EMERGENCY NURSES ASSOCIATION

Clinical Practice Guideline: Family Presence During Invasive Procedures and Resuscitation

Does family presence have a positive or negative influence on the patient, family, and staff during invasive procedures and resuscitation?

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Background and Significance

With the rise of family-centered care, family input into healthcare decisions and patient visitation has increased. The concept of family presence was first highlighted in the early 1980s when Foote Hospital in Michigan began a program to facilitate the practice of family member presence during resuscitation as a response to demands by families (Doyle et al., 1987). Since the seminal research by Hanson and Strawser (1992), research about family presence during resuscitation (FPDR) and invasive procedures has centered on several different aspects, such as healthcare professionals' and family members' perceptions of the practice, benefits to the family, and policy development surrounding the practice. Evidence indicates that in the United States, both healthcare professions and families support family presence. Current research continues to support the practice recommendations for allowing family presence during resuscitation. The definition of family for the purpose of this clinical practice guideline (CPG) includes any person(s) whom the patient identifies as family.

Family presence is defined in the literature as parental presence for a minor child (Dudley et al., 2009; Kuzin, et al., 2007; McGahey-Oakland, Lieder, Young, & Jefferson, 2007; Nigrovic, McQueen, & Neuman , 2007; Piira, Sugiura, Champion, Donnelly, & Coles, 2005; Tinsley et al., 2008) or family members being present during resuscitation of adult relatives (McClement, Fallis, & Pereira, 2009). Research on family presence during resuscitation (FPDR) and invasive procedures examines the perspectives of the patient, both children and adults (Mortelmans et al., 2010; Piira, et al., 2005), the patient's family, including findings regarding the psychosocial impact of witnessing the resuscitation of a family member (Dudley et al., 2009; Mortelmans et al., 2010; Piira et al., 2005; Tinsley et al., 2008), and the healthcare team, including findings regarding the issue of family presence facilitating or interfering with the work of the resuscitation team (Basol, Ohman, Simones, & Skillings, 2009; Demir, 2008; Dudley et al., 2009; Fallis, McClement, & Pereira, 2008; Fernandez, Compton, Jones, & Velilla, 2009; Kuzin et al., 2007; Madden & Condon, 2007; Nigrovic, et al., 2007; Piira et al., 2005; Pruitt, Johnson, Elliott, & Pooley, 2008; Walker, 2007). International researchers have explored attitudes in other countries toward the practice of allowing family presence during resuscitation (Al-Mutair, Plummer, & Copnell, 2012; Günes & Zaybak, 2009; Koberich, Kaltwasser, Rothaug, & Albarran, 2010; Leung & Chow, 2012). This literature describes culturally-informed attitudes that may have implications in diverse staffing situations.

Methods

This CPG revision (initially published December 2012) was based on a thorough review and critical analysis of the literature following the Emergency Nursing Association's (ENA's) *Requirements for the Development of Clinical Practice Guidelines.* All articles and published abstracts relevant to the topic were identified through a comprehensive literature search. The following databases were searched: PubMed, Cochrane–British Medical Journal, Agency for Healthcare Research and Quality (AHRQ; www.ahrq.gov), CINAHL, and the National Guideline Clearinghouse (www.guidelines.gov). Initial searches were conducted using a combination of the search terms *family presence* or *parental presence,* and *invasive procedures* or *resuscitation,* and *emergency.* The original search methods were limited to English language articles on human subjects published from 2005 to 2012, but for this revision the period was extended to January 2012–May 2017. Meta-analyses, systematic reviews, and research articles from ED settings and non-ED settings, position statements, and clinical guidelines were reviewed. Clinical findings and levels of recommendation regarding patient management were made by the Clinical Practice Guideline Committee according to ENA's classification of levels of recommendation for practice (Table 1). The articles reviewed to formulate the recommendations in this CPG are described in Appendix 1

Articles that met the criteria outlined in Table 1 were chosen to formulate the CPG: research studies, meta-analyses, systematic reviews, and existing guidelines relevant to the topic of family presence during resuscitation. Articles cited in meta-analyses or systematic reviews were not considered independently unless they addressed additional factors. Other types of reference articles and textbooks also were reviewed and used to provide additional information. The CPG authors used standardized worksheets, including the Evidence-Appraisal Table Template, to prepare tables of evidence ranking each article in terms of the level of evidence, quality of evidence, and relevance and applicability to practice. Clinical findings and levels of recommendation regarding patient management were then made by the Clinical Guidelines Committee according to ENA's classification of levels of recommendation for practice, which include: Level A, High; Level B, Moderate; Level C, Weak; and Not recommended for practice (See Table 1).

Table 1. Levels of Recommendation for Practice

Level A Recommendations: High
• Reflects a high degree of clinical certainty • Based on availability of high quality level I, II, and/or III evidence rated using the Melnyk and Fineout-Overholt grading system (Melnyk & Fineout-Overholt, 2014) • Based on consistent and good quality evidence; has relevance and applicability to emergency nursing practice • Is beneficial
Level B Recommendations: Moderate
• Reflects moderate clinical certainty • Based on availability of Level III and/or Level IV and V evidence rated using the Melnyk and Fineout-Overholt grading system (Melnyk & Fineout-Overholt, 2014) • There are some minor inconsistencies in quality evidence; has relevance and applicability to emergency nursing practice • Is likely to be beneficial
Level C Recommendations: Weak
• Has limited or unknown effectiveness • Level V, VI, and/or VII evidence rated using the Melnyk and Fineout-Overholt grading system (Melnyk & Fineout-Overholt, 2014) • Based on consensus, usual practice, evidence, case series for studies of treatment or screening, anecdotal evidence, and/or opinion • There is limited or low quality patient-oriented evidence; has relevance and applicability to emergency nursing practice
Not Recommended for Practice
• No objective evidence or only anecdotal evidence available, or the supportive evidence is from poorly controlled or uncontrolled studies • Other indications for not recommending evidence for practice may include: ◦ Conflicting evidence ◦ Harmfulness has been demonstrated ◦ Cost or burden necessary for intervention exceeds anticipated benefit ◦ Does not have relevance or applicability to emergency nursing practice • There are certain circumstances in which the recommendations stemming from a body of evidence should not be rated as highly as the individual studies on which they are based. For example: ◦ Heterogeneity of results ◦ Uncertainty about effect magnitude and consequences ◦ Strength of prior beliefs ◦ Publication bias

Summary of Literature Review

This summary of the literature is organized by patient, family, and healthcare professional perspectives. It also touches on concerns about family presence as well as family member presence policy.

PATIENT PERSPECTIVE

There is little evidence to indicate that family presence during resuscitation affects the patient; however, there is research that explores the preference of patients regarding family presence. Of the six studies that investigated patient preferences, all found, to varying degrees, that patients would want a family member present during resuscitation. One study found that survivors of resuscitation (n=3) would be comfortable having family present during resuscitation (Robinson, Mackenzie-Ross, Campbell Hewson, Egleston, and Prevost, 1998).

Other studies that researched the preferences of patients who sought care in the emergency department (n=1) or were admitted to the hospital for surgery or other care (n=4) found that some portion of patient participants expressed the desire to have family members present during their potential resuscitation (Benjamin, Holger, & Carr, 2004; Grice, Picton, & Deakin, 2003; McMahon-Parkes, Moule, Benger, & Albarran, 2009; Mortelmans et al., 2010; Twibell, Craig, Siel, Simmonds, & Thomas, 2015). In a survey of 55 patients undergoing elective cardiac or vascular surgery, Grice et al. (2009) found that 29% of patient participants favored witnessed resuscitation and that their preference for FPDR should be documented when admitted. Another survey of patients seeking care in the emergency room (n=200) found that 72% (144 of 200) wanted a family member present during their potential resuscitation (Benjamin et al.). Similarly, Mortelmans et al. (2010) interviewed adult patients who were treated in the emergency department with life-threatening illnesses and found that the majority of patients (72%) indicated they would prefer family to be present during resuscitation.

Two studies demonstrate that while patients may prefer family members to be present during their resuscitation, they wish to specify which family members are present (Benjamin et al. 2004; Twibell et al., 2015). Benjamin et al. found that 56% of participants (81 of 144) who would like a family member present during their resuscitation wanted only specific family members present. Twibell et al. (2015) present similar findings in their qualitative study; participants desire to control which family member is actually present.

Three studies found that participants would be concerned about their family members if they were present during the patients' resuscitation (McMahon-Parkes et al., 2009; Mortelmans et al., 2010; Twibell et al., 2015). Participants included in qualitative work by McMahon-Parkes et al. stated they felt that those family members present should be protected from distressing moments during the resuscitation. Likewise, Mortelmans et al. (2010) reported that 35% of those who would wish a family member to be present during their resuscitation also felt that this could be a traumatic experience for the family member. Twibell et al. (2015) reported that participants recognized that being present during resuscitation could be difficult for the family member.

While all of the studies discussed above provide important information on patient perspectives regarding having a family member present during their own resuscitation, these studies, in general, are few in number, are cross sectional or qualitative in design and have few participants. The evidence implies that when patients are asked, some would prefer family members to be present during their resuscitation. However, this evidence is not compelling enough to formulate an overall recommendation on family presence during resuscitation based on patient preferences.

FAMILY PERSPECTIVE

Twelve studies were identified that conducted research on FPDR from the family member's perspective. Six of these studied the parents of children undergoing resuscitation or invasive procedures and the other six studied family members of adult patients. In all studies, family members expressed the desire to be present during their loved ones' resuscitation (Butler, Copnell, & Willetts, 2014; Çelik et al. 2013; Dingeman, Mitchell, Meyer, & Curley, 2007; Dudley et al., 2009; Dwyer, 2015; McGahey-Oakland et al., 2007; Mortelmans et al., 2010; Piira et al., 2005; Stefano et al., 2016; Tinsley et al., 2008; Twibell et al., 2015; Young, 2014). Data suggest that being present at this time is not detrimental to the family (Jabre et al., 2014; Piira et al., 2005).

Family members of patients undergoing resuscitation believe that their presence is helpful and comforting for the patient during that time (Dudley et al., 2009; Twibell et al., 2015). Parents want the option to be present during these times (Dingeman et al., 2007) and believe that it is their right as parents to be present (Celik et al., 2013; McGahey-Oakland et al., 2007) when their child is being resuscitated. Similarly, family members of adult patients, when given the option, would also be present (Dwyer, 2015; Moretlemans et al., 2010; Twibell et al., 2015).

While family members want to be present during resuscitation, some felt that their presence may negatively impact the quality of care their family member received (Celik et al., 2013) or that they may be in the way of the care team at this time (Twibell et al., 2015). However, two studies found that family presence during resuscitation does not prolong time to treatment or resuscitation time nor does it negatively affect technical procedures or increase staff anxiety (Dudley et al., 2009; Piira et al., 2005). Family members were not concerned about the trauma they themselves may experience by being present during resuscitation (Mortelmans et al., 2010) and a review by Piira et al. (2005) supports this with evidence that parents who were present during invasive procedures performed on their children did not have higher distress levels than those parents who were not present. Further, in a study of family members who did and did not witness the resuscitation of their loved one, Jabre et al. (2013) found the frequency of symptoms of post-traumatic stress disorder (PTSD) (anxiety and depression) was significantly higher in the group of family members who did not witness the resuscitation (adjusted odds ratio 1.7; CI 1.2–1.5; $p = 0.004$). They re-interviewed this group one year later and found that those who did not witness their family member's resuscitation had significantly more symptoms of PTSD (adjusted odds ratio, 19.95%, CI: 1.1–3.0; $p = 0.02$).

