



Artist: Juli, age 6

## **A DEVELOPMENTAL APPROACH FOR THE PREVENTION OF COMMON BEHAVIORAL PROBLEMS**

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Sparrow J, Brazelton, TB. A Developmental Approach to the Prevention of Common Behavioral Problems. In: McInerney TK, Adam HM, Campbell D, Kamat DK, Kelleher KJ, eds. Pediatric Primary Care 5<sup>th</sup> Ed. Elk Grove Village, IL: American Academy of Pediatrics; In press.

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Pediatric primary care providers are uniquely positioned to prevent common behavioral problems through the relationships they make with young children and their families in the course of well child care visits, and to identify and refer – effectively and early - those that cannot be prevented.<sup>1-5</sup> Such opportunities can spare the child and family unnecessary suffering, and can conserve scarce healthcare resources, including primary pediatric provider time and tertiary mental health services.<sup>6-9</sup> These are particularly important considerations where access to mental health services is limited. The savings that result extend beyond healthcare to education, social services, and the criminal justice system.

### ***Regression and Progression in Primate Development and its Neurobiological Underpinnings: Implications for Pediatric Anticipatory Guidance and Prevention***

Although predictably unfurled by neurobiological forces, development –once thought of as linear and continuous- is now widely understood to be a precarious process in which vulnerable periods of regression are necessary for new and more advanced motor,<sup>3,10-16</sup> cognitive, and social-emotional skills to replace earlier ones. Developmental events characterized by regression and disorganization in the child, and as a result, in the family, followed by a predictable new acquisition of skill or ability are referred to here and in our other work<sup>17,18</sup> as touchpoints. As our knowledge about these touchpoints grows, it likely will lead to new interventions to aid children, parents and families.

Neurobiological processes (for example, neurohormonal regulatory mechanisms affecting infant, mother and father, synaptogenesis, myelinization, and pruning, among others)<sup>19-23</sup> are critical to understanding mechanisms of developmental change. Yet these processes are insufficient to account for widely divergent outcomes unless embedded in a broader view of the child's interactions with the environment. The developing brain allows the young infant to process critical environmental input, and to send mediating signals to the environment; the brain must adapt, structurally and functionally, to this interaction, a process best accounted for by a systems theory approach.<sup>6,10,24-33</sup> The infant brain shapes and is shaped by the environment it evolves in. As a result, primary pediatric providers can make a major contribution to a child's development – including optimal brain development – when they position themselves to positively influence these interactions.<sup>6,7,34-38</sup> This demands that providers redefine their roles to enter into the family system and become part of the child-parent team.

Nonlinear, discontinuous development marked by predictable episodes of regression that precede leaps to new mastery have been observed both in human infants and nonhuman primates in their first years of life.<sup>39,40</sup> Across these species, development is a costly affair in which the prerequisite periods of regression expose the infant to increased vulnerability: to developmental deviation, to parent-infant conflict that may result in abuse,<sup>41</sup> and to heightened immunological fragility that increases the likelihood of illness.<sup>42-45</sup> Consequently, an understanding of the mechanisms of developmental change, and of the predictable cycles of regression and developmental leaps, or touchpoints, permits primary care providers to provide anticipatory guidance that targets these periods of vulnerability, and to parsimoniously screen for the earliest signs of developmental derailment.

For 1 to 4 weeks, according to some authors,<sup>11,12</sup> before early major developmental achievements, regressive periods may manifest in more frequent and prolonged crying, clinging, and bids for physical contact in both human and non-human primate infants. While chimpanzee mothers immediately remove their infants from the social group at the first signs of these regressions to avoid male castigation,<sup>40,41,43</sup> human mothers more often first interpret the behavioral change as a possible sign of illness.<sup>40,41,43</sup> This should come as no surprise to seasoned pediatric practitioners who have already noted a predictable developmental pattern to the anxious calls of parents who wonder if their child may be ill when they note such changes in behavior. “He just isn't acting the way he usually does,” is one common expression of this parental observation. Often, these periods of crying are attributed to teething, even when there is no evidence to support this explanation.<sup>42,46</sup> Instead, however, they are routinely associated with the approach of new developmental challenges, for example the onset of the perceptual and cognitive capacities for stranger anxiety, pulling to stand, or the first step.

