



## Parent Supervision to Prevent Injuries

**BARBARA A. MORRONGIELLO, PhD**  
**BRAE ANNE MCARTHUR, MA**

*University of Guelph, CANADA*

*(Published online September 15, 2010)*

### **Topic**

*Injury prevention*

*Parenting skills*

### **Introduction**

Caregivers must assume responsibility for the safety of infants, toddlers and preschoolers because children at these developmental stages have limited abilities to appraise risk and differentiate unsafe from safe situations. Historically, research on child safety has focused on what safety practices caregivers adopt, why they do so, and how to motivate them to enact better safety practices.<sup>1-6</sup> More recently research has begun to examine caregiver supervision practices, how these influence young children's risk of injury, and what messaging approaches are best to motivate caregivers to improve their supervision practices. These issues will be addressed herein.

### **Subject**

Generally, for young children (< 6 years) researchers have defined caregiver supervision in terms of behaviours that indicate attending to the child (watching, listening), whereas for older children and teens they define supervision in terms of more general 'monitoring' or knowledge of the child (e.g., child's whereabouts, expectations for how the child will behave based on past experiences or who they are with and what they are doing).<sup>7</sup> In research targeting injury risk for young children a popular conceptual model of supervision considers three dimensions: attention (watching, listening), proximity (within vs. beyond reach), and extent of continuity in attending and proximity (constant, intermittent, not at all).<sup>8</sup>

### **Problems**

Epidemiology studies reveals that young children are frequently injured when in their homes,<sup>9,10</sup> which is surprising given one would assume there is an adult caregiver monitoring children at these young ages. An essential question then is what constitutes 'adequate supervision' for ensuring a child's safety? Examining how caregivers supervise and how various patterns of supervision differentially influence children's risk of injury is an essential first step for determining what constitutes adequate supervision.

### **Research context**

Historically, progress in exploring links between supervision and injury risk has been hampered by the difficulty of measuring supervision in scientifically rigorous ways. Asking parents to report on how they might supervise in different circumstances may or may not accurately reflect how they will do so in real life circumstances.<sup>11,12</sup> More recent studies have used direct observations (e.g., parents with children in public places like parks), and self-monitoring techniques in which parents record their own supervisory practices at home throughout the day, and have substantially advanced our understanding of factors that influence supervisory practices and how these practices impact children's risk of injury.<sup>13-15</sup> Another popular approach involves the use of 'contrived hazards' – hazards that appear real but that have been modified to pose no real risk of injury in laboratory settings.<sup>16,17</sup> With this approach one creates a 'simulated' risk situation, and supervisors' reactions can be unobtrusively recorded via videotape, providing a more accurate index of typical supervision practices. These observation-based methods are time- and labor- intensive but have yielded the greatest insights regarding links between supervision and child injury risk.

### **Key Research Questions**

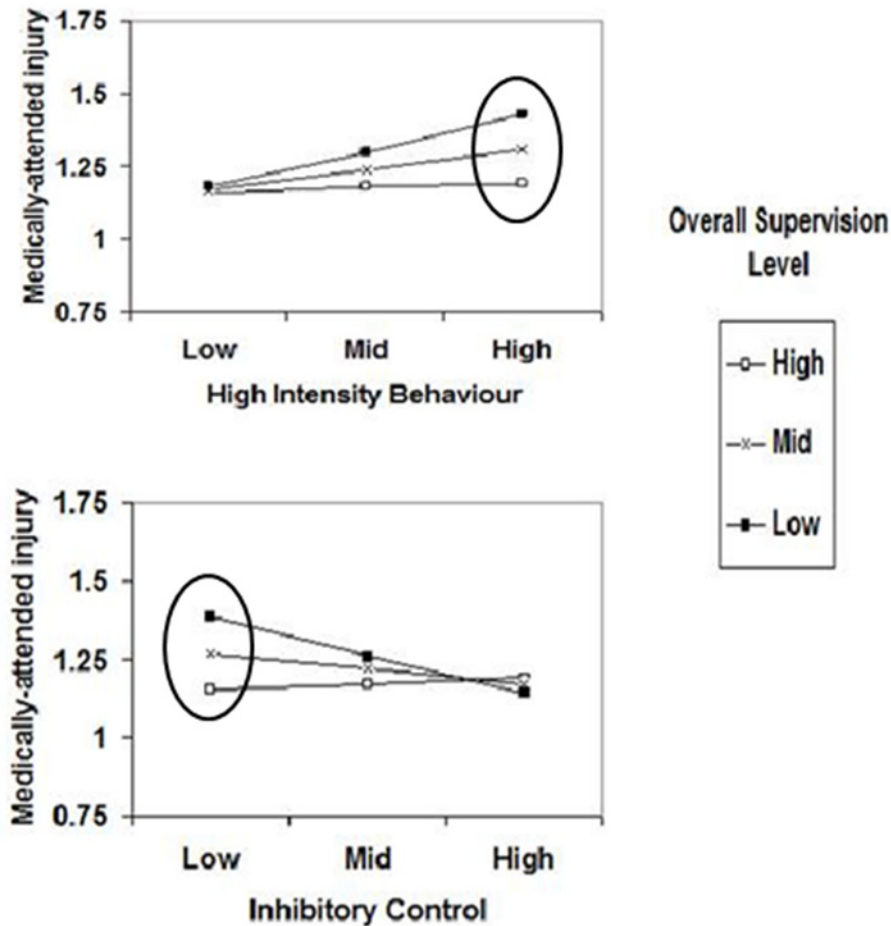
- 1) How often are children 'out of view' of supervisors when at home, and are there parent or child attributes that influence this?
- 2) What patterns of supervision do caregivers show when at home with young children, and are some patterns more effective than others to prevent children from being injured?