Another common finding among family members who have been present during resuscitation is that they believed everything that could have been done for their family member had been done (McGahey-Oakland et al., 2007; Tinsley et al., 2008). Many parents (67%) felt being present helped them cope with the death of their child, while 43% stated that being present was what helped them the most during the resuscitation (Tinsley et al, 2008). McAlvin and Carew-Lyons (2014) conducted a systematic review to investigate FPDR and invasive procedures in pediatric critical care. Findings from six articles in that review support FPDR and invasive procedures, indicating that parental presence increases parental satisfaction and coping.

While it may not be clear whether family presence during resuscitation is beneficial to patients, it is clear that being present is beneficial to family members. Family members want to be present. Parents feel that it is their right to be present, and the presence of family does not have a detrimental effect on patient care or staff anxiety levels. The evidence suggests that not witnessing the resuscitation of a loved one may have a significant negative impact on family members and that being present during the resuscitation of a loved one has a positive impact on the family member.

HEALTHCARE PROFESSIONAL PERSPECTIVE

Healthcare professionals express divergent opinions and perceptions about family presence during resuscitation. While some research findings on the topic indicate support for the practice of family presence during resuscitation and invasive procedures (Basol et al., 2009; Carroll, 2014; Dingeman et al., 2007; Fallis et al., 2008; Hassankhani Zamanzadeh, Rahmani, Haririan, & Porter., 2017; Kuzin et al., 2007; Lai, Aritejob, Tang, Chene, & Chuang., 2017; Madden & Condon, 2007; McClement et al., 2009; O'Connell, Farah, Spandorfer, & Zorc, 2007), other findings demonstrate healthcare professionals have reservations (Al-Mutair et al., 2012; Basol et al., 2009; Demir, 2008; Dingeman et al., 2007; Fernandez et al., 2009; Hassankhani, et.al.,2017; Hayajneh, 2013; Madden & Condon, 2007; McClement et al., 2009; Pruitt et al., 2008; Soleimanpour et al., 2015; Twibell et al.,2015; Walker, 2007; Yavuz, Totur Dikmen, Altinbaş, Aslan, & Karabacak, 2014).

Health Care Professionals' Opinions and Perspectives

Some health care professionals report family presence is important and good for the patient and family. Three studies found that health care professionals stated that family should be present during resuscitation (Carroll, 2014; Dwyer & Friel, 2016; Lederman & Wacht, 2014). Dwyer and Friel (2016) found that 62% of participants had previous experience with FPDR and that all participants ($n = 29$) had positive attitudes toward family presence ($p > 0.05$). Similarly, Lederman and Wacht (2014) found that, of 100 healthcare professionals surveyed, 77% believed family should have the opportunity to be present during resuscitation. Chapman, Watkins, Bushby and Combs (2011) found that 61.4% and 69.3 % of healthcare professionals surveyed felt family presence was a right of the family and of the patient, respectively ($n = 113$).

Healthcare professionals who supported family being present during resuscitation expressed that it helped the family see the effort of the resuscitation team and the thoroughness of the resuscitation process, which may lower the risk of litigation surrounding the resuscitation or procedure (Basol et al., 2009; Critchell & Marik, 2007; Dingeman et al., 2007; McClement et al., 2009; Pruitt et al., 2008; Walker, 2007). Many felt that family presence during resuscitation or invasive procedures is a positive experience (Carroll, 2014; Dwyer & Friel, 2016; Lederman & Wacht, 2014; Zavotsky et al., 2014) and that it humanizes the patient and supports patient dignity (Basol et al., 2009; Demir, 2008; McClement et al., 2009; Pruitt et al., 2008).

Findings from several studies suggest that healthcare professionals feel having family members present enhances communication and facilitates family education (Basol et al., 2009; Dingeman et al., 2007; Fernandes et al., 2014; Kuzin et al., 2007; McClement et al., 2009; Pruitt et al., 2008; Walker, 2007). Healthcare professionals expressed that the opportunity for family to be present facilitates the grief process in the case of unsuccessful resuscitation. It gives family members the opportunity to say goodbye and promotes families' acceptance of the death of their loved one (Demir, 2008; Dingeman et al., 2007; Fernandes et al., 2014; McClement et al., 2009; Porter, Cooper & Sellick, 2014; Walker, 2007).

While there is evidence that healthcare professionals support family member presence during resuscitation, reservations regarding the practice remain. Perceptions reported by health care workers include the possibility that families may interfere with the process and disrupt patient care (Basol et al., 2009; Demir, 2008; Dingeman et al., 2007; Fernandes et al., 2014; Fernandez et al., 2009; Madden & Condon, 2007; McClement et al., 2009; Porter et al., 2014; Walker, 2007; Yavuz et al., 2014) and that family presence will increase performance anxiety and stress on the part of clinicians and interfere with the process of teaching (Basol et al., 2009; Demir, 2008; Dingeman et al., 2007; Fernandes et al., 2014; Fernandez et al., 2009; Madden & Condon, 2007; McClement et al., 2009; Porter et al., 2014; Walker, 2007). Further, healthcare professionals felt it is possible that witnessing the event may be too traumatic for families (Basol et al., 2009; Demir, 2008; Dingeman et al., 2007; Fernandes et al., 2014; Fernandez et al., 2009; McClement et al., 2009; Porter et al., 2014; Pruitt et al., 2008; Walker, 2007; Yavuz et al., 2014) and that there may be misinterpretation of the procedure and increased risk of litigation related to families witnessing resuscitation and procedures (Demir, 2008; Dingeman et al., 2007; Fernandes et al., 2014; Fernandez et al., 2009; Madden & Condon, 2007; McClement et al., 2009; Porter et al., 2014; Walker, 2007).

Research indicates that among health care professionals, physicians are the least likely to encourage family presence during resuscitation and that nurses are more likely than physicians to support it (Fernandes et al., 2014; Ferrara, Ramponi, & Cline, 2016; Zavotsky et al., 2014). In a study by Soleimanpour et al. (2015), findings indicated that physicians objected to the practice of FPDR ($M = 3.57$, $SD = 1.31$, $p < 0.018$; $M = 4.31$, $SD = 0.64$, $p < 0.018$ on a 5-point Likert scale, with 5 indicating strongly disagree). In this study, they compared the opinions of physicians and surgeons in Austria and Iran. The findings showed both groups disapproved of family presence, with the Austrian physicians' disapproval (96.9%) significantly higher than their Iranian counterparts (60%). While the foundation for the Austrian physician disapproval focused on the lack of benefit for the families, leadership disapproval, and concern that the families would interpret the resuscitation as disorganized, the Iranian physicians focused on litigation, patient privacy, traumatization of the family, and questioning the resuscitation team's efforts (Soleimanpour et al., 2015) as their rationale for disapproval.

Healthcare providers stated that many of the concerns around FPDR could be mitigated by educating, training, and allocating personnel who have the responsibility of supporting and educating families during these intense, stressful, and frightening periods (Dwyer & Friel, 2016; Fernandes et al., 2014; Howlett, Alexander & Tsuchiya, 2010; Porter et al., 2014). Additionally, healthcare professionals report that education for staff on how to implement the practice of family presence, including policy development and protocols, would be worthwhile (Fernandes et al., 2014; Lederman & Wacht, 2014; Porter et al., 2014; Sak-Dankosky, Andruszkiewicz, Sherwood & Kvist, 2014; Yavuz et al., 2014; Zavotsky et al., 2014).

The Effect of Education and Experience on Health Care Professionals' Perspectives on Family Presence

Three studies investigated the effect of education and experience on health care professionals' opinions and attitudes regarding family presence during resuscitation. Chapman et al. (2011) found healthcare professionals with more experience offered family members the opportunity to be present [($M = 3.77$, $SD = 0.50$), $p < 0.001$]. Those with a certification in their specialty [($M = 3.66$, $SD = 0.52$), $p < 0.001$], and those with more education [($M = 3.63$, $SD = 0.72$), $p < 0.003$] were likely to believe that the benefits of family presence outweigh potential risks. Healthcare professionals who were older [$M = 3.97$, $SD = 0.87$), $p < 0.01$] and had more experience in their role [($M = 4.02$, $SD = 0.72$), $p < 0.04$] felt confident that they would be able to manage family during resuscitation or invasive procedures (Chapman et al., 2011). Two studies found that education for healthcare professionals does not significantly impact attitudes about family presence ($z = -1.260$, $p = 0.21$; $z = -0.045$, $p = 0.96$), ($t(73) = 0.896$, $p = 0.373$) (Dwyer & Friel, 2016; Ferrara et al., 2016) or increase their intentions to offer family presence in resuscitation ($z = -0.26$, $p = 0.79$) (Dwyer & Friel, 2016). Furthermore, education does not alter healthcare professionals' concerns regarding safety issues during resuscitation ($z = -0.456$, $p = 0.65$) (Dwyer & Friel, 2016).

Family presence during resuscitation and invasive procedures is a complex subject that elicits multifaceted opinions and perceptions from healthcare professionals. The literature suggests that healthcare professionals continue to hold different views on FPDR and that nurses are more likely to support FPDR than physicians. Those in favor of FPDR identify several advantages of allowing family to be present during resuscitation; others cite several concerns related to having family members present. Further, health care professionals with more experience in their role and higher levels of education and certification in their specialty are more likely to support FPDR, but education specifically on FPDR is not effective in changing attitudes or increasing the likelihood that family presence will be offered during resuscitation.

COMMON CONCERNS REGARDING FAMILY PRESENCE

There are several barriers identified in the implementation of family presence during resuscitation, including the perception of healthcare providers that family members will interfere with patient care, delay interventions and/or prolong resuscitation, affect team member concentration levels, and cause distress among the family and/or team (Fernandes et al., 2014; Porter et al., 2014, Youngson, Curry, & Considine, 2016). Another common barrier is the fear of litigation resulting from family presence during resuscitation (Porter et al., 2014). Current evidence suggests that these common concerns about family presence are not warranted.

Interference with Patient Care

One common concern of healthcare staff is that family who are present during resuscitation or invasive procedures will interfere with patient care. Several researchers conducted studies that observed the care provided during resuscitations and invasive procedures to determine whether there were any demonstrable effects on performance of healthcare professionals. O'Connell et al. (2007) investigated pediatric trauma activations and identified no significant difference in time to log-rolling, radiographs, intravenous access, central line placement, intubation, or chest tube insertion based on family members' presence in the trauma room. The authors reported no interference in care by any family member in the 196 cases included in the study (O'Connell et al., 2007).

Dudley et al. (2009) also examined pediatric trauma resuscitations in 705 patient cases and discovered no significant delay in time to computerized tomography or change in resuscitation times for patients with family members present in the trauma room. Nigrovic et al. (2007) studied success rates for lumbar puncture in over 1400 pediatric patients and found no significant correlation between family member presence and traumatic or unobtainable lumbar punctures. Sacchetti, Paston and Carraccio (2005) observed 37 pediatric patients undergoing invasive procedures and reported 2 cases that had minor interruptions by present family members. Both procedures continued after adequate education of the family member, resulting in no significant delay of care.

Basol et al. (2009) discussed the implementation of a policy providing family members the option to be present during resuscitation of a family member. The authors found no interference in the care of patients or negative experiences with family members. Fernandez et al. (2009) conducted a single study that indicated that interference with performance occurred with family presence. This study was conducted with 2nd and 3rd year emergency medicine residents in the simulation laboratory performing resuscitation scenarios. Fernandez et al. (2009) found a significant delay in initiation of cardiopulmonary resuscitation and medication administration in those groups with simulated family members present.