After parents have reassured themselves that their child is not sick, they have been observed to shift from acceptance of the regressive behavior to a range of behaviors (which we have clinically observed to vary from one temperamental fit to another, and from culture to culture) –including annoyance and decreased indulgence of infant demands for physical contact and attention. These can effectively discourage regressive behaviors while reinforcing new skills.<sup>47</sup> Yet, it is in this shift in the parent- from initial acquiescence to efforts to propel the child’s development that conflict arises between parent and child. Although conflict may be necessary to the child’s progress, and a wide range of parental response to regression may be adaptive in fostering the child’s development, difficulties in negotiating this shift may sometimes lead to developmental deviation, and even abuse.

The developmental processes of attachment, self-regulation, feeding, sleep, and toilet training are among the opportunities for primary pediatric prevention of common behavioral problems and child abuse. Regressions accompanying developmental advances in each of these areas occur at predictable times in the first years of life. We present here one touchpoint in each of these areas (although there are several more in each) as examples of heightened vulnerability to developmental deviation and abuse, with practical preventive strategies that can be used in primary pediatric care settings.

***Anticipatory Guidance at Birth or at the 2-3 Week Well Child Visit:  
Assessing and Facilitating Attachment Using Predictable Newborn Behaviors***

Inevitably, the birth of a new baby disorganizes any family; all members must reconfigure their previous roles and arrive at a new level of organization to adjust to a new member, one with particularly pressing new demands. Fortunately, newborns are endowed with attachment behaviors that shape neurohormonally-mediated parental responses, helping adults learn to become parents.<sup>48</sup> But the newborn period, with its disorganization and opportunities for rapid new growth, is a vulnerable one, when pediatric providers can be more influential than at any other time

Impaired attachments have long been recognized as risk factors in child abuse and child psychiatric disorders, yet much can be done to support healthy attachments and to identify early threats to this critical developmental process.<sup>49-52</sup> Pediatric providers can readily assess the attachment behaviors of the newborn infant and parental responses during the earliest routine well child care visits.<sup>53-55</sup> The Neonatal Behavioral Assessment Scale (NBAS)<sup>56</sup> and the abbreviated version, the Neonatal Behavioral Observation (NBO), include an inventory of predictable newborn behaviors that elicit nurturing responses in parents.<sup>57,58</sup>

A few of these are:

- the alert state visual gaze and visual communication between newborn and parent
- reflexive reaching toward parent's voice and face
- turning the head toward parent's voice, and arching toward parent's face
- molding into parent's body when cuddled
- responses to parent's soothing
- crying
- smiling
- suckling

Attachment depends not only on parental responses to these and other behaviors, but also on each newborn's individual ability to mobilize effective attachment behaviors to parents.<sup>59</sup> These vary from one newborn to another, and may be affected by a range of circumstances, for example prematurity, illness or in utero exposures. In addition, the "goodness of fit"<sup>60</sup> of infant attachment behaviors and parental sensibilities is a factor in this critical process.

Providers also will be able to observe protective parental reactions to noxious aspects of the routine examination of the newborn as further possible evidence of the progress of attachment. They can also reinforce this process by sympathetically commenting on parents' distress when their baby cries upon being undressed, or with heel sticks, for example. Parental reactions may be influenced by a number of factors, for example, parity and culture, but may also reveal potential interferences with attachment such as postpartum depression<sup>61</sup> or overwhelming life events. When parents do respond to their infant's distress cues with efforts to soothe, providers will have an opportunity to assess, and if needed, respectfully offer to supplement parental repertoires for comforting. In addition, an infant who is particularly difficult to soothe should be noted, as parents will need extra support and encouragement not to take such challenges personally.

Providers should consider an early referral to developmental specialists for families in which a young infant shows an impaired ability to manifest attachment behaviors, is irritable and challenging to console, or when parents fail to respond to these behaviors or fail to demonstrate protective reactions when the infant shows signs of distress. Early interventions to support attachment in such circumstances may prevent child abuse, behavioral problems and later psychopathology in the child.<sup>62-65</sup> When the provider has milder concerns, sincere praise for parents' expertise and dedication can help protect the attachment process since parents' self-perceptions of competence make a vitally important contribution. This quick and simple intervention can be readily offered to all parents during this vulnerable period.

