

M6: Clinical Reasoning - Designing ASI Intervention Strategies

Adapted from Smith Roley (2018) Eds. Watling & Spitzer Table 32.2. *Autism Across the Lifespan*

| Assessment Areas | Proximal Goals: Desired Adaptive Responses | Therapeutic Activities or Interactions | Distal Goals: Relevance to Participation |
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| <p>Arousal (i.e., alertness, stress state)</p> <ul style="list-style-type: none"> • Interoception • ANS responses | <p>Homeostasis</p> <p>Acquiring and sustaining a calm and alert state</p> | <p>Ensure level of trust. Allow health-promoting sensory play as a means to self-organization as needed.</p> <p>Ensure understanding. Often children with ASD have resting anxiety because of demands in conjunction with difficulty understanding what others want from them.</p> <p>Find a way to communicate intent.</p> <p>Create a daily routine to include calming, alerting, or organizing sensory strategies at various intervals throughout the day.</p> <p>Tip: If child is dysregulated or refusing activities, work on arousal and leave the skills and praxis for later. A passive sensory activity may help. When the child shows an improved regulated state, re-engage with more complex challenges.</p> | <p><i>Health and resilience:</i> Improved nutrition, exercise, and sleep, and more regulated cycles of activities (e.g., toileting, decreased stress and anxiety, waking up happier).</p> <p>Reduced passive use of free time throughout the day and increased active participation in childhood play activities alone and with others.</p> |
| <p>Sensory reactivity</p> <ul style="list-style-type: none"> • (i.e., overreactive, underreactive, or fluctuating reactivity) <p>Internal</p> | <p>Regulated Responses</p> <ul style="list-style-type: none"> • Arousal • Attention • Activity Level • Affect | <p>Reduce those things around the child that might be toxic including allergens. Ensure access to activity breaks other than using technology.</p> <p>Use generalized calming strategies (e.g., massage, swinging, and pressure touch). Start with what the child enjoys and tolerates well and gently introduce new experiences and allow the child to explore the sensations. Never force those things that make the child uncomfortable.</p> | <p>Improved tolerance of the changing range and type of sensory events throughout the day.</p> |

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| <ul style="list-style-type: none"> • Smell/taste • Auditory • Visual • Touch • Movement • Multisensory | | <p>Pair a fun active game with exposure to those sounds or touch to which the child is more sensitive.</p> <p>With gravitational insecurity, invite the child to do activities in which he or she gently crashes, with lots of support down in vertical space. As the child becomes more comfortable, take the challenges higher and higher.</p> <p>Consider creating customized program through the Alert Program for Self-Regulation (Williams & Shellenberger, 1996) or Zones of Regulation (Kuypers, 2011, 2013)</p> <p>Tip: Atypical reactivity is a sign of poor processing linked to stress and neural modulatory systems that change from day to day. Practitioners must be sensitive to environmental, personal, and even invisible triggers and adjust accordingly to help individuals feel more comfortable before moving to more difficult challenges. Never force aversive stimuli. SI is not desensitization; it is integration.</p> | |
| <p>Sensory Perception (i.e., speed and accuracy of information)</p> <ul style="list-style-type: none"> • Internal • Smell/Taste • Auditory • Visual | <p>Information about one's self and nonself i.e. what's outside of oneself</p> <ul style="list-style-type: none"> • Location in space • Location relative to others • Details about | <p>Construct fun ways that increase sensory feedback in the child's best functioning systems. To facilitate an adaptive response, pair these activities with additional sensory motor challenges in their weaker functioning systems.</p> <p>Consider activities that provide multisensory feedback:</p> <ul style="list-style-type: none"> • Vibration with all sensory activities • Vision plus vestibular, • Vision plus tactile • Vestibular plus auditory | <p>Faster information processing required to make smooth, coordinated movements; better body awareness; faster and more accurate information processing of visual and auditory instructions; increased environmental awareness; and increased awareness of</p> |

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| <ul style="list-style-type: none"> • Touch • Proprioception • Vestibular • Multisensory | <ul style="list-style-type: none"> • self, objects, and others • Ability to process information about one's self relative to other people • Ability to process information about one's self relative to the environment | <ul style="list-style-type: none"> • Vestibular plus proprioception • Proprioceptive with touch • All of the above in a series of fun and engaging activities. <p>Challenge the child to see what he or she can do without vision (e.g., climbing through a tunnel, finding things buried in a tactile bin, closing eyes and going on a treasure hunt).</p> <p>Tip: Observe what the child is observing. Start there. Don't go too quickly. Slow down when presenting information and allow time for processing and responding, which may take longer than is comfortable. Reduce social and language demands during an activity in which the child is learning about his or her body. Increase the intensity of sensory feedback to decrease the time in the activity.</p> | <p>surrounding details and nuances.</p> |
| <p>Postural control</p> <ul style="list-style-type: none"> • Static and Dynamic Postural Ocular Control • Bilateral Motor Control • Lateralized Skills | <p>Sensory–motor skills</p> <ul style="list-style-type: none"> • Fine motor skills • Hand skills • Ocular–motor skills • Ability to use 2 body sides together, including hand function | <p>Increase strength, dexterity, and coordination by increasing body awareness through sensory activities and eliciting automatic postural responses during movement activities (e.g., obstacle courses, swinging activities).</p> <p>Include activities within therapeutic play, so the child can adjust the equipment using hand skills, navigate obstacles with his or her body, and use effort in coordinating the 2 body sides together.</p> <p>Ensure access to physical activities.</p> <p>Expose the child to noncompetitive sport activities.</p> <p>Tip: Children may avoid postural challenges by falling into gravity, appearing to avoid the task. Reduce the demand on posture by doing activities lying on the mat or in the swing.</p> | <p>Better fine motor skills (e.g., hand use, writing) and improved gross motor skills used on playgrounds and during sports.</p> |