Delay in Interventions and/or Prolonged Resuscitation

Another point of concern for healthcare staff is that there may be a delay in important interventions or prolonged resuscitation if family members are present. In an integrative review, Fernandes et al. (2014) found that healthcare professionals in a Muslim community expressed concerns related to extended resuscitation due to the presence of families. The staff responded positively that they would extend resuscitation effort if the family were observing. In contrast, Tudor et al. (2014) found that nurses disagreed (44.8%) that families would be disruptive or impact performance of the code team. Koberich et al. (2010) found 62.7% of healthcare staff were worried that families would delay care because of a lack of understanding of the resuscitation process, and 54.2% believed that the resuscitation would be needlessly prolonged. This concern is supported by Howlett, et al. (2010), where trauma nurses reported more aggressive efforts when the family is present, even when a nonsurvivable outcome is strongly predicted.

Team Member Concentration

Healthcare workers also worry about their ability to concentrate on caring for the patient when family members are present during invasive procedures or resuscitation. Demir (2008) conducted a descriptive study of emergency and critical care nurses and physicians in Turkey. The respondents (22.6%) expressed concerns that the presence of family would be a distraction and have a negative effect on their ability to concentrate. In a survey of German intensive care nurses (Koberich et al., 2010), 33.1% expressed concerns related to the ability of staff to concentrate with family members present. In integrated reviews by Howlett et al. (2010) and Porter et al. (2014), anxiety of the clinical staff was identified as a concern. The authors suggest this anxiety and stress could impact the ability of staff to perform effectively.

Distress in Family Members and Healthcare Providers

Concern that the presence of family members during invasive procedures or resuscitation could cause distress to the family member(s) present or to healthcare staff caring for the patient is not borne out by the available evidence. Bjorshol et al. (2011) evaluated whether socio-emotional stress affected the quality of cardiopulmonary resuscitation during advanced life support in a simulated manikin model. This randomized crossover study, conducted in a controlled environment using 19 paramedic teams, demonstrated that stress had no effect on the quality of CPR.

Jabre et al., (2014) conducted a prospective randomized controlled study with 408 participants to determine the psychological consequences of family members being present during resuscitation at one year post event and found significantly higher levels of symptoms related to post-traumatic stress disorder and depression in the control group who did not observe resuscitation (adjusted odds ratio, 1.7; 95% CI, 1.2 to 2.5; $p = 0.004$). Porter et al. (2014) conducted an integrative review of the literature and found several perceived benefits of FPDR including that it aids in the grieving process and facilitates closure and healing for the family. Masa'Deh, Saifan, Timmons, & Nairn (2013), through open-ended questions, explored family members' needs, which were found to include reassurance, proximity and support.

Litigation

Concerns related to litigation are expressed as another potential barrier addressed in many studies and reviews (Demir, 2008; Fernandes et al., 2014; Howlett et al., 2010). In a study by Madden and Condon (2007), 39% of healthcare staff expressed concerns related to litigation and family presence, while Demir (2008) found that only 0.8% of staff were concerned with litigation. German emergency and intensive care nurses surveyed by Koberich et al. (2010) expressed concerns (43.3%) that the rate of legal action against the staff would increase because of misunderstandings by the families who were present. In a study by Tudor et al. (2014), nurses were either neutral (39.6%) or disagreed with (44.8%) the statement that family presence would influence families and they would be more likely to sue. While these studies and reviews reflect the clinician's beliefs and perceived barriers, there are no data in the health care literature reviewed related to actual litigation.

FAMILY MEMBER PRESENCE POLICY

A policy on the presence of family during resuscitation or invasive procedures may help guide healthcare professionals as they strive or advocate to include family members in the care of their loved ones. Three integrative reviews (Fernandes et al., 2014; Goldberger et al. 2015, Porter et al., 2014; Sak-Dankosky et al., 2014) suggest that policies on family presence are rare (Fernandes, et al., 2014) and that lack of a policy is a barrier to family presence (Porter et al., 2014; Sak-Dankosky et al., 2014). Furthermore, if a written policy is in place, some staff are unaware that the policy exists (Ferrara et al., 2016), and if staff are aware of the policy, they need education periodically to follow it effectively (Guzzetta, 2016, Pankop, Chang, Thorlton, & Spitzer, 2013, Sak-Dankosky et al., 2014; Zavotsky et al., 2014). Research has suggested that healthcare professionals want such policies. In a study by Madden and Condon (2007), 74% of trauma nurses (n = 90) surveyed in Ireland preferred to have a written policy on family presence; however, one was not in place in their institution. Healthcare staff recommend that a policy be specific to the institution (Lederman & Wacht, 2014), provide consistent guidelines, and help improve communication among the team (Basol et al., 2009).

SUMMARY

Family presence during invasive procedures and resuscitation is an expectation of many family members, and situations should be handled individually by asking the family member and/or patient (for invasive procedures) if they would like to be present. Having a family member does not delay procedures or resuscitative efforts. However, it is strongly recommended that each institution develop policies and procedures to address the needs of family members when they are present during invasive procedures and resuscitative events.

Description of Decision Options/Interventions and the Level of Recommendation

Description of Decision Options/Interventions and the Level of Recommendation	
Family member presence during invasive procedures or resuscitation should be offered as an option to family members and should be based on written institution policies (Basol et al., 2009; Ferrara et al. 2016; Goldberger et al. 2015; Howlett et al., 2010; Lederman et al. 2014; Madden & Condon, 2007; Pankop et al. 2013; Sak-Dankosky et al. 2014; Zavotsky et al. 2014).	A
Concerns that family presence is detrimental to the patient, the family, or the healthcare team are not supported by the evidence (Celik et al. 2013, Bjorshol et al., 2011; Fernandez et al., 2009; Fernandes et al., 2014; Hassankhani et al., 2017; Jabre et al., 2013; Jabre et al., 2014; McAlvin et al., 2014; Nigrovic et al., 2007; O'Connell et al., 2007; Porter et al., 2014; Sacchetti et al., 2005; Yavuz et al., 2014; Youngson et al., 2016).	B
Acceptance of family presence may have some cultural basis (Al-Mutair et al., 2012; Günes & Zaybak, 2009; Hassankhani et al., 2017; Koberich et al., 2010; Lai et al., 2017; Leung & Chow, 2012; Masa'Deh et al., 2013; Soleimanour et al., 2015; Young, 2014; Youngson, Currey & Considine, 2016.	B
Healthcare professionals support the presence of a designated healthcare professional assigned to family members present to provide explanation and comfort (Basol et al., 2009; Dingeman et al., 2007; Dwyer, 2015; Dwyer & Friel, 2016; Fallis et al., 2008; Kuzin et al., 2007; Madden & Condon, 2007; McClement et al., 2009; O'Connell et al., 2007; Stefano et al., 2016; Twibell et al., 2015)	B
Educating staff in the development, implementation, and evaluation of policy regarding family member presence provides structure and support to healthcare professionals involved in this practice (Basol et al., 2009; Butler et al., 2014, Carroll, et al., 2014, Chapman et al., 2011, Ferrara et al., 2016; Guzzetta, 2016, Howlett et al., 2010; Madden & Condon, 2007; Zavotsky et al., 2014).	B

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Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Al-Mutair, AS, Plummer, V., Copnell, B. (2012) Family presence during resuscitation: A descriptive study of nurses' attitudes from two Saudi hospitals. *Nursing in Critical Care.* 90–98. https://doi.org/10.1111/j.1478-5153.2011.00479.x	To identify nurses' attitudes about family presence in the Muslim country of Saudi Arabia	Descriptive survey of 132 nurses, in 2 trauma centers. Nurses with >1 year of experience working in ICU, IC, PICU and ED in Saudi Arabia	A survey developed by Lam et al, 2007, adapted to be useful with nurses caring for adult patients.	Nurses who had participated in a resuscitation with family present opposed the practice, while those with theoretical understanding only were more in favor of FPDR. Nearly 75 % (74.9%) of nurses denied patient requests for presence at a resuscitation.	II	VI
Basol, R., Ohman, K., Simones, J., & Skillings, K. (2009). Using research to determine support for a policy on family presence during resuscitation. *Dimensions in Critical Care Nursing, 28*(5), 237-247. https://doi.org/10.1097/DCC.0b013e3181ac4bf4	Is there support within the healthcare team for a policy providing family members with an option to be present during invasive procedures and resuscitation?	Design: Survey methodology, descriptive and correlational Sample: Survey sent to 1402 health care personnel Setting: One midwestern hospital with all areas. Response rate 45%, mostly white, female, RNs.	Tool used was the Family Presence and Support: Staff Assessment Survey, with added questions regarding policy support. Tool is Likert-scale.	1. Many of those surveyed expressed reservations about the practice including emotional trauma, family in the way, may take focus away from patient, and it may interfere with clinical decisions. 2. Many also expressed positive comments including, patient support, family right, decrease family anxiety, and promote communication with family. 3. Support for a policy providing an option for family presence was 67.9% for invasive procedures and 61.3% for resuscitation.	III	IV
Bjorshol, C. A., Mickelbust, H., Nilsen, K. L., Hoff, T., Bjorkli, C., Illguth, E., Soreide, E., . . . Sunde, K. (2011). Effect of socioemotional stress on the quality of cardiopulmonary resuscitation during advanced life support in a randomized manikin study. *Critical Care Medicine, 39*, 300–304.	The aim of this study was to evaluate whether socioemotional stress affected the quality of cardiopulmonary resuscitation during advanced life support in a simulated manikin model	Randomized crossover trial, with CPR performed under conditions of socioemotional stress and without socioemotional stress. 19 paramedic team (38 participants)	Analysis: t-test to evaluate whether there were significant differences in depth and rate of chest compressions, las well as perceived workload and stress levels as measured using Likert scale.	Quality of CPR not affected by stress, although rate increased under conditions of stress	I	II

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Butler, A., Copnell, B., & Willetts, G. (2014). Family-centred care in the paediatric intensive care unit: An integrative review of the literature. *Journal of Clinical Nursing, 23*(15–16), 2086–2100. https://doi.org/10.1111/jocn.12498	To examine research on family-centered care in the PICU and identify gaps in the literature	Integrative literature review; IRB approval not needed. The n = 18 studies, both quantitative and qualitative methods. Literature search from 1990 to publication using CINAHL, Google Scholar, OVID Medline, and PubMed. Included studies conducted in developed countries, in or related to PICU, discussing family-centered care, needs of family and/or staff, and published in English. Excluded studies on family-centered care during resuscitation.	Studies evaluated using the Critical Appraisal Skills Programme (CASP) 2010 questions. Appropriate attention paid to research design, methods, and bias.	Findings could be applicable to providing family-centered care in the ED with pediatric patients. Findings: 1. Power struggle between nurses and parents related to participation in care 2. Variable findings about whether parents should be present for rounds or procedures 3. Mostly positive/affirmative feelings about parents being able to visit at all times 4. Provider perception that providing information should be geared to enable parents to make the "right" choices 5. Parental need for psychosocial aspects of care poorly met 6. Discrepancies between parents' and nurses' perceptions of parental needs. Suggested that parents need unrestricted access to their children during care and active involvement in care decisions and processes.	I	V
Carroll, D. L. (2014). The effect of intensive care unit environments on nurse perceptions of family presence during resuscitation and invasive procedures. *Dimensions of Critical Care Nursing, 33*(1), 34–39. https://doi.org/10.1097/DCC.0000000000000010	To measure the impact of ICU environment on nurses' perception of family presence during resuscitation and invasive procedures	Descriptive survey, Human Research Committee approval, n = 207, from 9 ICUs within large academic center	Survey used Family Presence Risk–Benefit Scale for resuscitation and invasive procedures that measures nurses' perception of self-confidence related to managing resuscitation and invasive procedures with family present. Data Analysis: SPSS Resuscitation, $F = 7.73$, $p < 0.000$; Invasive, $F = 6.41$, $p < 0.000$	Perceptions of family presence were significantly more positive for pediatric and medical unit nurses.	II (III) (They do not answer their own question or use an instrument designed to do so.)	VI

