Security Tags

Security tags are applied for:

- Newborns greater than 35 weeks gestational age after birth.
- Infants in the NICU unit when a security risk is identified or when Children’s Aid Society is involved.

Refer to the [Newborn Security System](#) policy for more information.

Consent

Verbal informed consent will be obtained prior to tag application and after the provision of parent education. Refer to the [Newborn Security System](#) policy for more information.

b) Adult Security Tags

A comprehensive physician assessment should be completed prior to the use of environmental restraints (adult security tag) when possible or as soon as possible after use of restraints. In emergency situations when restraints are initiated without a physician order, the physician assessment and order must be completed as soon as possible.

Reassessment of the continued need for environmental restraints and a new physician order are required every 24 hours. When evaluating the continued need for restraints, less restrictive or alternative method should be considered, including gentle persuasion and alternative approaches. PRN or long-term restraint orders are not permitted.

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Consent

The health care provider will obtain informed consent from the patient or substitute decision maker (SDM), consistent with the [Consent to Treatment](#) policy. In emergency situations when consent cannot be obtained from the patient/SDM, the health care provider will proceed with treatment in accordance with *Health Care Consent Act (1996)* and [Consent to Treatment](#) policy. Refer to the [Least Restraint](#) policy for more information.

Risk Levels

Activation of the security system occurs when a tag is detected at doors and elevators without authorization based on the risk level set for that tag.

There are three risk levels that can be set:

- **Unit** – tag can wander in the unit (pod) only. Unit doors and elevator doors will alarm if the tag is detected.
- **Floor** – tag can wander freely through unit doors on home level, but elevator cab doors will lock to the open position and alarm when a tag is detected inside.
- **Building** – tag can wander freely through all levels via elevators however, doors leading to the building exterior will alarm when a tag is detected. This risk level will seldom be used.

The default risk level for both adult and infant security tags at CVH is “floor” level.

This means that tag can wander freely through unit/pod doors on the home level, but will set off elevator alarms when a tag is detected inside. The cab will remain stationary and the elevator doors stay open. The patient can press any buttons but the elevator will not travel.

Note: All stairwells are card reader access only. There is no audible alarm if a tag manages to escape inside a stairwell. When using stairs, staff are to pay close attention to see if someone is trailing behind and avoid using the stairs if this is the case.

Tag Activation and Application

For adult patients, verify the order details for the restraint including the risk level desired for that patient before applying the tag.

The following steps are required to activate and apply the tag:

1. Peel off the activation sticker covering the skin sensor. If the tag has already been used in the past, there will be no activation sticker. Proceed to step 2.
2. With the tag ID facing up, insert one end of the band through the slot with the silver part flat against the skin and the printed side facing outwards. A red light will flash.
3. Place the tag on the patient and ensure maximum skin contact. Insert the other end of the band through the second slot to form a loop. A green light will flash.

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- Pull both ends so that the tag is snug but will not rotate. The light should stop flashing. Remember the mantra: *red light, green light, no light = good*.
Note: *There may be instances where the light does not flash but the tag may still be functional. Apply the tag the same way and verify that the icon is seen in Security Solutions after tag assignment is done in Epic.*
- Proceed to associate the tag in Epic.

