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Children locked in vehicles: implications for organisational and community safety

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Introduction

While state motoring clubs around Australia are well known for their motoring advocacy work and membership advantages, roadside assistance for broken down vehicles remains a key activity. The Royal Automobile Club of Queensland (RACQ) alone receives up to 4,000 calls for assistance each day from motorists. The majority of these calls will be associated with vehicle mechanical or electrical issues, but on average around 10 calls a day will be due to a baby, adult person or animal being accidentally locked in a vehicle.

These lock-in calls are almost always as a result of an unintentional act on the part of the driver. Typically the keys are given to the child to hold while the driver performs some other task. If the remote locking button has been pressed the locking system secures all closed doors leading to a situation where once the remaining door is closed the security system then completes its locking sequence, preventing the driver from gaining access to the vehicle. At this point the driver realises they have a highly stressful situation unfolding.

RACQ research has found that vehicle interior temperatures rise very rapidly and from around 19°C can reach the critical (according to medical authorities) temperature of 40°C in about eight minutes on a typical, clear summer day in Brisbane [1]. Peak cabin temperatures can go on to reach approximately double the ambient temperature [1].

Due to the risk to the health of the baby, adult or animal locked in the vehicle it becomes a matter of urgency that the locked-in person or animal is rescued as soon as possible. RACQ responds to such calls for assistance as a community service. This means that RACQ will assist as a priority any person, regardless of RACQ membership status given the safety risks to the individual or animal locked in the vehicle.

Responding to emergency calls of this nature increases the pressure on the RACQ and its staff. From the call centre staff who take the calls and arrange the Club's response, to the RACQ patrol staff who are despatched to attend the vehicle, there is a coordinated, prioritised approach to assisting the individual or animal locked in the vehicle as quickly as possible.

2011	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD Total
BABY	153	174	231	209	218	217	199	218	197	244	182	192	2434
DAILY AVERAGE	4.94	6.21	7.45	6.97	7.03	7.23	6.42	7.03	6.57	7.87	6.07	6.19	

Figure 1: Baby locked in car calls and average daily calls per month 2011

The numbers: emergency lock in calls

In 2011, RACQ received 2,434 calls (average of 6.67 calls per day) related to babies or children locked in cars. October and March had the highest average number of calls per day, while January and November had slightly lower averages.

While the total number of baby/child locked in car calls represent only 0.2% of the total number of calls for assistance RACQ receives each year, the potential risk to the individuals locked in the vehicles means that these calls require immediate priority response.

Vehicle cabin temperatures initiate a priority response

Heat/sun stroke or thermic fever occurs when the human body's core temperature exceeds 40.5°C and is a life threatening emergency to prevent brain damage, organ failure or death [2]. Heat stroke can be brought on by a rise in the body's temperature, including from high environmental temperatures; and babies, young children and people over 75 years of age are at the highest risk [2].

RACQ has long been interested in vehicle cabin temperatures and in identifying a need for further research in this area, and has conducted a number of studies into vehicle cabin temperatures. The Club's first study, conducted by King and Negus in 1982, investigated the heating characteristics and variables of a number of vehicles [3]. The second study was conducted in 1995 by the Club's Traffic and Safety Department and focussed on the effects of vehicle design on heating characteristics of modern cars under typical Brisbane winter and summer conditions [4]. The third study, conducted by Manning

and Ewing in 2008-2009 replicated some of the previous studies, but also examined the effects of window tinting film and windscreen shades on heating [1].

Manning and Ewing's study [1] found that after having both a light and dark coloured Isuzu D-Max dual cab utility cabin temperatures normalised in an under-building car park with the air conditioning switched on (low fan speed) the temperatures of the vehicles rose from 19.2°C (light coloured vehicle) and 19.4°C (dark coloured vehicle) to:

- 30.4°C (ambient temperature) within 1.5 minutes;
- 40.5°C and 40.8°C in a further 6.5 minutes for the light and dark coloured vehicles respectively.

This rapid increase in temperature to critical heat stroke range means that any response to emergency vehicle lock-ins involving humans or animals must be treated with high priority to help reduce the likelihood of negative health outcomes for the individuals and/or animals involved.

How are the calls handled?