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Çelik, G. K., Keleş, A., Demircan, A., Bildik, F., İlhan, M., Günaydın, G. P., . . . Nurettin, Ö. D. (2013). Evaluation of patients' families' attitudes to witnessing invasive procedures in the emergency department. *The Journal of Academic Emergency Medicine, 12*(2), 61–65. https://doi.org/10.5152/jaem.2013.028	To evaluate patients' family members' attitudes to witnessing medical care and emergency procedures in an adult emergency department	Prospective study performed at a university emergency department in Turkey. Local ethics committee approval was obtained. n = 454 Convenience sample at university ED in Turkey	Questionnaire administered by researcher in face-to-face interviews. Included items about sociodemographic characteristics and residential area of participants, hour of admission to ED, ED in which patient was treated, and day of admission. 17-item questionnaire was used for data gathering. Data analyzed with SPSS v.15.0 (Chicago, IL). Relationship between patients' family members' answers and sociodemographic status was evaluated. Chi-square test was used for statistical comparison, and the relationship was found to be statistically significant ($p < .05$). Other finding included 66.5% of respondent stated that presence could prevent physicians from providing optimal care, and 13.4% stated that being present improved the physician's performance, while 87.9% felt it was patients' right to have someone present. There was a statistically significant association between level of education and desire to witness resuscitation ($p = 0.002$).	Most respondents (66.5%) stated that presence could prevent physicians from providing optimal care, and 13.4% stated that being present improved the physician's performance. Most (87.9%) felt it was patients' right to have someone present. There was a statistically significant difference between level of education and desire to witness resuscitation ($p = 0.002$). An increasing number of family members request to witness invasive procedures on their patients. Family members think witnessing procedures is a right of patients and family members.	III	VI
Chapman, R., Watkins, R., Bushby, A., & Combs, S. (2011). Assessing health professionals' perceptions of family presence during resuscitation: A replication study. *International Emergency Nursing, 21*(1), 17–25. https://doi.org/10.1016/j.ienj.2011.10.003	To evaluate the performance of two scales that assess perception of family-witnessed resuscitation among a sample of health professionals	Descriptive replication study using cross-sectional survey. Human research ethics committee approval. Anonymous survey distributed to 221 ED clinical staff in an Australian medical center with a 51.6% return rate	Exploratory factor analysis, PAWS, Mann–Whitney U-test for comparison and Kruskal–Wallis one-way analysis of variance test	Confirmed validity in Australian context, highlighted need to support clinicians in the provision of family-witnessed resuscitation to all families. Healthcare providers with more education, a certification, and more experience inviting families to participate were more likely to perceive more benefits and fewer risks for family presence. Older staff and those with greater experience level were more likely to feel confident that they would be able to manage family presence.	I	VI

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Dingeman, R.S., Mitchell, E.A., Meyer, E.C., Curley, M.A. (2007). Parent presence during complex invasive procedures and cardiopulmonary resuscitation: A systematic review of literature. *Pediatrics, 120*(4), 842–854. https://doi.org/10.1542/peds.2006-3706	1. What is the current practice of parent presence during invasive pediatric procedures and resuscitation? 2. What behaviors do parents demonstrate at the bedside during their child's invasive procedure and resuscitation? 3. What are the benefits and risks to children, parents, and clinicians of parent presence during invasive pediatric procedures and resuscitation? 4. Is there evidence to support interventions to facilitate parent presence during invasive pediatric procedures and resuscitation?	Design: Systematic literature review n = 15 studies	Two authors conducted separate reviews until 100% agreement reached, 9 of 15 were level III 10 studies were conducted in the ED, 2 in the PICU Two studies assessed clinician perspectives on parent presence during invasive procedures, 5 during resuscitation and 8 during both Parent perspectives were assessed in 2 studies Three studies described observations studies and parental activity Three studies described both clinician and parent opinions in the same setting	There is little evidence to show that family presence benefits the pediatric patient. There have been few studies that have directly measured child discomfort, ease, personal preference, or sense of humanity related to parental presence. The literature captures how the parent and clinician feel, not the feelings of the pediatric patient. Parents felt their presence provided emotional support for their children and helped them know that everything had been done to treat their child. Parents prefer to have the choice. Adolescent and adult studies show benefit to the patient to have family members present. Adult patients who had family members present felt less alone, but it is difficult to equate this to children as data is not available.	I	V
Dwyer, T. A. (2015). Predictors of public support for family presence during cardiopulmonary resuscitation: A population based study. *International Journal of Nursing Studies, 52*(6), 1064–1070. https://doi.org/10.1016/j.ijnurstu.2015.03.004	To identify factors that predict general public support for family presence during CPR and identify factors that influence an individual's preference for wanting to be present.	Cross-sectional population-based survey administered by telephone interview to the general public IRB approval obtained n = 1208 people over the age of 18 who had a landline in Queensland, Australia Overall response rate of 62.3 %	Data collected by trained interviewers. Likert survey tool developed from previous population-based studies and pilot tested. Standardized introduction explained purpose. Statistical analysis using chi-square and logistical regression appropriate. Associations presented as odds ratio, with $p < 0.05$	Over half of the respondents (52.5%) supported being present if one of their family members needed CPR, and 12% had previous experience of being present when a family member had CPR. Support for family presence during CPR was greater if the family member was a child (80%) and if participants had prior exposure to family presence (61%).	I	VI

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Dwyer, T., & Friel, D. (2016). Inviting family to be present during cardiopulmonary resuscitation: Impact of education. *Nurse Education in Practice, 16*(1), 274–279. https://doi.org/10.1016/j.nepr.2015.10.005	To explore the influence of education on changing HCP's attitudes and intent to provide families with the option to be present at the next cardiac arrest	Two data collection points (baseline and two months post-intervention) Outcome measures: attitudes and intent to invite family to be present. The University and Hospital Human Research Ethics Committees (HREC) approved the study. Set in a regional Australian tertiary teaching hospital, all nurses and doctors employed in a clinical capacity.	Survey was used in an earlier study of 100 registered nurses (Dwyer, 2007). It consisted of closed and open-ended items. Three sections: Socio-demographic (6 items), FPDR experience (13 items), and attitudes to FPDR (17 items). Attitudinal questions grouped a priori into four attitudinal items: Staff safety concerns, family support, staff decision-making and patient rights, all rated on five-point Likert-type items ranging from 1 (strongly disagree) to 5 (strongly agree) to form a scale. Individual attitudes elicited using two open-ended questions. Frequencies, means, and standard deviations calculated for demographic characteristics (n = 29) and the perceived importance of each statement. Pre- and post-test data compared using paired t-test with Bonferroni correction and Wilcoxon signed-rank as appropriate.	The majority of participants had previous experience with FPDR (62%) and supported FPDR (69%). Participants had slightly more positive attitudes towards FPDR post-education; this change was not significant ($p = 0.79$). Participation in education did not change participants' concerns about safety issues or increase participants' intention to invite a family member to be present at the next cardiac arrest. Majority of participants strongly supported the development of a dedicated family support person. Education has limited impact on changing participants' attitudes or intentions to invite family to be present at the next cardiac arrest.	II	VI
Fernandez, R., Compton, S., Jones, K.A., & Velilla, M.A. (2009). The presence of a family witness impacts physician performance during simulated medical codes. *Critical Care Medicine, 37*(6), 1956–1960. https://doi.org/10.1097/CCM.0b013e3181a00818	Does the presence of family witnesses to CPR and their behavior affect critical actions performed by physicians?	Design: Randomized Sample: 60 second and third year emergency medicine residents in a simulation setting. 30 teams of one second year and one third year resident were randomly assigned to perform a simulation resuscitation with either 1) no family member, 2) a quiet, non-obstructive family member, or 3) a family member displaying overt grief	Each team was timed from start to critical actions, including CPR and medication administration, intubation, delivery of first shock. Also compared number of shocks delivered and length of resuscitation effort.	Significant delay to first shock delivery was found in the groups with a family member displaying grief as well as fewer shocks delivered by the groups with the family member displaying grief.	III	II

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Fernandes, A. P., de Souza Carneiro, C., Goecze, L., Santos, V. B., Guizilini, S., Lopes Moreira, R. S. (2014). Experiences and opinions of health professionals in relation to the presence of the family during in-hospital cardiopulmonary resuscitation: An integrative review. *Journal of Nursing Education and Practice, 4*(5). 86–94. https://doi.org/10.5430/jnep.v4n5p85	To identify global literature regarding family presence during intra-hospital resuscitation. Sought to determine the opinions and experiences of health professionals during FPDR.	Integrative literature review; IRB approval not needed. 14 articles met inclusion criteria (nine written by nurses, four by physicians, one by nurses and physicians)	Followed Ganong's integrative literature review method	1.More than half of the studies reviewed (57%) had experience with FPDR. 2. Negative effects included increased stress, changes in team performance, prolonged resuscitation time, psychological trauma, interference, complaints, inadequate space, increase in lawsuits, and lack of professional support for the family. 3. Positive effects included strengthening of family bonds, facilitation of grieving, avoidance of distorted images of care, increased communication, understanding and acceptance of death, and sharing the last moment. 4. Nurses tended to favor FPDR more than physicians. 5. Vast differences between countries. 6. Need for family support personnel. 7. Absence of protocols. 8. Questions of decision-making authority — the team should make the decision. 9. Cultural variations identified. 10. More education and research is needed.	II	V
Ferrara, G., Ramponi, D., & Cline, T. W. (2016). Evaluation of physicians' and nurses' knowledge, attitudes, and compliance with family presence during resuscitation in an emergency department setting after an educational intervention. *Advanced Emergency Nursing Journal, 38*(1), 32–42. https://doi.org/10.1097/TME.0000000000000086	To evaluate if an evidence-based educational intervention would modify physicians' and nurses' knowledge, attitudes, and compliance with allowing FPDR	Quasi-experimental study, assessed 30 attending physicians' and 65 registered nurses' knowledge of an existing family presence policy and their attitudes toward family presence post-educational intervention in an emergency department setting. Observational studies pre- and post-education. Voluntary and anonymous. Agreement implied when survey returned. Urban academic facility. IRB approved	Cronbach alpha coefficient indicated strong reliability of tool. Response rates: 73.3% physicians and 81.5% nurses	Most physicians and nurses were not sure or were not aware that there was an existing written policy. Study demonstrated that nurses agree more than physicians that the option of FPDR is a patient/family right. Educational intervention had no effect on the physicians' and nurses' attitudes for FPDR but did change behaviors.	I	VI