### *Unexplained End-of-the-Day Crying and Self Regulation from 3 to 12 Weeks*

Unexplained end-of-the day fussiness and crying is a predictable phenomenon, initiated in the majority of infants at about 3 weeks of age, peaking at about 8 weeks, and subsiding by 12 to 16 weeks of age.<sup>46,66</sup> Fussing and crying are challenging for any parent, but can become intolerable when parents interpret this behavior as a rejection of their efforts to comfort or as the baby's reproach for their 'failure' as parents. First time parents, and those who are isolated, multiply stressed, or struggling with postpartum depression or other mental illness may be particularly vulnerable to such interpretation of colic. The incidence of SIDS peaks in the month or two after the typical climax of colic. Some small subgroup of SIDS deaths may be attributable to intentional suffocation by parents.

The 2 to 3 week well child care visit is an ideal opportunity for anticipatory guidance for colic. Although checklists of next developmental steps abound, predictably exhausted parents are at this point unlikely to absorb these. During this visit, a simple, and more effective strategy than simply telling or offering a brochure, is to note when the baby cries and to observe the parents' reaction to it, valuing their sensitivity to the baby's distress, and their intense dedication to offering comfort. This is a novel approach for many pediatric providers who have had to listen to, and indeed make, so many babies cry! But when pediatricians demonstrate their own sensitivity to a baby's distress, and to parents' commitment to mitigate it, they have positioned themselves, and readied parents, to face unexplained end-of-the-day fussing as a team.

Pediatricians who understand that some parents may interpret the predictable developmental phenomenon of unexplained end-of-the-day crying in ways that may make it harder for them to bear can anticipate this new challenge, and what it may seem to mean to parents, during the brief 2 to 3 week visit: "I noticed how you leaned in to comfort your baby as soon as she began to cry. She's so responsive to your soothing! In another week or 2, you may want to watch and see whether she, like many babies, starts to fuss and cry at the end of the day." Pause, to allow parents to express their concerns or doubts ("Not my baby!"), or to assert their mastery and their baby's precocity ("She already does!"). Then, a pediatrician can let parents know that this is an expectable but trying time for parents, and the hardest part may be that none of the skillful soothing strategies parents have learned seem to work. In fact, during these hours, infants may be over-stimulated by attempts to soothe them: often they'll calm briefly while being jiggled or rocked, but at soon as a parent stops, they'll cry out even more lustily than before. Ask the parent, "What is that going to be like for you?" Listen. And then ask, "Will you call me and let me know?" (Any experienced pediatrician knows they'll call anyway during the colicky period, but now they'll be more likely to listen if the pediatrician concludes that there is in fact no gastrointestinal disturbance, or no need to switch to a soy-based formula, for example.)

After these brief maneuvers, parents will be ready for the recommendation that during this period parents may be able to decrease the length of fussing if they can limit the extent of their efforts to soothe: after checking for other possible causes for crying (hunger, fatigue, a wet diaper, etc), too much jostling and handling may over-stimulate the infant and prolong the end-of-the-day fussing.<sup>46,67</sup> (Infant massage, swaddling, or carrying the baby close in a serape-like snuggler may soothe with less stimulation, and help parents feel that they are doing what they can.)

At the very least, anticipatory strategies like these will save the pediatrician time, but they can also prevent non-compliance, unnecessary treatment, doctor shopping, and possibly abuse. At the end of the 2 to 3 week visit, you can reassure parents that this colicky period may be an important step in the development of self-regulatory functions and that the reward will be the 2 or 3 month old who is more available, responsive, and seems more like a real person than before.