RACQ call centre

RACQ Service Consultants are trained in handling these emergency calls and will follow a set procedure, ensuring all details are collected and recorded accurately on the job. Formal induction and continuous training is crucial to ensure all RACQ Service Consultants are competent in delivering efficient service to members/callers. A training manual specific to handling emergency calls has been created for coaching Service Consultants during their initial road service training. The Service Consultants are advised that often the callers are quite distressed; therefore they should remain calm and take control of the call in order

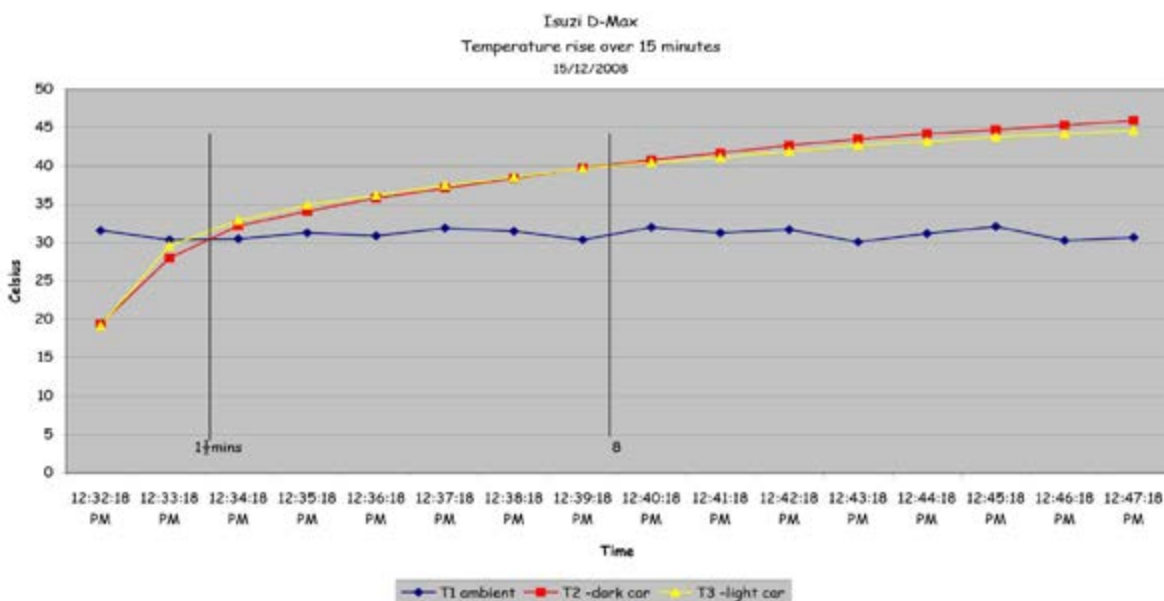


Figure 2. Temperature rise over 15 minutes in Isuzu D-Max utility

to gain the required information efficiently. By doing this, RACQ is able to despatch patrols to the job as quickly as possible.

During training, Service Consultants are provided examples of what to expect when handling an emergency call. Service Consultants are trained in the procedures for handling calls; are provided with ongoing training and development; and must pass an online assessment prior to completing live calls.

Procedures include checking details such as if the baby is distressed or has vomited; if the vehicle is in the sun; if the Ambulance Service should be notified; caller location and vehicle details.

Two RACQ patrols are dispatched wherever possible. The Field Support Officer notifies the Shift Leader which RACQ Patrols are attending and their Estimated Time of Arrival (ETA). Technical Support discusses the method of entry into the vehicle with the patrol. The Shift Supervisor then contacts the caller of the emergency job to confirm location, ETA of RACQ Patrol and if the vehicle is in the sun, will also offer the caller suggestions such as covering the vehicle with a blanket or hosing the vehicle down to assist in reducing the temperature of the vehicle.

RACQ patrol staff

All RACQ service providers are trained in a comprehensive package that involves theory and practical components of vehicle entry. The Baby Locked In Car (BLIC) procedure is part of the vehicle entry package.

In the majority of BLIC cases vehicles are entered using conventional methods of vehicle entry. Service providers are also trained in forcing vehicle entry. Forcing entry to the vehicle usually means breaking windows which has significant safety issues associated with the process. Service providers are given guidelines on making the decision whether to force entry and how to break a window safely for the occupant and the service provider (as a last resort).

RACQ has a detailed BLIC procedure which covers the process from beginning to end involving the contact centre, the trainers, the service providers and even the involvement of emergency services, however this procedure is too detailed to show in full in this article. Figure 3 shows the basic order of events in the procedure, from the perspective of the RACQ patrol, from when they are first notified of the call by the call centre.

Occupational safety issues involving staff

When RACQ provides assistance to members and non-members regarding cases where babies, children, adults or animals are locked in a vehicle, a number of important issues must be considered. The call centre staff need to manage the high-stress of the caller, stay calm and coordinate with appropriate RACQ staff.

Because the Club always attempts to send two patrol vehicles to attend such calls, the exposure to risk on the road is increased for that type of call as full details of the situation that they are attending may not be available. Examples of conditions which may be uncertain include the exact location of the locked vehicle (e.g., on road, on shoulder in car park, on driveway etc.) and non-road related environmental factors which may pose a risk e.g., the presence of agitated people and/or animals at the location.