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| | <ul style="list-style-type: none"> • Ability to cooperatively use both sides of the body | <p>Motivation and interest increases postural control, so introduce something fun and novel that will excite the child to sit up and look toward the activity or person. Give short breaks because the child may quickly fatigue, and then then continue the session.</p> | |
| <p>Praxis</p> <ul style="list-style-type: none"> • Motor Planning steps toward • Imitation • Construction • Sequencing • Following Verbal Instructions • Ideation | <p>Anticipating, planning, and organization</p> <ul style="list-style-type: none"> • Body schema • Somatosensory awareness • Environmental awareness by visually scanning or listening and identifying resources, including where, when and what they're for • Social awareness, including understanding what other people are requesting or | <p>Provide sensory-rich activities that help the child understand his or her body (e.g., building body scheme, understanding gravity, orienting to space, decoding sound).</p> <p>Strengthen several postural and motor skills that can be put together when presented with novel sensory motor challenges.</p> <p>Allow the child to problem-solve through subtle or dramatic perceptual changes in the environment that involve orienting and then planning a way to interact in that environment.</p> <p>Have sufficient types and sizes of equipment (i.e., affordances) available to build the activity.</p> <p>Do things that are creative and have multiple steps.</p> <p>Continually implement slight changes in an activity every time the child accepts the previous change.</p> <p>Before using language-based directions, provide visual supports, modeling, and joint participation with the child.</p> <p>Following success or at the end of a session, ask the child to draw or recount the activities he or she enjoyed and use these tools to plan for the next time.</p> <p>Help the child document what he or she enjoyed, would like to do, what materials could be used, and where is might be done(e.g., home, classroom, next time at therapy).</p> | <p>Ease of transitions, following other-directed activities, figuring out something new, joining in games with age-related peers, tolerating changes in routines, engaging in goal-directed behavior (e.g., chunking activities into manageable steps, anticipating what's needed in the future by knowing the next steps in a routine to planning a complex school project coordinated with a team with a future due date).</p> |

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| | <p>expecting and following instructions</p> | <p>Apply the following principles of progression of praxis adaptive responses:</p> <ul style="list-style-type: none"> • Simple to complex • Stable to moving (i.e., feedback-dependent to feedforward action plans). • Using the body as tool to using objects as tools • Familiar to unfamiliar • Concrete to representational • Sensory body-centered play to imaginative play • Orienting to objects to organizing objects for future use • Solitary to cooperative activities • Immediate to future • Single step to multiple steps • Done by self to done with adults to done with peers • Relating to known and trusted adults to relating to groups of friends or strangers in the community • Doing things spontaneously to setting goals, beginning, doing the steps, and completing the activity • Needing reminders or prompts to independence in completing tasks • Relying on someone else's ideas during free time to coming up with one's own ideas • Taking skills and abilities learned in one situation and generalizing them for more complex tasks or in novel situations or environments <p>Tip: When children feel overwhelmed by the praxis challenges, they often refuse or fail to complete the whole sequence. If you see the child reverting to centrally planned actions (e.g., aimlessly running, jumping, climbing, or other random movement), then he</p> | |
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| | | or she will benefit from activities that support a better regulated state and increased sensory information prior to going into the practice demand. Reduce the required number or complexity of steps before moving on. Behavior is a way to communicate, and the child may be communicating how difficult it is to plan and organize himself or herself or to understand what others want. | |
| <p>Organization of Behavior</p> <ul style="list-style-type: none"> • Time • Space | <p>Linking sequences of activities to the time that it takes to complete them, including organizing future events.</p> <p>Linking sequences of activities to the space required, including spatially organizing self and objects.</p> | <p>In addition to SI activities, provide cognitive supports for the child to understand his or her sensory, motor, and praxis needs for self-determination and constructing a life that can be enjoyed with family and friends.</p> <p>Assist the child and family to incorporate health-promoting SI strategies into habits and routines.</p> <p>Look forward into the life of the child and family and anticipate needs and community resources for short- and long-term engagement.</p> <p>Tip: As children get older, more demands are placed on them to figure out how to organize increasingly complex sets of occupations and co-occupations in time and space.</p> | <p>Increased Executive Functioning that allows foresight of consequences of actions, and environment, and social participation.</p> |

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ANS = autonomic nervous system; ASD = autism spectrum disorder; EF = executive functioning; SI = sensory integration.

References

Kuypers, L. (2011). *Zones of regulation: A curriculum designed to foster self-regulation and emotional control*. Santa Clara, CA: Think Social Publishing.

Kuypers, L. (2013, December). The Zones of Regulation: A Framework to Foster Self-Regulation. *Sensory Integration*. 36(4), 1-3.

Williams, M. S. & Shellenberger, S. (1996). *How does your engine run®? A leaders guide to the Alert Program® for Self-Regulation*. Albuquerque, NM: TherapyWorks.