CME

Attachment, Self-Regulation, and Competency

A comprehensive intervention framework for children with complex trauma.

Ms. Kinniburgh is director of child services, Dr. Blaustein is director of training and services, and Dr. Spinazzola is executive director, The Trauma Center at Justice Resource Institute, Brookline, MA. Dr. van der Kolk is professor of psychiatry, Boston University Medical School, Boston; clinical director, The Trauma Center; and co-director, National Child Traumatic Stress Network.

Address reprint requests to: Kristine Kinniburgh, The Trauma Center, 227 Babcock St., Brookline, MA 02446; or e-mail kjentoft@traumacenter.org.

Children who suffer from complex trauma have been exposed to an environment marked by multiple and chronic stressors, frequently within a caregiving system that is intended to be the child's primary source of safety and stability. The cumulative influence of these experiences is seen on immediate and long-term behavioral, functional, and mental health outcomes. There is growing consensus that early-onset and chronic trauma result in an array of vulnerabilities across many different domains of functioning: cognitive, affective, behavioral, physiological, relational, and self-attributional. While, in the course of development, most children have the chance to invest their energies in developing various competencies, complexly traumatized children must focus on survival.

These children need a flexible model of intervention that is embedded in a developmental and social context and that can address a continuum of trauma exposures, including ongoing exposure. This model must draw from established knowledge bases about effective treatment while accounting for the skills of clinical practitioners and the needs of individual children.

Consensus from experts suggests that effective treatment of complex trauma in youth should address six central goals: safety, self-regulation, self-reflective information processing, traumatic experience integration, relational engagement or attachment, and positive affect enhancement (Cook et al., see page 390, and van der Kolk, see page 401).[1] Further, there is a need to recognize contextual variables, including developmen-

Kristine Jentoft Kinniburgh, LICSW; Margaret Blaustein, PhD; Joseph Spinazzola, PhD;

tal competencies and deficits, familial strengths and vulnerabilities, and external and internal resources and needs.

THE ARC FRAMEWORK

The Attachment, Self-Regulation, and Competency (ARC) model provides a component-based framework for intervention (Figure, see page 426). The framework is grounded in theory and empirical knowledge about the effects of trauma, recognizing the core effects of trauma exposure on attachment, self-regulation, and developmental competencies. This model emphasizes the importance of understanding and intervening with the child-in-context, with a philosophy that systemic change leads to effective and sustainable outcomes. Unlike manualized treatment protocols, this framework acts as a guideline to inform
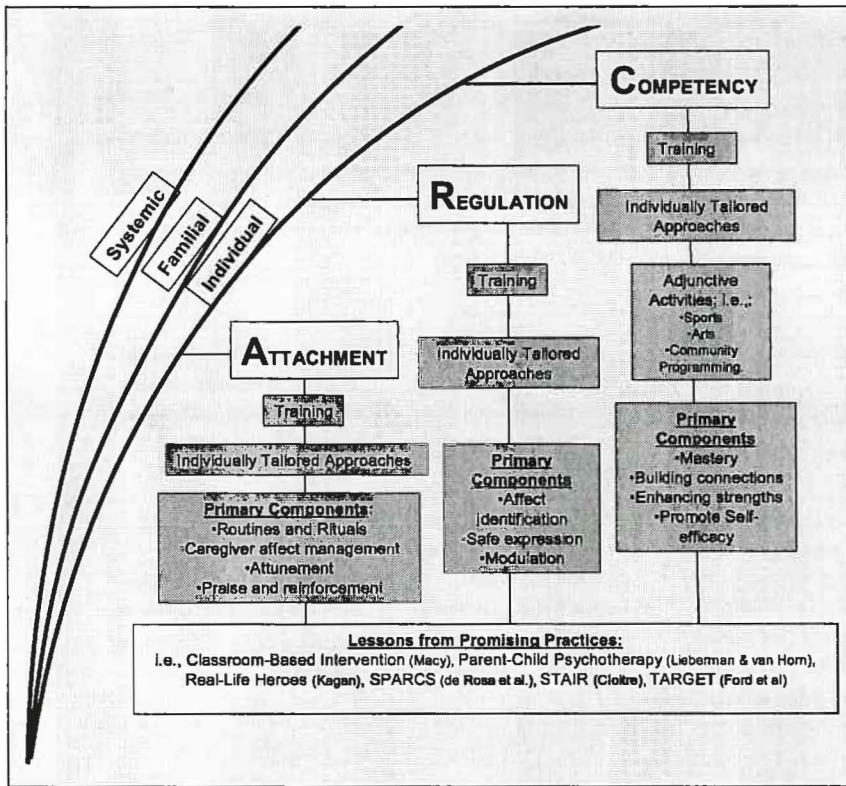
and Bessel A. van der Kolk, MD