***Anticipatory Guidance at the 4 Month Well Child Care Visit:  
Predictable Loss of Interest in Feeding Accompanying Improved Visual  
Accommodation at 4 to 5 Months***

The succession of steps through which the infant, toddler, and young child acquire the range of motor and other skills necessary for autonomous feeding includes several readily identifiable vulnerable periods before which anticipatory guidance can prevent predictable behavioral problems. Some of these skills pertain not specifically to eating, but to balancing other interests and impulses to prevent them from interfering with eating. For example, at about 4 months of age, a period of regression can be expected when previously acquired feeding habits seem to be shoved aside by new, though predictable behaviors: at the breast or on the bottle, the 4 to 5 month old abruptly seems to lose interest in feeding, and is suddenly distracted by a wider range of stimuli now perceptible to him.<sup>68</sup>

Experienced pediatricians expect phone calls from mothers of 4 or 5-month-olds who misinterpret this behavioral change as a sign that their milk is no longer sufficient and ask whether it is time to wean, or to introduce solids. Yet, the neurobiological process accounting for this behavioral change is the child's expanding visual accommodation that now results in the ability to focus on objects that are further away than the breast or the nurturer's face. In this instance, new neurobiological capabilities disrupt previously established adaptations, leading to a period of instability during which the infant must learn to handle new levels of environmental stimulation, and to balance these with other ongoing and changing demands. This can be predicted for parents at the 4 month well child care visit. When they have been advised to expect this new turn of events as a marker of a new developmental accomplishment, they will be less likely to interpret temporary feeding resistance as a failure on their part, or as a sign to wean or introduce solids prematurely.

At the 4 month visit, pediatric providers can suggest nursing or bottle feeding the infant in a quiet, darkened room when distractibility at feeding commences, and offer reassurance that this is a transient phenomenon, and a positive sign that the child is developing appropriately.

In a few days or weeks, when parents find that their infant does display the predicted behavior, their confidence in the provider is likely to deepen. If their baby, however, does not become more difficult to feed, they are less likely to question the provider's expertise than to share with him or her the pride in their exceptional baby who has traversed this new challenge so unperturbedly, and spared them the predicted inconvenience. A few parents might wonder whether such a child is still developmentally on track, but can be easily reassured if they've noticed or can be prompted to observe the baby's new, more widely roaming gaze as he or she follows objects in motion across a room.

Four to five months is a vulnerable time that can lead to premature introduction of solids and discontinuation of breastfeeding, or even forced-feedings. With the 'normalization' of this predictable touchpoint through anticipatory guidance, pediatric providers may be able to avert such consequences, or at the very least, to open a dialogue that will increase the likelihood that parents will disclose such challenges and concerns, and seek and accept help.

***Anticipatory Guidance for the 6 Months Well Child Care Visit:  
Predictable Sleep Disturbances from 9 - 12 months as the Harbinger of the First Step***

Experienced pediatric providers expect anxious calls from parents about their 9 and 10 months olds who seem driven and tense, won't settle for bed at night, and wake up several times during the night, despite having slept all the way through during the preceding months. After establishing that the child is healthy, and is already pulling to stand, some providers have learned to suggest that the new sleep disturbance is<sup>69,70</sup> temporary, and the sign of a child who will take the first step in a matter of weeks. Parents, eager for this much awaited event, relax, or even rejoice, and often recast the baby's disrupted sleep, and their own, as an acceptable though annoying nuisance.

Here, again, a regression to earlier behavior (waking during the night), or temporary loss of a recently acquired skill (self-settling for sleep and managing sleep cycles) disorganizes the child, and indeed the entire family, the price for the next developmental step to come. The anxiety of parents as they struggle to understand this sudden, unexplained change renders them more vulnerable, while making the provider's support even more deeply valued. How much more reassured parents may be to learn that infants this age spend proportionally more of their sleeping hours in light sleep than at other times in these early years! No wonder they wake more often. Some scientists currently hypothesize that this sleep phase shift is necessary so that the brain can lay down the memory traces for each of the motor movements that will soon come together for the first step.<sup>69,71</sup>

If this predictable sleep disturbance occurs a few weeks or more before consultation with the pediatric provider, the cost to the child, and parents, of this temporary regression may be far greater. Parents may begin to take a child who had been sleeping alone into their bed – not necessarily a problem for families who choose to co-sleep with a child this age, but likely to lead to difficulties in re-establishing independent sleep at a later time. Parents, once again sleep-deprived, exhausted, and frustrated by the child’s reversion to old behavior, may react more harshly than they would have wanted to, or more desperately, and perhaps particularly when other risk factors are present, abusively. However, if parents are forewarned at the 6 month well child care visit of this trying harbinger of new steps ahead, they are far more likely to take the child’s disrupted sleep and their own sleep deprivation in stride. The provider will have helped them to shape their own behavior, even infusing it with pride, as they have been given a new, more constructive way of understanding the child’s behavior – a laudable goal for anticipatory guidance. Parents are then more likely to be open to, and retain a few suggestions about how to, respond to their driven, motor-focused infant.