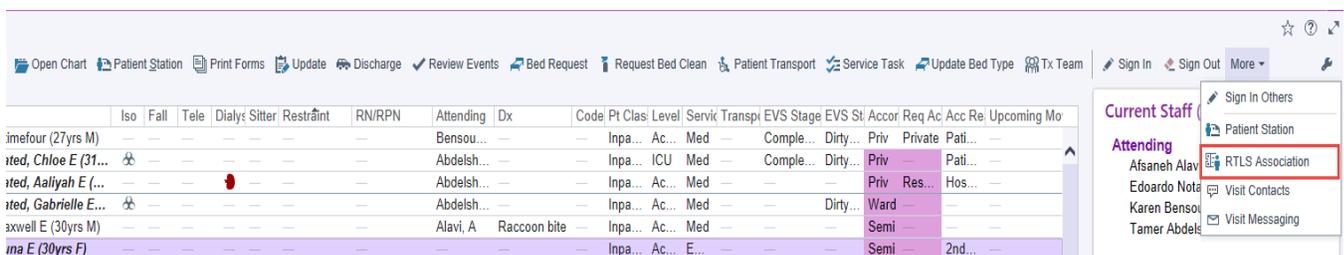


Tag Association in Epic

Tag association is completed in Epic. There are only two functions performed in Epic that automatically update in Security Solutions: a) Tag Association; and b) Tag Disassociation.

To associate a tag:

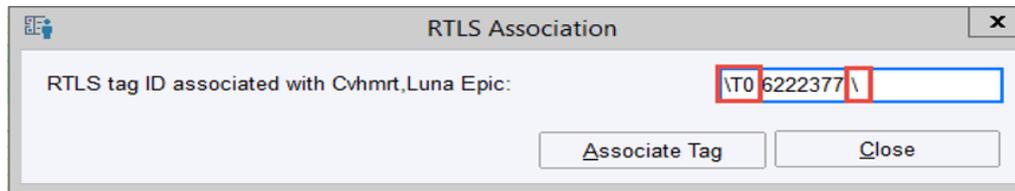
- Go to Unit Manager. A key symbol in the restraint column indicates the presence of an order.
- Right click on the patient's name.
- Click on the "RTLs Association" button in the top banner. If this button does not appear, click on the "More" button, and then select "RTLs Association."



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- Enter the 7-digit tag ID in the "RTLs Association" field either by barcode scanner or manual entry. If using a barcode scanner, remove the "\T0" prefix and "\" at the end so that only the last 7 digits are entered. Click on "Associate Tag" to save.
Note: *Anything more than 7 digits long containing the extra characters will result in an error between Epic and Security Solutions and the tag will not be successfully assigned to that patient.*

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5. Confirm that the tag is monitoring in Security Solutions at the Dell workstation. The icon should appear in the correct room location.
6. If the risk level for the patient needs to be edited to “unit” or “building,” proceed to Security Solutions to complete this by clicking on the “Edit” button and using the dropdowns to select the risk level.
7. If there is EPIC downtime or when a manual admit is required in Security Solutions:
 - a) Log into Security Solutions.
 - b) Click on the Admit icon in the toolbar.
 - c) Enter the patient’s information, tag details, room location, and risk level in the pop-up box.
 - d) Click “Admit”.
 - e) Verify information in the pop-up and click “Finish” to save.



Documentation

For adult security tags, the following information must be documented hourly in the patient’s electronic medical record when restraints are applied and/or in use:

1. Documentation required for Observation Level (as per the [Observation Levels](#) policy).
2. Restraint ordered (from physician order).
3. Consent obtained from patient/SDM and explanation provided for heightened observation level and/or use of restraint (except in emergency).
4. Clinical indication for restraint use (include option, no longer indicated).
5. Alternative approaches attempted prior to use of restraint.
6. Patient informed of rationale for use of restraint and criteria for discontinuation.
7. Restraint status (i.e. applied, continued, removed, or discontinued).
8. Restraint type (field updates to reflect approved restraints only).
9. Hourly monitoring of level of consciousness, range of motion, skin integrity, nutrition (food and/or fluids offered), toileting/elimination, physical comfort (linked to flowsheet rows).

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Tag Dissociation in Epic

Disassociation of a tag is completed in Epic when the tag is no longer needed. Refer to the [Least Restraint](#) policy for information regarding reassessment of the continued need for restraints for adults.

To disassociate a tag:

1. In Unit Manager, right click on the patient's name.
2. Select "RTLS Association" button on the top right-hand corner of the banner or click "More" and then click the "RTLS Association" button.
3. Click "Disassociate Tag" to save. It will take Epic a few seconds to send the tag removal information to Security Solutions.
4. Go to the patient. Cut the band and remove the tag. Ensure that the bands are completely removed from the tag slots.