Figure. Attachment, Self-Regulation, and Competency: a framework for intervention with complexly traumatized youth.

treatment choices, while recognizing the need for individually tailored intervention as well as the important role of each practitioner's skill base.

The goal of ARC is to address vulnerabilities created by exposure to overwhelming life circumstance that interfere with healthy development. ARC is based in phase-oriented treatment approaches; while recognizing the importance of processing traumatic memory and experience, ARC-focused intervention concentrates on the broader array of skills deficits seen in the complexly traumatized child and highlights the foundation needed for transforming traumatic experience. Through building skills, stabilizing internal distress, and strengthening the security of the caregiving system, interventions guided by this framework seek to provide children with generalizable tools that enhance resilient outcome.

For each of these three key areas, ARC provides guiding principles in which to ground assessment and intervention and a menu of sample activities to be used. This allows clinicians the flexibility to choose interventions based on the assessment of each particular child, within his or her own context. Specific approaches should be incorporated into the larger treatment plan, to address particular issues for each child.

ATTACHMENT

Theoretical Underpinnings

"Attachment" describes the interactions between children and their caregivers that have a longstanding impact on the development of identity and personal agency, early working models of self and other, and the capacity to regulate emotions.[2] Nurturing and consistent caregiving promotes skill development and a

safety net for coping with difficult experiences. Secure attachment in childhood has been linked to numerous positive outcomes and is a significant predictor of resilience among high-risk populations.[3] Conversely, impaired attachment has been linked to multiple negative outcomes, including psychopathology[4,5] and altered peer relationships.[6]

The majority of maltreated children have insecure attachment patterns.[7] This may be a result of factors extending caregiver abuse, including caregiver impairment, inconsistency, or unpredictability; multiple separations due to out-of-home placement or caregiver hospitalization, incarceration, or abandonment; or changes in responsiveness among caregivers who were themselves traumatized in childhood.[2] A young child who receives inconsistent, neglectful, or rejecting caregiving is forced to manage overwhelming experiences by relying on primitive and frequently inadequate coping skills such as aggression, dissociation, and avoidance. In the absence of resources needed to acquire the more sophisticated emotional management skills that other children develop, the child instead continues to rely on these primitive coping skills, which may lead to impaired functioning in multiple contexts.

Treatment Framework

ARC highlights attachment as a primary domain of intervention[8,9] and focuses on two overarching goals for attachment-focused interventions: building (or rebuilding) healthy attachments between those children who have experienced trauma and their caregivers; and creating the safe environment for healthy recovery that has been affected by the trauma or was largely absent even before. These goals are achieved through attention to four principles:

• Creating a structured and predictable environment by establishing rituals and routine:

TABLE 1.