### **Recent Research Results**

In research exploring how caregivers routinely supervise it was found that when young children (< 6 years) are at home with mothers they are supervised (in view, attended to) more than unsupervised but are completely out of view of supervisors about 20% of their awake time, and extent of supervision is poorer when they are out of view and alone than with other children.<sup>18,19</sup> Thus, in the course of their daily lives, parents routinely supervise in ways that can elevate children's risk of injury by allowing them to be unsupervised and out of view. Time children spend out of view of supervisors generally increases with age as parents assume older children know and will follow safety rules better than younger children.<sup>20</sup> When sex differences emerge, girls are more closely supervised than boys during the preschool years, which may partly explain why boys routinely experience more injuries than girls.<sup>21,22</sup>

Mothers who score higher in conscientiousness and those with children having behavioural attributes that are likely to lead to risk behaviours (i.e., impulsivity, sensation seeking), keep their children in view more of the time.<sup>14</sup> Thus, parents seem to adjust the level of supervision based on both parent and child attributes. Importantly, research has shown that children who scored high in behavioural intensity (i.e., show high activity and intense reactions to new situations and events) had a history of more medically-attended injuries when their parents reported reduced supervision but not when their parents reported closely supervising (see Figure 1).<sup>23</sup> Thus, close supervision can counteract the elevated risk of injury typically found for temperamentally-difficult children.<sup>24,25</sup> On the other hand, the child attribute of inhibitory control (e.g., child can exercise self control

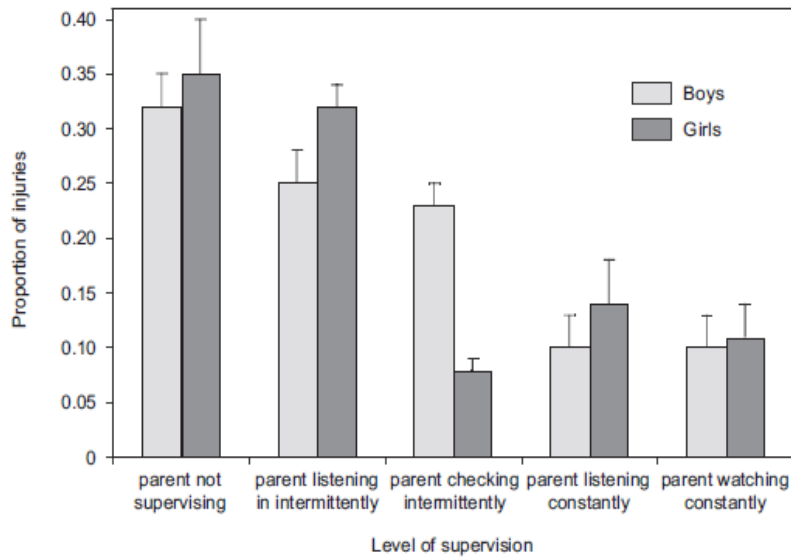
and resist doing things prohibited by a caregiver) serves a protective function and predicts a history of fewer medically-attended injuries even under conditions of reduced supervision (see Figure 1).<sup>23</sup> Hence, whether lower levels of supervision lead to increased risk of injury depends, in part, on the child's behavioural attributes. Risk of injury to children, therefore, reflects an interaction of many factors, including child characteristics x supervision practices x level of environmental risk.<sup>26</sup>



**Figure 1** - Supervision moderates the relation between child behavior characteristics and injury. For High Intensity Behavior, high scores predicted injury when parents showed low and moderate levels of supervision ( $p < .05$ ) but not when they showed high levels of supervision. A similar pattern of significant differences was found for low scores in Inhibitory Control.