Note: If the bands are left in the slots, the tag will still be active but for an "undefined patient." When this happens, the tag will also revert to a more restrictive "unit/pod" risk level and will alarm at pod doors.

5. Dispose the bands into the garbage and clean/disinfect the tag for re-use using hospital approved cleaners. Allow to air-dry.
6. Return the tag to a storage location.
7. Wait at least 30 minutes before reusing the tag. Best practice is to use a different tag for the next patient to ensure that the current tag has stopped sending data.

Additional Tag Information

Security tags are waterproof and re-usable. Bands are single patient use and are disposable.

Note: Tags should not be stored on top of electronic devices such as fax machines, printers, laptops, or photocopiers as the batteries will drain. Tags should not be sent inside the pneumatic tube system as the technology interferes with tag functionality.

Special Considerations

1. **MRI** – tag must be disassociated in Epic and the tag removed in the home unit prior to transfer. The same tag can be reapplied and associated again in Epic once the patient has returned.
2. **Critical Care** – tag must be disassociated in Epic and the tag removed in the home unit prior to transfer. The patient wandering system is not used in Critical Care.
3. **Perioperative Services** – the tag must be disassociated in Epic prior to the procedure (this includes electroconvulsive therapy) and the tag removed in the home unit. The same tag can be reapplied and associated again in Epic once the patient has returned.

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Alarms

Staff shall respond to the following alarms immediately by conducting a physical search of the exits at the unit level and of the entire floor. A list of alarm conditions and responses can be found in [Appendix D](#).

All events and alarms require immediate attention and intervention including the following high priority alarms:

- **Unauthorized Egress** – a tag has entered an elevator cab or has passed through an open door triggering the unauthorized egress alarm.
 - If passing through an open door, the patient can continue to walk along a corridor or to another pod but will continue to trigger alarms in any zone where they are not authorized to go.
 - If in an elevator, the cab will remain stationary and the elevator doors stay open. The patient can press any buttons but the elevator will not travel.

Response is to move the tag away from the door/elevator cab, tap your Mackenzie Health ID badge at the card reader to silence the door or elevator cab in alarm, and acknowledge the red message box at the Dell workstation once inside the pod.



- **Door Ajar** – a pod door has remained held open for longer than 75 seconds. A patient tag does not need to be present near the door to activate this alarm – the door could be held open by a cart, door malfunction, etc.

Response is to do a physical check of the door and ensure it is closed shut. This is a self-resolving alarm and will disappear when the door is detected to be closed.

- **Tamper: Tag Removed** – the band has been cut without the tag having been disassociated in Epic first.

Response is to locate the patient, verify that the tag is in place, and replace the band as needed.

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Code Amber and Code Yellow

If a patient is confirmed to be missing after a physical search of the unit and floor, escalation to the appropriate emergency code (Amber or Yellow) shall be initiated.

Downtime

During a system outage or power failure, the monitoring software may temporarily shut down. Staff shall conduct regular physical surveillance of all patients until the system is restored. Staff should immediately report any system outages or issues to their direct supervisor or manager and to ICAT Service Desk at extension 3333 for resolution.

Tag and Band Replenishment

Units will have an inventory of extra tags and bands as additional stock. The average battery life for a tag is approximately 12-16 months. ICAT and Central Equipment receive low battery reports and will periodically collect depleted tags from the units. Tags and bands are consumables and are ordered by the department and billed to the department via the ICAT ServiceNow catalog.

Note: *Departments should conduct periodic reviews of tag and band inventory and ensure at least 3-4 weeks for delivery of tags and bands as products are shipped from the United States.*

Hardware or Software Issues

Staff are to contact ICAT Service Desk at extension 3333 to report any hardware or software issues (e.g., tag cannot be associated in Epic, tag is active but location is not visible in the application, etc.).