***Anticipatory Guidance at 12 months:***

***Waiting for Toilet Training Readiness from 24 to 36 months***

Toilet training is another developmental acquisition that is often accompanied by predictable parent-child conflict, and with it another peak in the risk for developmental derailment and child abuse. Opportunities for prevention begin with anticipatory guidance at the 12 month visit when pediatric primary care providers can provocatively ask, “So – have you started to think about toilet training yet?” Most parents (discussed later) will say, “Toilet training? She’s too young for that. She’s just a baby.” “Good,” practitioners can reply. “Will you remember that you said that when you get the potty chair in the mail in a few months?” “What potty chair?” a parent will ask, again surprised. At this point, a brief discussion can ensue about the pressures for premature toilet training from family and friends, and parents’ own beliefs about when to toilet train.

Parents may cite a particular chronological age for toilet training, and this may vary among parents of different cultures, but parents can be encouraged to consider the signs of readiness (e.g., interest in putting things away in their proper place, ability to sit still, etc.) that appear with some variability beginning at the end of the second year.<sup>72</sup> They can also be warned against the risks of responding too soon, and too eagerly, to the earliest signs – pointing to the diaper, grunting or going off to a corner while defecating – that often appear at 18 months, before the child is truly ready. Parents can be asked about the approach to toilet training they believe to be best suited to their child’s temperament, and to consider the risks of a non-child-centered approach versus the rewards<sup>72,73</sup> of setting up this process as the child’s achievement, rather than the parents’.



At the one-year visit, the groundwork will have been laid to protect parent and child from external pressure and premature toilet training. These matters can then be productively elaborated on in later visits. Unless parents have undertaken ‘elimination-communication’ (a kind of physiological conditioning dependent on extensive close physical contact, careful cue reading, and consistent responses) in the first year, toilet training can only be effectively begun when a child is cognitively and emotionally ready. This is a function, like feeding, that parents cannot control. Excessive parental pressure arising from unrealistic developmental expectations is likely to set off struggles and developmental derailment, which can take the form of withholding stools and encopresis, for example.

The peak in child abuse associated with toilet training often is associated with such misguided expectations, and an ensuing belief that the child is wetting, soiling, or smearing in retaliation. In some instances, this may indeed be the child’s way of attempting to exert control, or to assert himself in response to pressure that interferes with the establishment of autonomy. This, of course, only heightens the frustrated parent’s sense of being at the child’s mercy, and the exasperation that may spill over into abuse. Anticipatory guidance, however, can prepare parents for the child’s need for control in this area, and for their own understandable feelings of frustration - magnified by the expense and inconvenience of diapering into the third year. These can be reduced with a preventive readjustment of expectations. When early anticipatory guidance includes normalizing predictions about parental reactions to the child’s refusal to cooperate and insistence on control of his own bodily functions, parents are also more likely to confide in pediatric providers later as they experience potentially destructive though understandable antagonism toward the child. This will set up further opportunities to intervene before such feelings are acted on.

***The Role of the Therapeutic Relationship in Anticipatory Guidance and Prevention: Touchpoints as Developmental Opportunities for Relationship Building***

The influence of pediatric practice on critical child-family interactions may be underestimated by providers who limit their approach to teaching, giving advice, or providing information. Extensive research on adult learning and behavioral change<sup>38,74-78</sup> calls into question widespread yet unexamined assumptions about the effects of simply telling parents what to do. Providers’ offer of information is often insufficient unless parents are open to accept it. In addition, consensus on the benefits of intentional relationship-building is emerging from the expanding literature on the therapeutic effects of the physician-patient relationship.