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Goldberger, Z. D., Nallamothu, B. K., Nichol, G., Chan, P. S., Curtis, J. R., Cooke, C. R. (2015). Policies allowing family presence during resuscitation and patterns of care during in-hospital cardiac arrest. *Circulation: Cardiovascular Quality and Outcomes, 8*(3), 226. https://doi.org/10.1161/CIRCOUTCOMES.114.001272	To determine whether hospitals with a policy for family presence during resuscitation had different outcomes (ROSC, survival, quality of resuscitation, aggressiveness of resuscitation, facility-reported resuscitation systems - errors) from hospitals that did not have this policy	Observational cohort, analysis of AHA's Get with the *Guidelines - Resuscitation* registry 41,568 patients at 252 hospitals	Aggregate data from registry, linear regression, bivariate regression, logistic regression, Poisson regression, multivariate analysis	Results from 13470 patients across 80 hospitals with a family presence policy Comparing hospitals with a family presence policy to those without: 1. No significant differences in patient characteristics or hospital characteristics; 2. No significant differences in survival to d/c; 3. No significant difference in proportion of patients receiving compressions; 4. Significant difference in mean time to d-fib in hospitals with policy (2.2 vs. 2.5 min, p = 0.05), but no difference in median number of shocks delivered or % patients receiving compressions; 5. No significant differences among pharmacological or non-pharm interventions. 6. Policy was not associated with an increase in code errors (pooled data), but when individual errors analyzed, those with policy had greater delays in vascular access (OR 1.87; 95% CI, 1.15–3.03), IV in filtrate or disconnected, a delay in airway more often (OR, 2.11; 95% CI, 1.06–4.20), and personnel issues causing defib delay greater than 2 min (OR, 9.07; 95% CI, 1.89–43.6).	II	IV
Günes, U. Y., & Zaybak, A. (2009). A study of Turkish critical care nurses' perspectives regarding family-witnessed resuscitation. *Journal of Clinical Nursing, 18*(20), 2907–2915. https://doi.org/10.1111/j.1365-2702.2009.02826.x	To determine the experiences and attitudes of Turkish critical care nurses concerning family presence during cardiopulmonary resuscitation	Descriptive survey of 135 critical care nurses from two Turkish University hospitals	A structured questionnaire was used, which incorporated a series of attitude statements that were rated using a three-point Likert-style items. The attitudes of the nurses were explored in three areas: decision making, processes and outcomes of resuscitation.	The majority disagreed that family members should always be offered the opportunity to be with the patient during cardiopulmonary resuscitation. The most common concerns for not favoring family-witnessed resuscitation were reported as performance anxiety, fear of causing psychological trauma to family members and increased risk of litigation.	II	VI

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Guzzetta, C. (2016). Family presence during resuscitation and invasive procedures. *Critical Care Nurse, 36*(1), e11–e14. https://doi.org/10.4037/ccn2016980	Not research	Not research	n/a	Synopsis of reasons why family presence is important and whom it benefits, and recommends that written policy and procedure be implemented and integrated into practice	I	VII
Hassankhani, H., Zamanzadeh, V., Rahmani, A., Haririan, H. & Porter, J. (2017). Family presence during resuscitation: A double-edged sword. *Journal of Nursing Scholarship, 49*(2), 127-134.	To investigate the meaning of lived experiences of health care workers on resuscitation team with FPDR in Iran	Interpretive phenomenology, IRB yes 12 nurses, 9 physicians in 6 hospitals in highly populated city in Iran, 3 public, 3 private, ER and ICU staff	Purposive sampling with data saturation, semi-structured interviews, recorded and transcribed verbatim, used van Manen's approach to hermeneutic phenomenology, qualitative rigor is addressed, data was reduced	Destructive presence: Families have interfered in care of patient to the detriment of the patient; family presence causes anxiety and lack of focus for care team; urgency and pace of care confuses family members who have a limited understanding of the care process; Supportive presence: family can have supportive and positive effect on care team; understand that there was no neglect on part of care team; being present decreases family agitation and anxiety and increases likelihood of acceptance of outcome Conclusion: there are advantages and disadvantages for care team and family when family is present	1	V
Howlett, M. S., Alexander, G.A., & Tsuchiya, B. (2010) Health care providers' attitudes regarding family presence during resuscitation of adults: An integrated review of the literature. *Clinical Nurse Specialist, 24*(3), 161–174. https://doi.org/10.1097/NUR.0b013e3181dc548a	What are the attitudes of health care providers regarding family presence during resuscitation of adults	Integrated literature review		Between and within discipline differences in attitudes, perceived burden on staff, perceived effects on family, lack of medical knowledge of family, and existence of a hospital policy influence provider attitudes toward FP	I	VI

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Jabre, P., Belpomme, V., Azoulay, E., Jacob, L., Bertrand, L., Lapostolle, F., . . . Adnet, F. (2013). Family presence during cardiopulmonary resuscitation. *The New England Journal of Medicine, 368*(11), 1008–1018. https://doi.org/10.1056/NEJMoa1203366	To determine whether offering a relative the choice of observing CPR might reduce the likelihood of PTSD-related symptoms	Prospective, cluster-randomized Fifteen prehospital emergency medical service units in France (Service d'Aide Médicale d'Urgence) participated from November 2009 through October 2011. IRB approved 570 relatives of patients in cardiac arrest who were given CPR by 15 prehospital emergency medical service units. Units were randomly assigned to systematically offer family member opportunity to observe CPR (intervention group) or to follow standard practice regarding family presence (control group).	Ninety days after resuscitation, trained, blinded psychologist asked relatives to answer a structured questionnaire by telephone. Relatives completed the Impact of Event Scale (IES) and the Hospital Anxiety and Depression Scale (HADS). Measured proportion of relatives with PTSD-related symptoms on day 90, and the effect of family presence on medical efforts at resuscitation, the well-being of the healthcare team, and the occurrence of medicolegal claims. Statistical power of 80% for two-tailed t-test, $p < 0.05$.	211 of 266 relatives (79%) in the intervention group witnessed CPR, as compared with 131 of 304 relatives (43%) in the control group. In intention-to-treat analysis, frequency of PTSD-related symptoms was significantly higher in control group than intervention group (adjusted odds ratio, 1.7; 95% confidence interval [CI], 1.2–2.5; $p = 0.004$) and among family members who did not witness CPR than among those who did (adjusted odds ratio, 1.6; 95% CI, 1.1–2.5; $p = 0.02$). Relatives who did not witness CPR had symptoms of anxiety and depression more frequently than those who witnessed CPR. Family-witnessed CPR did not affect resuscitation characteristics, patient survival, or level of emotional stress in medical team and did not result in medicolegal claims. Family presence associated with positive results on psychological variables, did not interfere with medical efforts, increase stress in the health care team, or result in medicolegal conflicts.	I	III
Jabre, P., Tazarourte, K., Azoulay, E., Borron, S. W., Belpomme, V., Jacob, L., . . . Adnet, F. (2014). Offering the opportunity for family to be present during cardiopulmonary resuscitation: 1-year assessment. *Intensive Care Medicine, 40*(7), 981–987. https://doi.org/10.1007/s00134-014-3337-1	To determine the psychological consequences of observing CPR at 1-year point	Prospective, cluster-randomized n = 408, 239 given option to witness CPR. Original study included 570 family members of patients with cardiac arrest, 266 in the group given opportunity to witness CPR, 304 in group not offered to witness CPR Prehospital emergency response in France	Psychologist (blinded to group) contacted family member by phone, used the Impact of Event Scale, Hospital Anxiety and Depression Scale, and Inventory of Complicated Grief, and structured diagnosis of major depression tool (MINI)	At 1 year, control group (did not witness) had significantly more signs of PTSD than intervention group (adjusted odds ratio, 1.8; 95% CI 1.1–3.0, $p = 0.02$). Control group had significantly higher signs of depression on HADS, MINI, and ICG. Confirms findings at 3-month point.	I	II

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Kuzin, J. K., Yborra, J. G., Taylor, M. D., Chang, A. C., Altman, C. A. Whitney, G. M., & Mott, A. R. (2007). Family-member presence during interventions in the intensive care unit: Perceptions of pediatric cardiac intensive care providers. *Pediatrics, 120*(4), e895–e901. https://doi.org/10.1542/peds.2006-2943	Propose to define perceptions regarding family-member presence during ICU interventions (noninvasive and invasive) from a multidisciplinary group of pediatric cardiac intensive care providers	Design: Survey methodology using convenience sample. Sample: N = 211 (145 physicians, 66 non-physicians) from 24 countries. Attendees of the 2004 Pediatric Cardiac Intensive Care Symposium 1 year after meeting via email survey.	Fisher's exact or χ^2 test. Statistical significance was defined as a p value of <.05.	Of all respondents, the majority believe family members have the right to be present during CPR (75%), team rounds (77%), and invasive procedures (57%). Also, 65% of respondents encounter families that frequently request to be present for team rounds. The majority of the respondents encounter families that rarely request to be present during invasive procedures (69%) and CPR (73%). Most providers' practice in ICU allowed family members. Concerns of providers with FP include FP may cause stress to provider during invasive procedures along with distraction and nervousness. The majority of providers predict FP during CPR would not increase medico-legal concerns.	II	VI
Lai, M., Aritejob, B., Tang, J., Chene, C., & Chuang, C. (2017). Predicting medical professionals' intention to allow family presence during resuscitation: A cross sectional survey. *International Journal of Nursing Studies, 70*, 11-16. https://doi.org/10.1016/j.ijnurstu.2017.02.007	Predict the intention of medical staff to allow FPDR in Taiwan using the Theory of Planned Behavior and to report current status of FPDR in Taiwan	Cross sectional survey IRB-yes n= 714, convenience sample, urban academic hospital, physicians and nurses from medical floors and ER	Researcher developed survey based on elements of theory of planned behavior, used Likert scale	Reliability and validity of tool acceptable, doctors have less favorable outlook on FPDR than nurses, medical staff's intent to allow FPDR predicted by positive attitudes (b = 0.47, t = 13.01, p = 0.000), subjective norms (b = 0.31, t = 8.30, p = 0.000), clincial tenure (b = 0.09, t = 1.99, p = 0.047). FPDR is not common practice in Taiwan.	I	VI
Lederman, Z., & Wacht, O. (2014). Family presence during resuscitation: Attitudes of Yale–New Haven Hospital staff. *Yale Journal of Biology and Medicine, 87*(1), 63–72. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3941452/	To assess the attitudes of Yale–New Haven Hospital clinicians regarding FPDR	Qualitative, open-ended written surveys. IRB-approved n = 100 total: 37 faculty (physicians), 60 nurses, 1 social worker, 1 chaplain, 1 PA	Four-question questionnaire	Healthcare professionals at Yale–New Haven Hospital are tolerant of FPDR: 77% believe the family should be present. FPDR improves professionalism of staff members, care of the patient, and the well-being of the family. The authors believe that a protocol to allow FPDR should be institution-specific.	II	VI