Examples of Attachment-focused Intervention Components

	Routines & Rituals	Caregiver Affect Management	Attunement	Positive Praise and Reinforcement
Individual	• Work with child to build daily patterns. • Have predictable therapy routines.	• Incorporate caregiver into child treatment. • Build and support "in-the-moment" regulation skills. • Tune into and notice child successes.	• Develop a therapeutic relationship that supports the child in identifying, labeling, and coping with affect.	• Expand therapeutic empathy to areas of strength.
Familial	• Familial routines for morning, mealtimes, bedtime, etc. • Support caregivers in consistent and appropriate limit-setting.	• Psychoeducation • Normalization • Self-monitoring • Affect regulation skills • Support	• Dyadic work that involves modeling use of language, touch, nonverbal gestures, etc., to tune into and respond to child's affect.	• Teach a parent when and how to use reinforcement through modeling, direct teaching, and behavioral strategies.
Systemic	• Build milieu consistency and predictability. • Anticipate effects of changes.	• Promote education about and understanding of trauma; reframe negative/oppositional behaviors. • Teach staff affect management skills. • Provide forums for staff support; encourage self-care • Teach about and anticipate vicarious trauma.	• Educate staff regarding trauma-related affect, triggers, and behaviors. • Train in trauma-informed response.	• Build milieu reinforcement systems. • Expand focus from "problem-centered" to strengths-based. • Expand systemic definitions of "success".

- Increasing caregiver capacity to manage intense affect;
- Improving caregiver–child attunement so that the caregiver is able to respond to the child's affect, rather than react to the behavioral manifestation; and
- Increasing use of praise and reinforcement, to facilitate the child's ability to identify with competencies rather than deficits.

Specific interventions and activities targeting these four key principles should be considered on the individual, familial, and systemic levels (Table 1). Although attachment-focused intervention often is exclusive to the caregiver–child relationship, these principles are designed to translate to other adults who have ongoing interactions with the child, including foster parents and program staff. The basic safety and security provided by a positive attachment system is considered within this framework as the basis

for the development of all other competencies, including the regulation of emotion, behavior, and attention.

> *Difficulty expressing emotion may lead traumatized children to be constricted (ie, shut down) or labile (ie, explosive).*

SELF-REGULATION

Theoretical Underpinnings

Traumatized children frequently are disconnected from their own emotional experience — that is, they may lack awareness of body states or the connection of those states to specific experiences and emotions. Internalized emotion in response to daily experience may

be biased toward negative affect states (ie, shame, self-blame, isolation) due to children's internalization of responsibility for their own traumatic exposures. In addition, emotions expressed by others may be misinterpreted as potential danger cues, or as negative emotions such as anger or blame.

Difficulty expressing emotion may lead traumatized children to be constricted (ie, shut down) or labile (ie, explosive). Following the onset of intense emotional states, these children may have difficulty calming down and either remain in a negative affective state for an extended period of time or rely on maladaptive coping methods, such as substance use and self-injury, to modulate their level of arousal.

Although the term "trauma" describes many types of experiences, common across trauma exposures is the initiation of biologically driven "fight-flight-

TABLE 2.

Examples of Regulatory Capacity Intervention Components

	Affect Identification	Affect Expression	Affect Modulation
Individual	• Expand awareness of affect through feelings flashcards and charades. • Connect affect to behavior and experience through stories and television/film characters. • Connect affect to physical experience through body drawings and role play/physical modeling.	• Normalize emotional experience; distinguish appropriateness of all affect from unsafe expression. • Build "feelings toolboxes" (eg, anger, joy, sadness, worry). • Vary means of expression (eg, verbal, drawing/painting/arts, creative writing, music, drama/role play). • Use physical strategies (eg, exercise, movement, feelings basketball). • Use play/displaced expression.	• Build understanding of degrees of feeling (eg, feeling thermometers, number scales (0-100), circle slices). • Up-regulation (eg, grounding, physical movement, mutual engagement). • Down-regulation (eg, breathing, muscle relaxation, visualization/imagery). • Alternating states regulation (eg, "Turn up the Volume," big/small movements, yoga/dance/martial arts).
Familial	• Use reflective listening skills to name observed affect, link affect to child experience, and support coping. • Model labeling of emotion and experience. • Identify emotions while reading, watching television, etc.	• Incorporate expression into routines. • Hold family meetings, go around the dinner table (ie, "best" and "worst" of the day; biggest feeling; etc.). • Ask questions that expand communication: "How did you feel when that happened?"	• Cue child in use of skills. • Observe changes in modulation: "You seem a little bit calmer now." • Offer comfort, support, praise, etc. Be one of your child's affect regulation tools.
Systemic	• Use reflective listening skills. • Model labeling. • Create space (eg, bulletin boards, walls) tied to theme of emotion; encourage self-expression.	• Build forums for regular communication: written, resident meetings, etc. Encourage safe expression. • Train staff to tolerate emotional expression. Create forums for staff support.	• Provide designated point-person for child. • Cue and support use of skills.

