

## Incident Summary #II-1334965-2022 (#26372) (FINAL)

	Incident Date		February 27, 2022
SUPPORTING INFORMATION	Location		Interior
	Regulated industry sector		Passenger ropeways - Above surface ropeway
	Impact Damage Injury	Qty injuries	1
		Injury description	Temporary loss of consciousness, bruised lung and 2 broken elbows
		Injury rating	Major
		Damage description	N/A
		Damage rating	None
	Incident rating		Major
	Incident overview		Child passenger fell 7.5 meters from carrier at the last tower of lift line before the unload station.
INVESTIGATION CONCLUSIONS	Site, system and components		The ropeway is detachable quad chairlift. The open carriers, (chairs) are equipped with a restraining device, a lap bar that pivots down over the passenger's head to their lap. The restraining bar is dependent on passenger engagement, instructed by signage, to lower after loading and raise before unloading.
	Failure scenario(s)		Passengers raised restraining bar in preparation to unload. Ropeway stopped with carrier at the last tower for an unrelated event, upon restart child slipped off carrier seat.
	Facts and evidence		Chairlift:  Detachable quad chair  Maximum ropeway speed 5.0 m/s  Operating speed was 4.7 m/s  Safety system upgraded in 2018  DC drive upgraded in 2020  2020 Load Test Results:  Acceleration time 29 seconds – smooth and controlled  Normal Stop 9.8 seconds 25.5 meters  Emergency Stop (empty) 5.6 seconds 14.6 meters  Emergency Stop (full load) 4.2 seconds 9.8 meters  Lift-line bounce & chair swing only recorded on Control power loss stop (All brakes at once)  Lift-line bounce & chair swing observed of carriers' mid-span between towers  Raise Restraining Bar and Prepare to Unload signage on second last tower  Last 2 towers close to each other  Substantial chair height at sign location  Re-start is achievable 3-4 seconds after a stop, if operators are very active on the controls – contractor confirmed  No mechanism built into the safety monitoring system to prevent a re-start of a bouncing lift-line and/or swinging carriers on the ropeway



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#### As reported by duty holder:

- 7-year-old child fell from carrier at tower #16
- Measured fall at 7.5 meters
- Immediate professional medical attention required
- Child transported to local hospital via helicopter, later transported to a better equipped facility
- Child spent multiple days in hospitals

#### Witness Statements:

- 4 children all similar age, ski team members, on chair together
- Ski Club coach approved children to ride together
- The restraining bar was lowered immediately after loading
- The children raised the restraining bar prior to last tower
- Chairlift then stopped with the chair on the last tower
- When the chairlift re-started the child on the far-left side of carrier fell
- Child was unresponsive
- Other passengers did not report any unusual chairlift operational occurrences

#### Lift Attendant Manual:

- No instruction or procedure about ensuring the ropeway lift line bounce & chair swing has settled before re-starting a stopped ropeway
- No limitations of children riding chair without adult supervision

# Causes and contributing factors

The passenger ropeway stopping and re-starting as the child was preparing to unload possibly caused them to fall from the chair. No safety monitoring system control or procedure for time restrictions (delays) on the re-start of the ropeway and possibly the passengers chair stopped on sheave assembly having more swing may have contributed to the fall. Passengers instructed to raise the restraining bar at a considerable height likely contributed to the incident.



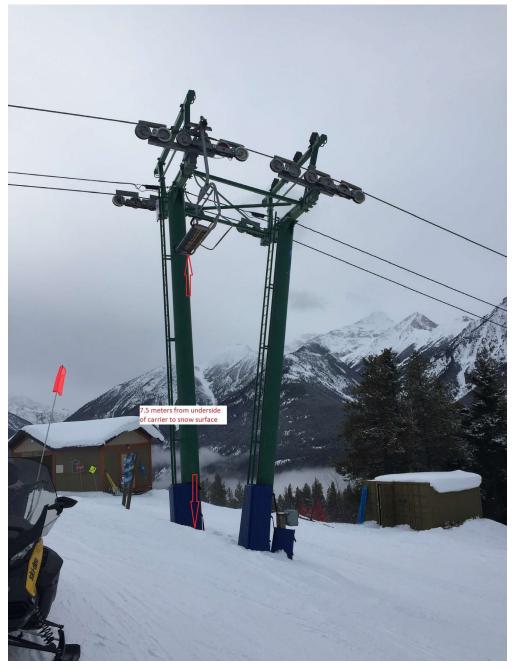


Image - Carrier position at time of fall. 7.5 Meters from underside of carrier to snow surface