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Leung, N. Y., Chow, S. K. Y. (2012). Attitudes of healthcare staff and patients' family members towards family presence during resuscitation in adult critical care units. *Journal of Clinical Nursing, 21*(13–14), 2083–2093. https://doi.org/10.1111/j.1365-2702.2011.04013.x	To examine the attitudes of healthcare staff and patients' family members towards family presence during resuscitation (FPDR) in critical care units in Hong Kong.	Cross-sectional survey design 20 doctors, 143 nurses, working critical care in Hong Kong; 69 family members	Statistical analysis was conducted using SPSS. Descriptive statistics were used to describe the sample characteristics and their attitudes towards FPDR. Independent t-test andMann–Whitney U-test were used to test for the differences between two independent samples. Linear regression was used to help establish which factors were predictive of acceptance of FPDR practice. Statistical significance was set as $p < .05$, two-tailed test	The majority of healthcare workers did not support FPDR; 80% of family members supported FPDR. Previous exposure to FPDR predicts greater acceptance of the practice.	I	VI
Madden, E., & Condon, C. (2007). Emergency nurses' current practices and understanding of family presence during CPR. *Journal of Emergency Nursing, 33*(5), 433–440. https://doi.org/10.1016/j.jen.2007.06.024	To examine emergency nurses' current practices and understanding of emergency nurses in relation to family presence during CPR in the emergency department.	Design: Convenience sample Sample: N = 100 ED nurses with at least 6 months experience. Setting: Level I trauma center	15-item questionnaire addressing demographics, policies and procedures, nurses preference for FP, and barriers and facilitators. Content validity and reliability were established.	Demographics: More than 50% of responders had 4–10 yrs experience; more than 1/3 worked full time. Policies and Procedures: 65% did know there was no policy in existence for family witnessed resuscitation (FWR) during CPR. 74% of nurses would prefer a written policy allowing the option of FP during CPR. 20% would like no written policy but would like the option of FWR. 2.2% would prefer the unit would prohibit the option of FP. Nurses Preferences: 58.9% of respondents had taken family members to the bedside. Barriers and Facilitators: 58% believed FWR would cause conflicts within the emergency team. 50% believed increased levels of stress would result. Fear of legal litigation by 39%; interference with the resuscitation by family members was 27%; 96% felt a greater understanding by health care professions of the benefits of FWR to patients/families would be useful. 94% believe consensus among the emergency team would benefit the process of FWR.	II	VI

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Masa'Deh, R., Saifan, A., Timmons, S., & Nairn, S. (2013). Families' stressors and needs at time of cardio-pulmonary resuscitation: A Jordanian perspective. *Global Journal of Health Science, 6*(2), 72–85. https://doi.org/10.5539/gjhs.v6n2p72	To identify family members' needs during CPR: 1) "What are the family members' needs when having family members in the resuscitation room?" and 2) "What are the effects of cultural and religious issues on FWR of their loved one within the Jordanian context?"	Qualitative - phenomenology Purposive sampling, 7 family members from 6 hospitals (2 public, 2 private, 2 university)	Open-ended questions Transcripts transferred to NVivo for thematic analysis	Three themes emerged: 1. The need for reassurance; 2. The need for proximity; 3. The need for support. Religion is an essential part of the daily life of the Jordanian population and this is one study that considers families' needs during CPR in an Arabic–Muslim community. Most family members wanted to stay at the bedside.	II	VI
McAlvin, S. S., & Carew-Lyons, A. (2014). Family presence during resuscitation and invasive procedures in pediatric critical care: A systematic review. *American Journal of Critical Care, 23*(6), 477–484. https://doi.org/10.4037/ajcc2014922	To investigate research regarding family presence when the child becomes critically ill and requires resuscitation and/or invasive procedures	Systematic literature review One hundred and seventeen articles in literature search Ninety-five abstracts were evaluated for relevance Six articles met criteria and were included Pediatric critical-care focus	PRISMA model guided systematic literature search of CINAHL, MEDLINE, Ovid, and PubMed articles published between 1995 and 2012. Search terms: pediatric intensive care, parent presence, family presence, pediatrics, invasive procedures, and resuscitation	Studies support suggestion that family presence during resuscitation and invasive procedures increases parents' satisfaction and coping	I	I

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
McClement, S.E., Fallis, W.M., Pereira, A. (2009). Family presence during resuscitation: Canadian critical care nurses perspectives. *Journal of Nursing Scholarship, 41*(3), 233–240. https://doi.org/10.1111/j.1547-5069.2009.01288.x	To explicate salient issues about the practice of Family Presence During Resuscitation identified by nurses who responded to the qualitative portion of the survey	Design: Descriptive, qualitative as part of an online survey Sample: 242 of the 450 critical care nurses who participated in the online survey provided qualitative comments	Qualitative comments from online survey were analyzed using content analysis methods	Data: Major themes identified Perceived benefits for family member: 1. Seeing things firsthand 2. Providing a comforting presence 3. Being present to say good-bye Perceived risks for family member: 1. Psychological trauma 2. Physical harm Perceived benefits for the healthcare team: 1. Seeing the person behind the patient 2. Family acceptance of decision to discontinue resuscitative efforts Potential risks for the healthcare team: 1. Feelings of clinical inadequacy 2. Liability concerns 3. Constraint on the use of usual coping mechanisms 4. Disruption of and distraction from duties Conclusions: The practice of FP during resuscitation impacts both family and members of the health care team. Nurses weigh these impacts when considering whether or not to bring family members to the bedside	II	VI

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Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
McGahey-Oakland, P.R., Lieder, H.S., Young, A. & Jefferson, L.S. (2007). Family experiences during resuscitation at a children's hospital emergency department. *Journal of Pediatric Health Care, 21*(4), 217–225. https://doi.org/10.1016/j.pedhc.2006.12.001	Purpose: 1. Describe experiences of family members whose children underwent resuscitation attempts in pediatric ED 2. Identify information about family experiences to improve circumstances of resuscitation 3. Assess mental and health functioning of family members	Design: Descriptive, retrospective, qualitative, and quantitative Sample: 25 patients met the inclusion criteria, 10 family members were located and agreed to participate. Setting: Emergency department of large pediatric tertiary center	Family Presence Tools: 1. Parkland Family Presence During Resuscitation /Invasive Procedures Unabridged Family Survey and; 2. The Family Presence Attitude Scale Mental Health Tools: a. The Brief Symptom Inventory b. Global Severity Index c. The Short Form Health Survey d. The Post Traumatic Stress Disorder e. The authors also developed a qualitative tool with open ended questions. Analysis of the qualitative data was done with verbatim transcriptions, reviewed by three independent investigators using line-by-line techniques to identify themes.	All family members expressed the option to be present should be given. Mental health scores in study population were not significantly different than the normal population. Themes from qualitative analysis: 1. "It's my right to be there" 2. "Connection and comfort makes a difference" 3. "Seeing is believing" 4. "Getting in" 5. "Information giving"	II	VI
Nigrovic, L.E., McQueen, A.A., & Neuman, M.I. (2007). Lumbar puncture success rate is not influenced by family-member presence. *Pediatrics, 120*(4), e777-e782. https://doi.org/10.1542/peds.2006-3442	Objective: Evaluate the association between family-member presence and LP success rate	Design: Prospective cohort study of all children who underwent a LP in a pediatric ED from July 2003 thru Jan 2005. N = 1459 lumbar puncture cases N = 1178 FP N = 281 no FP ED physicians were asked to fill out a questionnaire immediately after performing an LP	Measures: 1. Rate of traumatic or unsuccessful lumbar puncture 2. The number of lumbar puncture attempts Univariate $\chi 2$ testing; Multiple logistic regression was used to examine the association of family-member presence and risk of traumatic or unsuccessful LP	The presence of family was not associated with increased rate of being unsuccessful. The benefits of FP were not counterbalanced by adverse effects on procedural success.	II	IV

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Pankop, R., Chang, K., Thorlton, J., & Spitzer, T. (2013). Implemented family presence protocols: An integrative review. *Journal of Nursing Care Quality, 28*(3), 281–288. https://doi.org/10.1097/NCQ.0b013e31827a472a	To provide an evidence base for organizations seeking to implement family presence protocols in order to promote safe, patient- and family-centered care	Risks of bias were eligible for pooling. Quality of evidence was assessed using GRADE. Literature search of PubMed, CINAHL, Academic Search Premier, HealthSource (Nursing/Academic Edition) using resuscitation, family and hospital policy. English articles from 2004 to 2012. Ten articles selected.	Examined implemented family presence protocols from 10 studies for adults in hospital setting, specifically the use of protocols and providers' feedback about benefits, needs, and concerns.	Four key findings: 1. Positive trend in the practice; 2. Problems related to the family facilitator; 3. Factors that facilitate or inhibit the implementation of family presence protocols; and 4. Providers' differing attitudes about family presence during CPR and IP. The ENA guidelines are the most frequently used resources to develop family presence protocols.	I	V
Porter, J. E., Cooper, S. J., & Sellick, K. (2014). Family presence during resuscitation (FPDR): Perceived benefits, barriers and enablers to implementation and practice. *International Emergency Nursing, 22*(2), 69–74. https://doi.org/10.1016/j.ienj.2013.07.001	To identify the perceived barriers, benefits, and enablers to the implementation and practice of family presence during resuscitation in an emergency department	Integrative literature review Literature search of CINHAL, Ovid, Medline, PSYCHINFO, Pro-Quest, Theses Database, Cochrane, and the Google Scholar search engine Search range from 1992 to June 2012 n = 16; 11 quantitative, 4 qualitative, and 1 RCT Only studies published in English were included.	Modified Cochrane Systematic Review process; content analysis for themes	Three major themes of benefits, barriers, and enablers identified, with subthemes in each major category. Benefits: FPDR helps families with grieving process and builds bond between nurses and family members; encourages providers to see patient as family member. Barriers: fear of litigation; increased stress/anxiety levels; traumatic experience; fear that family will interfere during resuscitation; and fear that staff will be distracted by family members. Enablers: Include education for staff, having a support person for family members, and having a policy to follow.	I	V

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Sacchetti, A., Paston, C., & Carraccio, C. (2005). Family members do not disrupt care when present during invasive procedures. *Academic Emergency Medicine, 12*(5), 477–479. https://doi.org/10.1197/j.aem.2004.12.010	Objective: To determine whether family members remaining with pediatric patients during invasive procedures interfere with care.	Design: Prospective observational study of consecutive patients undergoing invasive procedures during care by the author physicians or their designees Sample: Fifty-four family members observing 37 patients, mean age 1.5 years Setting: Single university-affiliated emergency department	Family members were observed for the following behaviors: 1. Soothed child 2. Stood at bedside 3. Asked questions 4. Helped restrain 5. Interfered Observations were done by the author/attending physician. Family members could demonstrate more than one behavior. JMP statistical software used to summarize data.	Only 3% were observed to interfere, and after explanation one procedure was continued without delay. Another was continued after mother helped during near-syncopal episode. Concluded that family presence during pediatric invasive procedures does not interfere with care.	II	III
Sak-Dankosky, N., Andruszkiewicz, P., Sherwood, P. R., & Kvist, T. (2014). Integrative review: Nurses' and physicians' experiences and attitudes towards inpatient-witnessed resuscitation of an adult patient. *Journal of Advanced Nursing, 70*(5), 957–974. https://doi.org/10.1111/jan.12276	To identify, review, and discuss published research about attitudes and experiences of nurses and physicians with regard to adult patients' family presence during inpatient cardiopulmonary resuscitation	Integrative review. Included studies published between 2007 and 2012 in English language focusing on nurse and physician perceptions. n = 15 articles, using these databases: Cumulative Index to Nursing and Allied Health Literature (CINAHL), American Psychological Association (PsycINFO), and National Library of Medicine (PubMed). 8 quantitative studies, 2 qualitative and 5 mixed methods.	Used PRISMA Guidelines and Literature Review Protocol by Polit and Beck.	Wide variation in experiences and opinions of nurses and physicians about FPDR despite national guidelines in place. Negative attitudes about family presence are prevalent, and barriers often related to provider opinions and lack of policies. FPDR is not widely implemented on an international level. Training is needed to enhance provider skills, communication, and focus on holistic family-centered care.	II	V