freeze" responses that help the organism survive. Danger activates some physiological resources and de-activates others; processes associated with survival (eg, rapid motoric activation, arousal) become prioritized over processes associated with higher cognitive functions (eg, planning, organization, inhibition of response). Among children exposed to intense or repeated traumas, these responses are likely to be triggered by minor stresses, even in response to cues that, objectively, do not signify actual danger (van der Kolk, see page 401).

For example, for children exposed to domestic violence, certain triggers (eg, tone of voice, proximity, physical touch) may lead to extreme fear responses. Traumatized children, therefore, frequently respond to the world as if danger is imminent and threatening.

Treatment Framework

Enhancing self-regulatory capacities is a common goal among promising treatments for complexly traumatized youth.[10-12] The ARC identifies three primary regulation skills to address with this population:

- Affect knowledge skills, or the ability to accurately identify one's own feelings, to connect these feelings to experience and to read the emotional cues of others;

> *For children exposed to domestic violence, certain triggers may lead to extreme fear responses.*

- Affect expression skills, or the capacity to safely express and communicate emotional experience; and
- Affect modulation skills, or the ability to recognize and adjust to shifts in emotional experience and to return to a comfortable state of arousal.

Difficulties in any of these areas may be more pervasive or may vary according to the situation. For example, traumatized children and adolescents may have core deficits in the capacity to identify internal experience or may have this difficulty only in the face of overwhelming emotion.

Good clinical assessment therefore is essential to identify, sequence, and target individual treatment needs. Specific interventions and activities addressing each of the three key deficits are provided in Table 2.

TABLE 3.

Examples of Competency Intervention Components

	Opportunities for Mastery	Opportunities for Connection	Build Strengths	Practice and Evaluate Outcomes
Individual	• Identify child interests across domains (eg, peer, academics, arts). • Help build concrete goals. • Help child tune into and redefine success.	Assess and build: • Ability to read cues of safety/danger. • Social skills. • Distress tolerance skills. • Ability to negotiate boundaries.	• Identify past and current strengths; create power-book, pride-book, etc. • Tune into and build sense of personal identity: likes, dislikes, hopes, values.	• Teach problem-solving skills. • Use language of choice and consequences. • Build future orientation; engage child in active planning for short- and long-term goals.
Familial	• Encourage age-appropriate responsibility. • Encourage and support independent choices. • Encourage school achievement; build structure/support around task completion.	• Support natural forums for connection. • Support child in building relationships. • Participate in child treatment.	• Support children in self-care, life skills, etc. • Encourage development of independent values. • Create appropriate boundaries. • Celebrate success.	• Involve child in planning for family activities, trips, etc. • Model and support problem-solving skills. • Ask questions.
Systemic	• Individualize goals. • Encourage child contributions to milieu, peers, etc. • Build forums to identify and celebrate accomplishments.	• Build forums for connection in milieu (small-group, etc.). • Work with school staff to support child integration into activities, peer groups, etc.	• Work with school to reinforce individual achievements. • Create milieu forums (bulletin boards, etc.) to recognize goal achievement.	• Highlight steps toward accomplishment of goals; identify and set subgoals. • Encourage/support individual choices; explore, discuss consequences.