At time points when children acquire new developmental milestones (e.g., learn to climb), which often occurs unexpectedly for parents, injury rates show temporary peaks.<sup>27</sup> Thus, when children behave unpredictably, and parents have not had sufficient time to adjust the level of supervision those children need to ensure their safety, then children more frequently get injured, especially at younger ages and in high-hazard contexts like farms.<sup>28</sup>

Studies have documented that lax supervision is associated with increased risk of medically-attended injuries for young children.<sup>29</sup> And particular patterns of supervision differentially relate to frequency of injury, highlighting the importance of closely supervising children, particularly boys.<sup>14</sup> As shown in Figure 2, injury rates for boys and girls differed significantly when mothers used the strategy of intermittently going to check on the child, with boys experiencing more injuries than girls. In fact, injury rates for boys when mothers intermittently listened in were as high as when mothers left their sons unsupervised, and rates for girls were as low as when mothers provided direct and close supervision; just the threat a parent might appear to check on what the child was doing was sufficient to deter girls from taking risks, but not boys. Hence, anything less than constant supervision was associated with high injury rates among boys. Generally, the research has shown that boys engage in more risk taking than girls and require more frequent *and* effortful supervision practices than girls to ensure their safety.<sup>14,16</sup>



**Figure 2.** Proportion of injuries occurring to boys ( $N = 428$  total injuries) and girls ( $N = 137$  total injuries) as a function of level of supervision (1 = parent not supervising, 2 = parent listening in intermittently, 3 = parent checking intermittently, 4 = parent listening constantly, 5 = parent watching constantly).

### Research Gaps

Most research examining supervision and its impact on injury risk has focused on mothers, but fathers and siblings also often supervise young children at home. A few studies have compared mothers' with fathers' beliefs about the need for supervision of their young children<sup>30</sup> and reactions to their toddler's risk taking behaviours,<sup>31</sup> and found no differences, however, more extensive research is needed. Similarly, sibling supervision in which an older child in the family (e.g., 5-12 years) looks after a younger one (e.g., < 5 years) occurs often when children are at home together<sup>32</sup> and has been shown to elevate risk of injury for young children compared to parent supervision.<sup>33,34</sup> Recent research examining the supervisory practices of older siblings compared with mothers revealed that supervisees were allowed to engage in *more* risk behaviours when supervised by older siblings than by mothers and the behaviours of *both* the sibling supervisors and young supervisees contributed to increased risk of injury to the young child (Morrongiello BA, Schell S, Schmidt S, unpublished data, 2010). Assessing for

differences based on children's ages and/or sexes, however, would be an important next step.

Surprisingly, despite how often supervision is mentioned as a risk factor for injury in the pediatric literature, there are no prevention programs targeting parent supervision. A recent study aimed at testing parental reactions to different types of messages about supervision, revealed a variety of strategies that may prove useful in developing programming to motivate caregivers' to supervise young children more closely.<sup>35</sup> A major focus in future research needs to be on developing injury prevention programs targeting parent supervisory practices. Such programs would not only be relevant to preventing injuries but could also be relevant to child neglect because inadequate supervision is a cornerstone in defining neglectful parenting.<sup>36,37</sup>

### **Conclusions**

Recent developments in defining and measuring supervision have paved the way for research on caregiver supervision, including exploring how this factor influences young children's risk of injury. Research has confirmed past speculation that poor supervision can elevate risk of injury to children, but the findings also highlight variation in this process depending on parent and child characteristics, as well as level of environmental risk. To date, the evidence suggests that mothers and fathers are more similar than different in supervising young children, but that sibling supervision is more lax than parental practices and this contributes to elevated injury risk for young supervisees when supervised by older siblings.

### **Implications**

An important aspect of raising young children is preventing unintentional injuries and supervision is a strategy that has been shown to achieve this goal. The supervision needs of children, however, are influenced by a multitude of factors, including child characteristics (age, sex, behavioural attributes), parent characteristics (conscientiousness, parenting style) and level of environmental risk. Such complexity suggests that it may not be realistic to aim to develop specific 'supervision guidelines' that can apply broadly. Developing interventions that target caregiver supervision beliefs and behaviours and can be broadly applied, therefore, is essential. The focus now has to be on knowledge translation, including identifying effective ways to counteract parents' commonly held belief that childhood injuries are 'accidents'<sup>38</sup> and to enhance their motivation for *and* self efficacy beliefs that they can more closely supervise their children.<sup>35</sup> Extending these programs to address supervision by siblings is also important given this is a common occurrence and these supervisory practices elevate risk of injury to young children (Morrongiello BA, Schell S, Schmidt S, unpublished data, 2010).