REFERENCES:

CenTrak. (2020). Infant Protection. <https://centrak.com/solutions/newbaby-infant-protection/>

CenTrak. (2020). Patient Safety. <https://centrak.com/solutions/patient-safety-resident-elopement/>

Mackenzie Health (2021). RTLS Public Education Folder. <https://mackenziehealthcanada.sharepoint.com/sites/public/Training%20Materials/Forms/AllItems.aspx?e=5%3Ab4d715e0fa92440f9c35dea6fa8fc457&at=9&RootFolder=%2Fsites%2Fpublic%2FTraining%20Materials%2FEquipment%20curriculum%2FRTLS&FolderCTID=0x012000838820325C47F0428D004315C5DA56F2>

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APPENDIX A: Transport

The Transport function allows a patient security tag to temporarily leave the monitored area without setting off alarms at doors and elevators in the path of travel. Staff accompanying a patient will still be required to swipe their Mackenzie Health ID badge at card readers to open doors. Transport mode is activated in Security Solutions. Transport duration ranges from 1 hour to 24 hours.

Prior to the patient leaving a tag-monitored area, activate Transport as follows:

1. Click on the “Transport” icon in the toolbar.
2. Click on the blue transport icon to the far right of the patient’s name.
3. In the pop-up box, enter the information for the transport.
4. Click “Create Transport” to save.
5. Verify the information in the Transport Summary box and click “Finish”.



Update/Add Transport Time

A transport time expiring alert pop-up will appear at the workstation 15 minutes before the transport time expires. Additional transport time is entered in Security Solutions as follows:

1. Verify the location of the patient and confirm the expected time of arrival.
2. Log into Security Solutions.
3. Click on the Transport icon in the toolbar.
4. Click on the blue Transport icon to the far right of the patient’s name.
5. In the pop-up box, enter the additional time needed for the transport.
6. Click “Edit Transport”.
7. Verify the information in the Transport Summary box and click “Finish” to save.

Transport Return

When the patient has returned to their home unit, a popup box with “Transport: To Complete Path” will automatically appear at the workstation. Staff are to complete the Transport to Complete Path by filling out the information and clicking OK to save.

Notes:

- 1) *The system will not resume monitoring the tag until the transport return is completed. Even if the transport time has expired, the system does not resume monitoring.*
- 2) *Staff must not pre-emptively sign in a tag that has not physically re-entered the tag monitored area.*

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APPENDIX B: Transfer

The Transfer function is used when a patient is transferred to another unit and will not be returning. Transfer mode is activated in Security Solutions. Transfer duration ranges from 5 minutes to 60 minutes. A transfer time expiring alert pop-up will appear at the workstation 5 minutes before the transfer time expires.

The home/sending unit puts the tag in Transfer in Security Solutions.

The receiving unit completes the Transfer in Security Solutions.

A “Transfer: To Complete Path” must be completed to acknowledge the transfer.

To initiate the transfer:

1. The sending unit will click on the Transfer icon.
2. Click on the purple Transfer icon by the patient’s name.
3. In the pop-up box, enter the information for the transfer including the destination.
4. Click “Create Transfer”.
5. Verify the information in the Transfer Summary box and click “Finish” to save.
6. The transfer takes place.
7. Receiving unit staff to visually confirm that the patient has arrived.
8. Receiving unit staff to complete the transfer by acknowledging the pop-up box message in Security Solutions and click OK to save.



Failure to accept the transfer at the receiving unit will result in a message box and audible alarm at workstation in the home/sending unit.

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APPENDIX C: Suspend

The Suspend function is used to temporarily turn off tamper alarms when a tag is needed to be removed for a short duration. When re-applying the tag, a new band is needed. If the band is cut prior to suspending the tamper feature, a tamper alarm will occur. The Suspend function must be activated in Security Solutions. Suspend duration ranges from 3 minutes to 60 minutes.

To suspend a tag:

1. Click on the Suspend icon in the toolbar.
2. Click on the white clock icon to the far right of the patient's name.
3. Enter the time required and click "Suspend Tamper".
4. Verify the information in the Tamper Summary box and click "Finish".
5. Cut the band off.
6. Re-apply the tag using a new band.
7. Ensure the tag has resumed monitoring in Security Solutions.