In the context of a physician-patient relationship in which both parties are active participants, and in which patients feel respected listened to cared for patients are far more likely to

- share important information critical to medical-decision making,
- reveal concerns about treatment that may lead to non-compliance if unstated and unaddressed, and
- undergo positive behavioral change.<sup>35,79-88</sup>

The healing effects of the doctor-patient relationship are magnified for parents of chronically ill children who must spend more time in provider offices, and for isolated parents, <sup>89</sup> without other supports, who are at greater risk of neglecting and abusing their children.

Intentional strategies for relationship building and the resulting increase in trust and communication are especially salient to the prevention of pediatric behavioral problems. Parents have many reasons for not sharing information relevant to prevention and health promotion:

- Parents' feelings about their children's progress and their own parental competence are central to their fundamental sense of self-worth and to their effectiveness in parenting. These feelings are often fragile and defensively protected, especially when a child is not thriving, or when a child is in the midst of the regressive period of a developmental touchpoint.
- Parents' childrearing practices are often unconscious or unexamined.
- Parents' views on parenting are deeply personal, strongly held, and emotionally charged, since they are for the most part derived from their own childhood, from their own experience (or lack thereof) of being parented.

Parents are more likely to reveal their concerns and struggles in the context of an intentionally elaborated doctor-patient relationship.

Parents' profound investment in their child's health and well-being, independent of whatever challenges and limitations they may face, offers a unique opportunity for pediatricians to establish and deepen relationships by valuing their passion and commitment, by sharing observations of their children's behavior and of temporary regressions as developmentally-based. Such carefully initiated and managed relationships are a potent diagnostic and therapeutic tool that can

- facilitate more complete and accurate history taking,
- prepare parents to be more open to anticipatory guidance,
- ready parents to reflect on their attitudes and consider the possibility of change,
- decrease parental isolation, a risk factor for child abuse and other pathology, for example parental depression. (Parental depression can increase the risk of prematurity, child abuse, and interfere with optimal child development.)

An accurate assessment of parent-child conflict, one that can be readily shared with parents (and with the old-enough-child) requires that parents confide in a nonjudgmental and trusting climate, and that difficult to acknowledge child behaviors can be safely opened up for shared observation. Every opportunity to strengthen the provider-family relationship in the course of routine care will make these challenging dialogues more effective.

Understanding parental development is as essential as knowledge of child development for pediatric practitioners. When both areas have been mastered, primary pediatric care providers will recognize the meanings of a child's struggles and progress to parents. They can then elicit parents' beliefs, rather than imposing their own, to build therapeutic relationships that help parents to optimize their responses to the demands of their child's development. As parents are invited to share their own interpretations of their child's challenging behaviors – for example, food refusal, tantrums, or bedtime battles -- they have a chance to rework them, to consider what they bring from their own childhood that may interfere with their sensitivity to the child, and then, to consider the child's perspective. In this process of sharing the meaning of the child's behavior with the pediatrician in a short visit, (or in longer ones, when necessary, that may be separately billable as counseling) parents will feel less alone, and freer to redefine the behavior in ways that make them feel more hopeful and effective, less personally targeted by the behavior, and less prone to power struggles that can lead to more serious, and more chronic behavioral problems.

The tendency for medical providers to underestimate the preventive and therapeutic power of their relationships with their patients has been reinforced by shortened visits and related financial pressures. Yet effective doctor-patient relationships can likely reduce some costs, for example, by improving appropriate healthcare resource utilization and treatment compliance, decreasing litigation rates, and preventing physician demoralization and burn-out (in physicians who no longer reap their own rewards from the therapeutic relationship and who must pay the price for poorly managed ones.)

Even with the limited time to devote to each family, there are choices to be made about how to use it. We can squander the precious time we have by offering advice to deaf ears, or we can prepare parents to take it to heart. We can ignore parents' heightened vulnerability and openness to our support during their children's touchpoints or we can present anticipatory guidance at precisely the moments when they are most ready to hear it. We can intimidate parents with our expertise, rather than welcoming theirs. We can tell them what we think or we can invite their observations about their children. We can describe the behaviors that we know matter deeply to show rather than tell parents that we too are committed to their children's well being. We can focus on intentionally building relationships that parents can take with them beyond the confines of our offices and conjure up in moments of doubt and loneliness. We can focus on their failings and their children's deficits, or we can help them see their own strengths through our eyes.

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