## REFERENCES

1. Dershewitz RA, Williamson JW. Prevention of childhood household injuries: A controlled clinical trial. *American Journal of Public Health* 1977;67(12):1148-1153.
2. Gallagher SS, Hunter P, Guyer B. A home injury prevention program for children. *Pediatric Clinics of North America* 1985;32(1):95-112.
3. Gielen AC, McDonald EM, Wilson ME, Hwang WT, Serwint JR, Andrews JS, Wang MC. Effects of improved access to safety counseling, products, and home visits on parents' safety practices: Results of a randomized trial. *Archives of Pediatrics and Adolescent Medicine* 2002;156(1):33-40.
4. Kendrick D, Barlow J, Hampshire A, Stewart-Brown S, Polnay L. Parenting interventions and the prevention of unintentional injuries in childhood: Systematic review and meta-analysis. *Child: Care, Health, and Development* 2008;34(5):682-695.
5. Towner E, Dowswell T, Mackereth C, Jarvis S. *What works in preventing unintentional injuries in children and young adolescents? An updated systematic review*. London, UK: National Institute for Health and Clinical Excellence; 2001.
6. Morrongiello BA, Kiriakou S. Mothers' home-safety practices for preventing six types of childhood injuries: What do they do, and why? *Journal of Pediatric Psychology*. 2004;29(4):285-297.
7. Morrongiello BA. Caregiver supervision and child-injury risk: I. Issues in defining and measuring supervision; II. Findings and directions for future research. *Journal of Pediatric Psychology* 2005;30(7):536-552.
8. Gitanjali S, Brenner R, Morrongiello BA, Haynie D, Rivera M, Cheng T. The role of supervision in child injury risk: Definition, conceptual, and measurement issues. *Journal of Injury Control & Safety Promotion* 2004;11(1):17-22.
9. Rivera FP. Developmental and behavioral issues in childhood injury prevention. *Journal of Developmental and Behavioral Pediatrics*. 1995;16(5):362-370.
10. Shannon A, Brashaw B, Lewis J, Feldman W. Nonfatal childhood injuries: A survey at the Children's Hospital of Eastern Ontario. *Canadian Medical Association Journal* 1992;146(3): 361-365.
11. Pollack-Nelson C, Drago DA. Supervision of children aged two through six years. *Injury Control and Safety Promotion*. 2002;9(2):121-126
12. Simon HK, Tamura T, Colton K. Reported level of supervision of young children while in the bathtub. *Ambulatory Pediatrics* 2003;3(2):106-108.
13. Garling A, Garling T. Mothers' supervision and perception of young children's risk of injury in the home. *Journal of Pediatric Psychology* 1993;18(1):105-114.
14. Morrongiello BA, Ondejko L, Littlejohn A. Understanding toddlers' in-home injuries: II. Examining parental strategies and their efficacy for managing child injury risk. *Journal of Pediatric Psychology* 2004;29(6):433-446.
15. Peterson L, DiLillo D, Lewis T, Sher K. Improvement in quantity and quality of prevention measurement of toddler injuries and parental interventions. *Behavior Therapy* 2002;33(2):271-297.