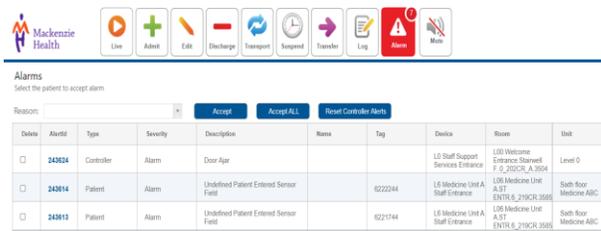
Resume Tamper

The system automatically resumes monitoring the tag once the suspend time expires. If the tag has been replaced before the suspend period ends, staff will need to manually reactivate the alarm feature at the workstation.

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APPENDIX D: Alarms

All alarms require immediate attention and intervention. For high priority alarms, the Dell workstation will sound an audible alarm and display the details in a red pop-up box. Unauthorized Egress events at elevators or at unit/pod doors will produce an audible alarm when a tag is detected.

Type of Alarm	Description	Clearing Alarms
<p>Unauthorized Egress Alarm</p> <p>Applies to:</p> <ul style="list-style-type: none"> Main Elevators (P1 to P4) Emergency Transfer Elevators (P7 and P8) Birthing Elevators (P9 and P10) Pod doors if the tag risk level is set to "unit." 	<p>This occurs when a tag goes into an elevator cab or when a "unit" level tag is able to go through an open pod door.</p> <p><i>Note: All elevators show their location as <u>Level 1</u>, but the patient will not be able to travel once the unauthorized egress alarm inside an elevator is triggered.</i></p>	<ol style="list-style-type: none"> An alarm will sound at the workstation and the alarm icon will be red. Staff will click on the icon to view details of the alarm. For alarms at pod doors, the CCTV cameras will also display the door in alarm.  <ol style="list-style-type: none"> Perform a physical check at the location of the alarm. Ensure that the patient is moved out of the elevator or away from the door. Tap a Mackenzie Health ID badge at the card reader to clear the alarm. Return the patient to their room. Acknowledge the alarm at the Dell workstation. If the patient's location and safety cannot be immediately verified through a physical search, a Manager is to call extension 5555 to activate a Code Amber or Code Yellow.

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Type of Alarm	Description	Clearing Alarms
Door Ajar Alarm (*Self-Resolving Alert)	This occurs when a door has been held open for longer than 75 seconds. A tag does not need to be present (could be propped open by a cart, etc.). An audible alarm will sound at the workstation. A red pop-up box will be displayed.	<ol style="list-style-type: none"> 1. Check to see that the door is closed and latching properly. 2. The alarm will automatically disappear at the workstation. 3. If the door does not close properly, staff will place a QFM ticket for JCI to investigate.
Tamper: Tag Removed Alarm	A band cut alarm will display when the tag has been cut. An audible alarm and a red pop-up box will be displayed.	<ol style="list-style-type: none"> 1. Locate the patient and verify that the tag is in place. 2. Replace the band if required. 3. Acknowledge the alarm at the workstation.
Unresponsive Tag	This occurs when a tag fails to communicate with the main security system which could indicate that the tag has low battery. An audible alarm and a red pop-up box will be displayed.	<ol style="list-style-type: none"> 1. Disassociate the tag in Epic. 2. Remove the tag and band. 3. Apply a new security tag and new band. 4. Associate the new tag in Epic. 5. Put the previous tag aside and contact Central Equipment at extension "0" to pick up as a potentially defective item.
Transport Time Elapsed (Informational Alert)	This will occur when the transport time allotted is expiring within 15 minutes. A blue pop-up box will be displayed. There is no audible tone associated with this informational alert.	<ol style="list-style-type: none"> 1. Locate the patient and confirm the additional time needed for the patient to return to the pod. 2. Acknowledge the alert by adding additional time required to complete the transport.