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Soleimanpour, H., Behringer, W., Tabrizi, J. S., Sarahrudi, K., Golzari, S. E. J., Hajdu, S., . . . Mehdizadeh Esfanjani, R. (2015). An analytical comparison of the opinions of physicians working in emergency and trauma surgery departments at Tabriz and Vienna Medical Universities regarding family presence during resuscitation. *PLoS One, 10*(4), e0123765. https://doi.org/10.1371/journal.pone.0123765	To evaluate opinions of emergency medicine and trauma surgery physicians working in ED of Austrian and Iranian Medical Universities regarding the presence of patient's relatives during resuscitation (comparing the sites)	Descriptive survey design I RB approved n =32 at Vienna, 35 at Tabriz	Two-part, questionnaire (demographics and 18 Likert items evaluating participants' general opinions regarding their support of FPDR and factors possibly affecting their attitudes)	1. Most physicians at Vienna and Tabriz Medical Universities disapprove of FPDR 2. Disagreed FPDR had a positive impact on family members	II	VI
Stefano, C., Normand, D., Jabre, P., Azoulay, E., Kentish-Barnes, N., Lapostolle, F., . . . Adnet, F. (2016). Family presence during resuscitation: A qualitative analysis from a national multicenter randomized clinical trial. *PLoS One, 11*(6), e0156100. https://doi.org/10.1371/journal.pone.0156100	To understand how families experience CPR of a relative	Qualitative - follow up to RCT IRB approved n = 30 from randomized group of 75 (570 from RCT). Data saturation achieved at 30 interviews. CPR was conducted in the patient's home by prehospital personnel.	Phone interviews conducted by a clinical psychologist three months after patient death. Used open coding, axial, and selective coding process.	Four principle themes and 12 subthemes identified. 1. Choosing to be actively involved; 2. Communication between family and team; 3. Perception of the reality of death; 4. Experience and reaction to being present or not at resuscitation.	I	VI
Tudor, K., Berger, J., Polivka, B. J., Chlebowy, R., & Thomas, B. (2014). Nurses' perceptions of family presence during resuscitation. *American Journal of Critical Care, 23*(6), e88-e96. https://doi.org/10.4037/ajcc2014484	To explore nurses' experience with resuscitation benefits and risks and in self-confidence when families are present during resuscaition.	Descriptive, with a cross-sectional survey design. A convenience sample of 154 nurses working in inpatient and outpatient units at an urban hospital were surveyed. The 63-item survey included 2 previously validated scales, demographic questions, and opinion questions.	Nurses' self-confidence and perceived benefit of family presence were significantly related ($r= 0.54$; $p< .001$) Self-confidence was greater in nurses with additional education.	To promote change, the following were identified: 1. Strengthening current policy, 2. Identifying a team member to attend to the patient's family during resuscitation 3.Nurses complete education on evidence that supports family presence and changes in clinical practice	II	VI

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Twibell, R. S., Craig, S., Siela, D., Simmonds, S., & Thomas, C. (2015). Being there: Inpatients' perceptions of family presence during resuscitation and invasive cardiac procedures. *American Journal of Critical Care, 24*(6), e108–e115. https://doi.org/10.4037/ajcc2015470	To explore adult inpatients' perceptions of family presence during resuscitation, near-resuscitation, and unplanned invasive cardiac procedures	Exploratory descriptive qualitative study IRB approved Convenience sample, n = 48 Equal numbers of male and female respondents who had experienced life-threatening events (50% cardiac procedure, 25% CPR, 25% near resuscitation)	Initial question: "Thinking of your recent life-threatening event here in the hospital, please share your thoughts on having family members present beside you as the care team intervened," with 13 additional probing questions	Found that 60% preferred family presence Four themes: 1. Being there is beneficial; 2. Being there is hard; 3. Families in the way; 4. Patients' desire for control	III	VI
Yavuz, M., Totur Dikmen, B., Altinbaş, Y., Aslan, A., & Karabacak, U. (2014). Opinions for family presence during cardiopulmonary resuscitation in Turkey: *A literature review. Journal of Medical and Surgical Intensive Care Medicine, 4*(1), 13–17. https://doi.org/10.5152/dcbybd.2013.04	To evaluate the studies of family presence during cardiopulmonary resuscitation in Turkey	Integrative literature review Search found 5 articles for CPR family presence in Turkey	Adopted frameworks of Ganong, Collingsworth, and Gould	Used 5 descriptive designs (4 questionnaires, 1 face-to-face interview) with 626 nurses, 301 physicians, 420 family members, from 31 hospitals. Findings included the following: 1. Concerns about psychological trauma upon the family members 2. Might impede clinical care 3. Overcrowded EDs 4. Lack of nurses to assist family members during resuscitation; 5. Healthcare workers had negative opinions about this practice	II	V
Young, K. D. (2014). Observational study of family member presence for pediatric emergency department procedures. *Pediatric Emergency Care, 30*(7), 449–452. https://doi.org/10.1097/PEC.0000000000000159	To observe the proportion of family members who choose to remain present during children's pediatric emergency department procedures in actual clinical situations	Nonconsecutive convenience sample of children undergoing invasive procedures in a pediatric emergency department. IRB approved. Enrolled 59 children undergoing 66 procedures and accompanied by 83 family members.	Descriptive statistics, (proportions, means, and medians), chi-square tests. A priori categorization of procedures: Low invasiveness (IV venipuncture, IM, or SQ injection, urethral catheterization); High invasiveness (all others)	Found that 73% of the family members stayed during the child's procedure, 18% left, and 9% showed some mixture of staying and leaving. Male caregivers more likely to leave. Trends for caregivers to leave older children and adolescents. Healthcare workers asked the family members to leave twice, encouraged them to leave once, and used nonverbal cues to exclude the family members twice. Caregivers helped to restrain the child 35% of the time.	II	VI

Appendix 1: Evidence Table

Reference	Research/Purpose Questions/Hypothesis	Design/Sample Setting	Variables/Measures Analysis	Findings/Implications	Quality of Research	Level of Evidence
Youngson, M. J., Currey, J., & Considine, J. (2016). Family presence during management of acute deterioration: Clinician attitudes, beliefs and perceptions of current practices. *Australasian Emergency Nursing Journal, 19*(3), 159-165. https://doi.org/10.1016/j.aenj.2016.05.001	To explore clinical attitudes of family presence during patient deterioration	Descriptive exploratory 17- item survey, study had ethical l approval from the Human Research and Ethics Committee Convenience sample n=156 (varying levels of experience of medical and nursing staff) at a single site ED in Melbourne, Australia	Utilized the Emergency Department Family Presence (EDFP) survey with four additional questions related to deterioration. Data analyzed using SPSS. Descriptive statistics were used to summarize data. In areas where the data was not normally distributed, medians and inter-quartile ranges were shown. The relationship between survey response sand participant characteristics utilized χ^2 test, Fisher's exact test and Kruskal–Wallis test. Statistical significance decision rule was $p < .05$	Found that 59.0% of respondents disagreed that families would interrupt and 61.5% that families would interfere. Also found that 77% would include families during times of deterioration. Demographics supported female respondents, nurses, and Australians/New Zealanders had more positive attitude compared to male respondents and doctors of other ethnicities.	II	VI
Zavotsky, K. E., McCoy, J., Bell, G., Haussman, K., Joiner, J., Marcoux, K. K., . . . Tortajada, D. (2014). Resuscitation team perceptions of family presence during CPR. *Advanced Emergency Nursing Journal, 36*(4), 325–334. https://doi.org/10.1097/TME.0000000000000027	To describe multidisciplinary care providers' understanding of and perceived barriers to family presence during CPR	Quantitative, exploratory, descriptive study that utilized survey methodology. IRB approved n = 588 (19.6% response rate) All members of an urban academic medical center's resuscitation response team invited. Setting: Large, urban academic hospital	Procedures: Survey emailed to all eligible members of code teams with encouragement to participate. Tool: Modified survey tool used previously in research. Three-part, 22-item Likert scale Statistical analysis: Descriptive statistics used appropriately but not explained well	Participants generally feel positive about family presence. Education needed for team on facility policy related to family presence. Conclusions not well presented and difficult to follow. There are differences in perceptions about family presence based on job classification, with APRNs being most positive about family presence.	II	III

GRADING THE QUALITY OF THE EVIDENCE

I. Acceptable Quality: No concerns
II. Limitations in Quality: Minor flaws or inconsistencies in the evidence
III. Major Limitations in Quality: Many flaws and inconsistencies in the evidence
IV. Not Acceptable: Major flaws in the evidence

GRADING THE LEVELS OF THE EVIDENCE (Melnyk & Fineout-Overholt, 2015)

I. Evidence from a systematic review or meta-analysis of all relevant, randomized, controlled trials or evidence-based clinical practice guidelines based on systematic reviews of RCTs
II. Evidence obtained from at least one properly designed, randomized, controlled trial
III. Evidence obtained from well-designed controlled trials without randomization
IV. Evidence obtained from well-designed case control and cohort studies
V. Evidence from systematic reviews of descriptive and qualitative studies
VI. Evidence from a single descriptive or qualitative study
VII. Evidence from opinion of authorities and/or reports of expert committees

Appendix 2: Other Resources Table

Reference	Research Purpose	Conclusions
Chew, K. S., & Ghani, Z. A. (2014). Attitudes and perceptions of the general Malaysian public regarding family presence during resuscitation. *Singapore Medical Journal,* 55(8), 439–442. https://doi.org/10.11622/smedj.2014104	The authors performed a cross-sectional descriptive study to examine the attitudes and perceptions of the Malaysian general public regarding family presence during resuscitation.	Of the 184 participants, 76.1% felt the family should be present during CPR, 81.5% indicated the family has a right to be present, and 94.6% felt the staff should provide emotional support to family members.
Curley, M. A., Meyer, E. C., Scoppettuolo, L. A., McGann, E. A., Trainor, B. P., Rachwal, C. M., & Hickey, P. A. (2012). Parent presence during invasive procedures and resuscitation: Evaluating a clinical practice change. *American Journal of Respiratory and Critical Care Medicine, 186*(11), 1133–1139. https://doi.org/10.1164/rccm.201205-0915OC	This process improvement project was performed to evaluate whether implementation of formal practice guidelines and the corresponding interprofessional education would improve clinicians' sense of preparation and comfort in providing parents with options during their children's procedures.	The implementation of practice guidelines and interprofessional education had a positive impact on clinicians' perceptions and practice when providing parents with options and support during their children's invasive procedures and/or resuscitation.
Edwards, E. E., Despotopulos, L. D., & Carroll, D. L. (2013). Changes in provider perceptions of family presence during resuscitation. *Clinical Nurse Specialist, 27*(5), 239–244. https://doi.org/10.1097/NUR.0b013e3182a0ba13	The authors used a pre-test/post-test design to determine changes in perceived risk, benefit, and confidence of healthcare providers in a cardiac intensive care unit before and after an educational offering regarding family presence during resuscitation and invasive procedures.	Healthcare providers' perceptions of the risks and benefits of family presence improved after implementation of the family presence educational program and use of unit-based guidelines.
Ferreira, C. A. G., Balbino, F. S., Galieiro, M. M. F. G., & Mandetta, M. A. (2014). Family presence during cardiopulmonary resuscitation and invasive procedures in children. *Revista Paulista de Pediatria, 32*(1), 107–113. https://doi.org/10.1590/S0103-05822014000100017	The authors performed an integrative literature review to identify actions initiated to promote family presence during cardiopulmonary resuscitation and invasive procedures in children admitted to pediatric and neonatal critical care units.	Of the 15 articles meeting inclusion criteria, the majority were published in the United States in medical and nursing journals and utilized surveys as the data collection method. Four themes emerged: developing a sensitizing program for the healthcare providers; educating the healthcare providers to include family members; the necessity of written institutional policies; and addressing the family's needs.
Hayajneh, F. A. (2013). Jordanian professional nurses' attitudes and experiences of having family members present during cardiopulmonary resuscitation of adult patients. *Critical Care Nursing Quarterly, 36*(2), 218–227. https://doi.org/10.1097/CNQ.0b013e31828414c0	The purpose of this study was to identify the experiences and attitudes of Jordanian professional nurses regarding the presence of family members during CPR of adult patients.	Findings included Jordanian nurses have negative attitudes toward the presence of family members during CPR. Participants indicated they had experience with family presence even though they do not agree with this practice; they feel family members are likely to interfere with procedures and indicated it was difficult to concentrate with family members present.
Koberich, S., Kaltwasser, A., Rothaug, O., & Albarran, J. (2010). Family witnessed resuscitation – experience and attitudes of German intensive care nurses. *Nursing in Critical Care, 15*(5), 241–250. https://doi.org/10.1111/j.1478-5153.2010.00405.x	The purpose of this study was to explore German intensive care nurses' experiences and attitudes toward family witnessed resuscitation (FWR).	German intensive care nurses have guarded attitudes towards FWR because of their experiences and concerns for the well-being of relatives and staff. Introducing this topic within nursing curricula, as part of resuscitation training and by wider professional debate will help challenge and resolve practitioner concerns and objections
Kristjánsdóttir, O., Unruh, A. M., McAlpine, L, & McGrath, P. J. (2012). A systematic review of cross-cultural comparison studies of child, parent, and health professional outcomes associated with pediatric medical procedures. *The Journal of Pain, 13*(3), 207–219. https://doi.org/10.1016/j.jpain.2011.12.008	The purpose of this literature review was to evaluate the cultural aspects of pediatric care, focusing on procedural pain.	Eighteen studies met the inclusion criteria and the authors found no cultural differences in children's reported pain related to procedures. There were limited and contradictory findings related to cultural variances in parental and health professional reactions related to children's medical procedures.