16. Morrongiello BA, Dawber T. Toddlers' and mothers' behaviors in an injury-risk situation: Implications for sex differences in childhood injuries. *Journal of Applied Developmental Psychology* 1998;19(4):625-639.
17. Cataldo MF, Finney JW, Richman GS, Riley AW, Hook RJ, Brophy CJ, Nau PA. Behaviors of injured and uninjured children and their parents in a simulated hazardous setting. *Journal of Pediatric Psychology* 1992;17(1):73-80.
18. Morrongiello BA, Corbett M, McCourt M, Johnston N. Understanding unintentional injury-risk in young children I. The nature and scope of caregiver supervision of children at home. *Journal of Pediatric Psychology* 2006;31(6):529-539.
19. Morrongiello BA, Corbett M, McCourt M, Johnston N. Understanding unintentional injury risk in young children II. The contribution of caregiver supervision, child attributes, and parent attributes. *Journal of Pediatric Psychology* 2006;31(6):540-551.
20. Morrongiello BA, Midgett C, Shields R. Don't run with scissors: Young children's knowledge of home safety rules. *Journal of Pediatric Psychology* 2001;26(2):105-115.
21. Morrongiello BA, Rennie H. Why do boys engage in more risk-taking than girls? The role of attributions, beliefs, and risk-appraisals. *Journal of Pediatric Psychology* 1998;23(1):33-43.
22. Rivera FP, Bergman AB, LoGerfo JP, Weiss NS. Epidemiology of childhood injuries. II. Sex differences in injury rates. *American Journal of Diseases of Children* 1982;136(2):502-506.
23. Morrongiello BA, Klemencic N, Corbett M. Interactions between child behavior patterns and parent supervision: Implications for children's risk of unintentional injury. *Child Development* 2008;79(3):627-638.
24. Schwebel DC, Brezausk CM, Ramey SL, Ramey CT. Interactions between child behavior patterns and parenting: Implications for children's unintentional injury risk. *Journal of Pediatric Psychology* 2004;29(2):93-104.
25. Schwebel DC, Speltz M, Jones K, Bardina P. Unintentional injury in preschool boys with and without early onset of disruptive . *Journal of Pediatric Psychology* 2002;27(8):727-737.
26. Morrongiello BA. The role of supervision in child-injury risk: Assumptions, issues, findings, and future directions. *Journal of Pediatric Psychology* 2005;30:S36-S52.
27. Agran P, Winn D, Anderson C, Trent R, Walton-Haynes L, Thayer S. Rates of pediatric injuries by 3-month intervals for children 0 to 3 years of age. *Pediatric* 2003;111(6 Pt 1):683-692.
28. Morrongiello BA, Pickett W, Berg RL, Linneman JG, Brison RJ, Marlenga B. Adult supervision and pediatric injuries in the agricultural worksite. *Accident Analysis and Prevention* 2008;40(3):1149-1156.
29. Morrongiello BA, Corbett M, Brison RJ. Identifying predictors of medically-attended injuries to young children: Do child and parent attributes matter? *Injury Prevention* 2009;15(4):50-55.

30. Morrongiello BA, Walpole B, McArthur BA. Brief Report: Young children's risk of unintentional injury: A comparison of mothers' and fathers' supervision beliefs and reported practices. *Journal of Pediatric Psychology* 2009;34(10):1063-1068.
31. Morrongiello BA, Dawber T. Parental influences on toddlers' injury-risk behaviors: Are sons and daughters socialized differently? *Journal of Applied Developmental Psychology* 1999;20(2):227-251.
32. Morrongiello BA, MacIsaac T, Klemencic N. Older siblings as supervisors: Does this influence young children's risk of unintentional injury? *Social Science & Medicine* 2007;64(4):807-817.
33. Nathans AB, Neff M, Goss CH, Maier RV, Rivara FP. Effect of an older sibling and birth interval on the risk of childhood injury. *Injury Prevention* 2000;6(3):219-222.
34. Rauchschalbe R, Brenner RA, Smith GS. The role of bathtub seats and rings in infant drowning deaths. *Pediatrics* 1997;100(4):E1.
35. Morrongiello BA, Zdzieborski D, Sandomierski M, Lasenby-Lessard J. Video messaging: What works to persuade mothers to supervise young children more closely in order to reduce injuries? *Social Science & Medicine* 2009;68(6):1030-1037.
36. Budd KS, Holdsworth MJ. Issues in clinical assessment of minimal parenting competence. *Journal of Clinical Child Psychology* 1996;25(1):2-14.
37. Coohy C. Defining and classifying supervisory neglect. *Child Maltreatment* 2003;8(2):145-156.
38. Morrongiello BA, Dayler L. A community-based study of parents' knowledge, attitudes and beliefs related to childhood injuries. *Canadian Journal of Public Health* 1996;87(6):383-388.

To cite this document:

Morrongiello BA, McArthur BA. Parent supervision to prevent injuries. In: Tremblay RE, Barr RG, Peters RDeV, Boivin M, eds. *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development; 2010:1-8. Available at: <http://www.child-encyclopedia.com/documents/Morrongiello-McArthurANGxp-Parents.pdf>. Accessed [insert date].

Copyright © 2010

**This article is funded by the Centre of Excellence for Early Childhood Development (CEECD) and the Strategic Knowledge Cluster on ECD (SKC-ECD).**



STRATEGIC KNOWLEDGE  
CLUSTER ON EARLY

*child development*