DEVELOPMENTAL COMPETENCIES

Theoretical Underpinnings

Development is a dynamic process. Each developmental stage is associated with key tasks that children must negotiate, drawing on emergent assets such as growth in abstract reasoning as well as on past successes. Successful establishment of peer relationships in middle childhood, for example, builds in part on early childhood success in developing secure attachment relationships.[6] Competencies are built across domains — cognitive, emotional, intrapersonal, and interpersonal. As children successfully navigate new developmental tasks, they build an internal sense of efficacy and achievement that allows them to continue to approach new challenges with confidence.

Trauma derails developmental competencies across domains of functioning and across developmental stages. Exposure to trauma often impairs the development of four major domains of competency. The first is interpersonal competencies, such as building secure attachment relationships, positive peer relationships, and mature relationships in adulthood.[2,7,13,14]

> *Trauma derails developmental competencies across domains of function and across developmental stages.*

The second is intrapersonal competencies, such as development of positive self-concept, awareness of internal states, realistic assessment of self-competencies, and capacity to integrate self-states.[15-17] The third is cognitive competencies, such as language development,[16,18,19] school performance and achievement,[20-22] and growth of executive function skills such as problem-solving, frustration tolerance, sustained attention, and abstract reasoning.[16,23,24] The last is emotional competencies, as described above.

Despite the effects of exposure to overwhelming stress on the developing self in most children, some not only survive but thrive, even in the most adverse circumstances.[25,26] To learn from such successes, effort has been made to characterize those qualities that differentiate resilient children from more stress-affected children and to identify both internal (ie, temperament, perceived competence, self-worth) and external (ie, family, community) resources that support development of resilience even in the face of adverse life circumstances.

Treatment Framework

Sustainable and effective intervention

requires building or restoring individual resilience. Intervention with these children needs to foster developmental competencies (eg, planning, social skills, impulse control) and familial and systemic resources (eg, caregiver support, connections with teachers, use of mentors). Intervention also should focus on two broad goals: the building (or rebuilding) of normative competencies that have become derailed; and the establishment of external resources thatcan support a resilient outcome.

These goals are achieved through a focus on four general principles. First, create opportunities for the child to gain mastery over the environment. Second, create opportunities for connection to peers, adults and the community. Third, identify and build on a child's strengths in order to promote positive self concept. Fourth, encourage practice and teach the child to evaluate outcomes in order to foster a sense of control and self-efficacy.

Because childhood maturation is dynamic, the specific competencies and resources that will be targeted will vary. Individualized assessment therefore is crucial to identify developmental status as well as pre-existing individual, familial, and systemic stresses and resources. Once these are identified, multiple modalities and sample activities may be used (Table 3, see page 429).

SUMMARY

The role of traumatic stress in shaping early development and the issue that exposure to complex interpersonal trauma is qualitatively distinct from acute trauma in both experience and effect cannot be understated. Traumatized children need a flexible approach to intervention. ARC has been developed in response to this challenges as an intervention framework designed to address the array of developmental vulnerabilities experienced by the complexly traumatized child by building or restoring developmental competencies, identifying and enhancing internal, familial, and systemic resources, and providing a foundation for continued growth.