Where two patrol staff are dispatched by RACQ, one patrol staff member works on either entering the vehicle or cooling it down (before emergency service personnel arrive) while the other staff member can manage the caller or bystanders at the site - given their usual anxiety. This is an additional and unique role performed by RACQ patrols for these types of jobs.

Debriefing of staff involved in calls related to BLIC is also an important step conducted by the Club, due to the potential for injury to those who become locked in vehicles.

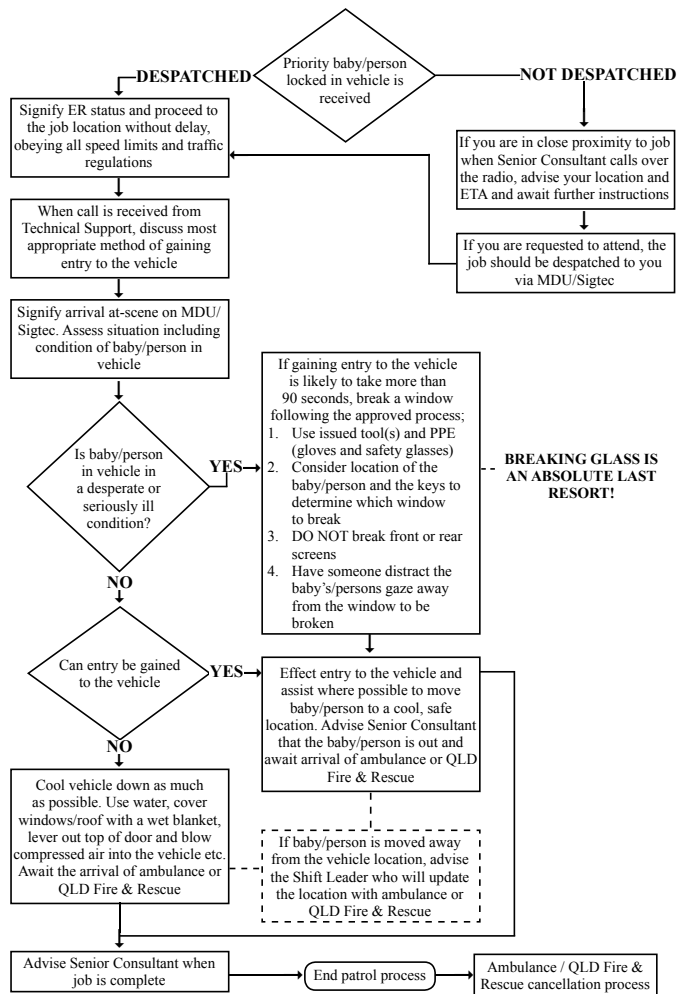


Figure 3: RACQ patrol BLIC procedure flow chart

This process involves additional time and resource costs to RACQ but all steps are necessary to ensure that these high-priority calls are answered and attended as quickly, safely and professionally as possible.

Vehicles are harder to break into

A key concern for RACQ staff involved in answering BLIC calls is that vehicles are becoming more difficult to break into. Manufacturers have improved vehicle safety and security significantly in recent years, resulting in RACQ staff needing to remain at the cutting edge of vehicle security technology, so that BLIC cases can be handled efficiently.

In some cases, due to very advanced security systems, RACQ staff are unable to quickly enter certain makes and models of vehicles and, to avoid negative health effects for the occupant, the step of forcing entry to the vehicle must be taken. Because glass breakage can cause injuries, there is an element of risk in this operation for RACQ staff, the individual locked in the vehicle and bystanders.

Conclusion and RACQ advice for helping to avoid BLIC

The old saying “prevention is better than the cure” certainly applies to BLIC cases and as such RACQ has been very active in providing advice to motorists on ways to help avoid unintentional lock-ins. RACQ advice to motorists includes:

- Always taking the child with you – even if you only intend to leave the car for a brief time.
- Keeping the keys with the driver – never leaving them with the child, in the ignition or placing them on a seat.
- Never let children play with keys or have access to an unattended vehicle.

- Check the vehicle is empty before remote locking – it is easy to make a mistake and accidentally lock them in.

Importantly, if children or adults do become locked in vehicles, the RACQ advises motorists to:

- Keep calm;
- Think clearly and act quickly; and
- Call RACQ (13 1111) immediately for assistance and if there are any concerns about the occupant’s health, call emergency services on 000.

RACQ has also developed a video on lock-ins at: www.youtube.com/racqofficial.

The Club will continue its work in discussing the risks of accidental lock-ins; attending motorists who have children, adults or pets locked in their vehicles; and developing optimal methods to assist as technology changes and vehicle security systems become more complex.

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