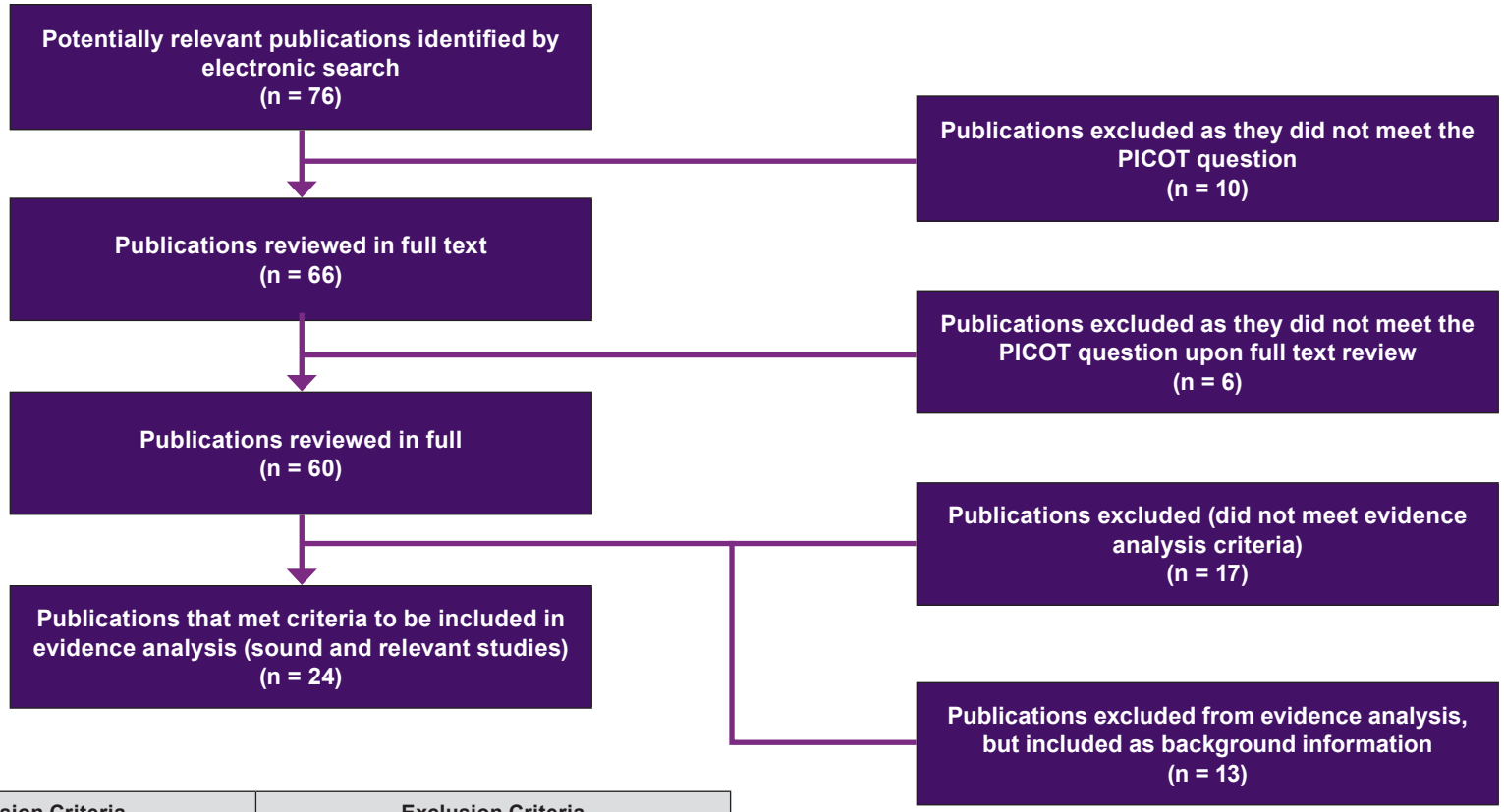
Appendix 2: Other Resources Table

Reference	Research Purpose	Conclusions
Monks, J., & Flynn, M. (2014). Care, compassion and competence in critical care: A qualitative exploration of nurses' experience of family witnessed resuscitation. *Intensive and Critical Care Nursing, 30*(6), 353–359. https://doi.org/10.1016/j.iccn.2014.04.006	The purpose of this phenomenological study was to gain insights into nurses' lived experience of family-witnessed resuscitation and identify any implications for critical care practices.	Three key themes were identified: 1. Developing expertise (appears to be instrumental in forging critical care nurses' ability to cope both with dealing with distressed relatives and the complexities of resuscitation) 2. Bonding (a sense of responsibility for guiding relatives through a traumatic experience, and using the forging of a bond with family members as a professional coping mechanism 3. Through the relative's eyes (allowed nurses to create a personal, empathetic, and humanistic account of the resuscitative event).
Oczkowski, S. J., Mazzetti, I., Cupido, C., Fox-Robichaud, A. E., & Canadian Critical Care Society. (2015). Family presence during resuscitation: A Canadian Critical Care Society position paper. *Canadian Respiratory Journal, 22*(4), 201–205. Retrieved from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4530851	This Canadian Critical Care Society position paper is designed to help clinicians and institutions decide whether to incorporate FPDR as part of their routine clinical practice and to offer strategies to implement FPDR successfully.	Hospitals that choose to implement FPDR should develop transparent policies regarding which family members are to be offered the opportunity to be present during the resuscitation. Experienced chaperones should accompany and support family members in the resuscitation area. Intensive educational interventions and increasing experience with FPDR are associated with increased support for the practice from healthcare providers. FPDR should be considered to be an important component of patient and family-centered care.
O'Malley, P., Barata, I., & Snow, S., American Academy of Pediatrics Committee on Pediatric Emergency Medicine, American College of Emergency Physicians Pediatric Emergency Medicine Committee, & Emergency Nurses Association Pediatric Committee. (2014). Death of a child in the emergency department. *Journal of Emergency Nursing, 40*(4), e83–e101. https://doi.org/10.1016/j.jen.2014.05.003	The authors reviewed recent literature regarding family presence during attempted resuscitation.	This article updated ENA's 2002 *Joint Statement* regarding family presence during resuscitation. Recommendations regarding termination of resuscitation efforts, organ donation, the benefit of autopsy, practicing procedures on the newly deceased, benefit of continued contact with surviving family members, and working to support state, local, and national child fatality review teams were addressed.
Punjani, N. S. (2014). Parental presence during pediatric invasive procedures. *i-manager's Journal on Nursing, 4(1)*, 1–3. Retrieved from http://www.imanagerpublications.com/article/2624/	In this clinical article, the author discusses the controversial practice of parental presence during pediatric invasive procedures.	The author supports parental presence during the child's procedures, indicating that this practice provides a therapeutic role for parents during their child's healthcare experience.
Strasen, J., Van Sell, S. L., & Sheriff, S. (2015). Family presence during resuscitation. Nursing Management, 46(10), 46–50. https://doi.org/10.1097/01.NUMA.0000471581.01067.32	The authors' intent was to provide guidance for the nursing leadership team to successfully implement family presence during resuscitation.	The authors conclude key policy elements are necessary, including the following: 1. Involving pastoral care to support families 2. Offering FPDR when determined appropriate by ED physician and pastoral care 3. No family in the room without ED physician consent 4. Family member enters only when escorted 5. The staff should prepare the family 6. If family members become faint, hysterical, or disruptive, they should be escorted out

Appendix 2: Other Resources Table

Reference	Research Purpose	Conclusions
Walker, W. M. (2014). Emergency care staff experiences of lay presence during adult cardiopulmonary resuscitation: A phenomenological study. *Emergency Medicine Journal, 31*(6), 453–458. https://doi.org/10.1136/emermed-2012-201984	The purpose of this study was to explore the lived experience of lay presence during an adult CPR attempt in in-hospital and out-of-hospital settings.	Familiarity with working with lay people, practical experience in emergency care, and personal confidence emerged as themes. It is important to embrace CPR as a humanistic event. The concept of exposure was pervasive: 1. Exposure of self 2. Exposure of lay people to CPR 3. Exposure of the person receiving CPR.
Youngson, M. J., Considine, J., & Currey, J. (2015). Development, reliability and validity of a tool, to measure emergency department clinicians' attitudes towards family presence (FP) during acute deterioration in adult patients. *Australasian Emergency Nursing Journal, 18*(2), 106–114. https://doi.org/10.1016/j.aenj.2014.12.002	The purpose of this research study was to develop a valid and reliable tool that accurately measures the attitudes and beliefs of ED medical and nursing staff towards family presence in the deteriorating adult ED patient.	A final tool was developed identifying four factors related to family presence during acute deterioration of adult ED patients: 1. The effects on patient care 2. The effects on the patient 3. The effects on the family 4. The effects on individual healthcare providers

Appendix 3: Study Selection Flowchart and Inclusion/Exclusion Criteria (for 2017 revision)



Inclusion Criteria	Exclusion Criteria
Studies published in English	Studies not published in English
Studies involving human subjects	Non-human studies
January 2012 - May 2017	Studies not in the timeframe listed
Studies addressing the PICOT question	Studies not addressing the PICOT questions

The following databases were searched: PubMed, Google Scholar, CINAHL, Cochrane - British Medical Journal, Agency for Healthcare Research and Quality (AHRQ; www.ahrq.gov), and the National Guideline Clearinghouse (www.guidelines.gov).

Search terms included: "family presence or parental presence", "invasive procedures", "resuscitation and emergency"