REFERENCES

1. Cook A, Blaustein M, Spinazzola J, van der Kolk B, eds. Complex trauma in children and adolescents. National Child Traumatic Stress Network, Complex Trauma Task Force. 2003. Available at: http://www.nctsnet.org/nctsn_assets/pdfs/edu_materials/ComplexTrauma_All.pdf. Accessed April 13, 2005.
2. Main M. Introduction to the special section on attachment and psychopathology: 2. Overview of the field of attachment. *J Consult Clin Psychol.* 1996;64(2):237-243.
3. Farber E, Egeland B. Invulnerability among abused and neglected children. In: Anthony EJ, Cohler B, eds. *The Invulnerable Child.* New York, NY: TheGuilford Press. 1987:253-299.
4. Crittenden PM. Attachment and psychopathology. In: Goldberg S, Muir R, Kerr J, eds. *Attachment Theory.* New York, NY: Analytic Press; 1995:367-406.
5. Wakschlag L, Hans S. Relation of maternal responsiveness during infancy to the development of behavior problems in high-risk youths. *Dev Psychol.* 1999;35(2):569-579.
6. Schneider B, Atkinson L, Tardif C. Child-parent attachment and children's peer relations: a quantitative review. *Dev Psychol.* 2001;37(1):86-100.
7. Carlson V, Cicchetti D, Barnett D, Braunwald K. Disorganized/disoriented attachment relationships in maltreated infants. *Dev Psychol.* 1989;25(4):525-531.
8. Lieberman AF, Van Horn P. Assessment and treatment of young children exposed to traumatic events. In: Osofsky J, ed. *Young Children and Trauma: Intervention and Treatment.* New York, NY: The Guilford Press; 2004:111-138.
9. Kagan R. *Rebuilding Attachments with Traumatized Children: Healing From Losses, Violence, Abuse, and Neglect.* New York, NY: Haworth Maltreatment and Trauma Press; 2004.
10. DeRosa R, Pelcovitz D, Kaplan S, et al. Structured Psychotherapy for Adolescents Responding to Chronic Stress (SPARCS). North Shore University Hospital, Manhasset, NY. 2004.
11. Ford JD, Russo E, Mallon S. Integrating posttraumatic stress disorder (PTSD) and substance abuse disorder treatment. *J Couns Dev.* In press.
12. Cloitre M, Koenen K, Cohen L, Han H. Skills training in affective and interpersonal regulation followed by exposure: a phase-based treatment for PTSD related to childhood abuse. *J Consult Clin Psychol.* 2002;70(5):1067-1074.
13. Cicchetti D, Barnett D. Attachment organization in maltreated preschoolers. *Dev Psychopathol.* 1991;3(4):397-411.
14. Shapiro DL, Levendosky AA. Adolescent survivors of childhood sexual abuse: the mediating role of attachment style and coping in psychological and interpersonal functioning. *Child Abuse Negl.* 1999;23(11):1175-1191.
15. Beeghly M, Cicchetti D. Child maltreatment, attachment, and the self system: Emergence of an internal state lexicon in toddlers at high social risk. *Dev Psychopathol.* 1994;6:5-30.
16. Vondra J, Barnett D, Cicchetti D. Self-concept, motivation, and competence among preschoolers from maltreating and comparison families. *Child Abuse Negl.* 1990;14(4):525-540.
17. Cole P, Putnam F. Effect of incest on self and social functioning: a developmental psychopathology perspective. *J Consult Clin Psychol.* 1992;60(2):174-184.
18. Culp R, Watkins R, Lawrence H. et al. Maltreated children's language and speech development: abused, neglected, and abused and neglected. *First Language.* 1991;11(33 Pt 3):377-389.
19. Allen R. Oliver J. The effects of child maltreatment on language development. *Child Abuse Negl.* 1982;6(3):299-305.
20. Shonk SM. Cicchetti D. Maltreatment, competency deficits, and risk for academic and behavioral maladjustment. *Dev Psychol.* 2001;37(1):3-17.
21. Trickett P, McBride-Chang C, Putnam F. The classroom performance and behavior of sexually abused females. *Dev Psychopathol.* 1994;6:183-194.
22. Leiter J, Johnson M. Child maltreatment and school performance. *Am J Education.* 1994;102(2):154-189.
23. Beers S, De Bellis M. Neuropsychological function in children with maltreatment-related posttraumatic stress disorder. *Am J Psychiatry.* 2002;159(3):483-486.
24. Mezzacappa E, Kindlon D, Earls F. Child abuse and performance task assessments of executive functions in boys. *J Child Psychol Psychiatry.* 2001;42(8):1041-1048.
25. Werner EE, Smith RS. *Journeys from Childhood to Midlife: Risk, Resilience, and Recovery.* Ithaca, NY: Cornell University Press. 2001.
26. Masten A, Coatsworth J. The development of competence in favorable and unfavorable environments. Lessons from research on successful children. *Am Psychol.* 1998;53(2):205-220.