

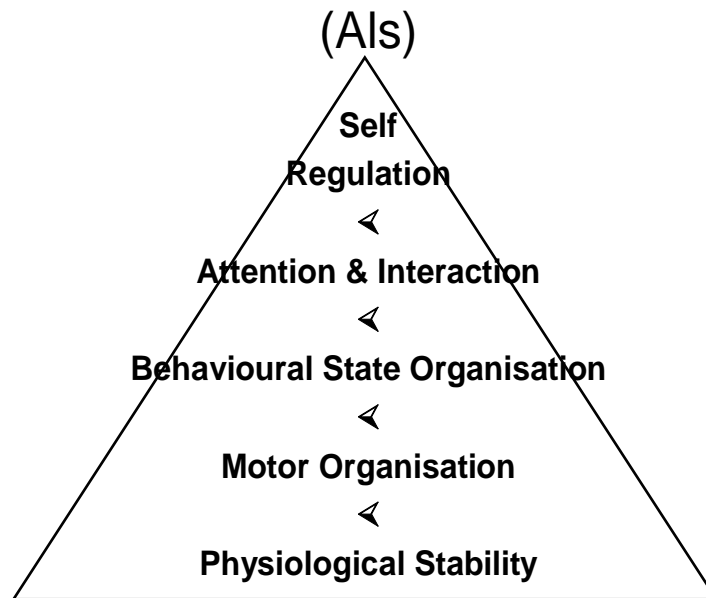
## BEHAVIORAL INDICATORS OF NEWBORN STRESS/INSTABILITY AND STABILITY

STRESS & DEFENSE BEHAVIORS	SIGNS OF STABILITY, SELF REGULATORY & APPROACH BEHAVIORS
<p><b>Physiological/Autonomic Indicators</b></p> <ul style="list-style-type: none"> <li>Color changes (pale, dusky/cyanotic, skin mottling)</li> <li>Change in respiratory rate or rhythm</li> <li>Change in heart rate</li> <li>Visceral signs               <ul style="list-style-type: none"> <li>Coughing</li> <li>Sneezing</li> <li>Yawning</li> <li>Vomiting</li> <li>Straining/Bowel movement</li> <li>Hiccups</li> </ul> </li> </ul>	<p><b>Physiological/Autonomic</b></p> <ul style="list-style-type: none"> <li>Smooth respiration</li> <li>Pink stable colour</li> <li>Stable heart rate</li> <li>Stable viscera</li> </ul>
<p><b>Motor Indicators</b></p> <ul style="list-style-type: none"> <li>Sudden change in muscle tone</li> <li>Flaccidity (truncal, extremities, facial) - tuning out'</li> <li>Extended postures (leg bracing, opisthotonus, finger splaying, facial grimacing, tongue protrusion, 'saluting' arms)</li> <li>Alterations in the quality of movement (disorganization of movement, jitteriness, squirminess)</li> </ul>	<p><b>Motoric stability</b></p> <ul style="list-style-type: none"> <li>Well regulated muscle tone</li> <li>Well-modulated postures</li> <li>Smooth synchronized body movements (hand clasping, foot clasping, hand-to-mouth activity, grasping, sucking)</li> </ul>
<p><b>Behavioral/State Related Indicators</b></p> <ul style="list-style-type: none"> <li>Irritability (crying, inconsolability)</li> <li>Staring</li> <li>Gaze Aversion</li> <li>Hyperalertness, worried alertness</li> <li>Roving eye movements</li> <li>Glassy-eyed appearance</li> <li>Sleeplessness and restlessness</li> <li>Irregular/Rapid state changes</li> </ul>	<p><b>Behavioural and state stability</b></p> <ul style="list-style-type: none"> <li>Clear robust sleep states</li> <li>Rhythmical robust crying</li> <li>Effective self quieting</li> <li>Reliable consolability</li> <li>Focused alertness with intent, bright eyed, cooing, animated facial expression, mouth pursing to 'ooh' face</li> <li>Smooth state transitions</li> </ul>

References: Als (1986); Sheahan & Brockway (1994)

## NEWBORN NEUROBEHAVIORAL SUBSYSTEMS

### Synactive Model of Infant Neurobehavioural Organisation



#### Self Regulation

Ability to maintain or regain a stable, well modulated subsystem balance, including behaviours the infant uses and facilitation that the infant requires from the environment to achieve and sustain this balance.

#### Attention and Interaction

Ability to attend to and process simple visual and auditory stimuli.

#### State Organisation

Regulating changes in consciousness. Differentiation of states of arousal with emerging sleep, wake and crying states; distinctness versus diffuseness of states; and state transition patterns.

#### Motor Organisation

Modulation of muscle tone, postural adjustments, control movements, and performance of integrated motor acts.

#### Physiological/Autonomic

Stabilisation and integration of autonomic functions such as heart rate, respiration, thermoregulation, and digestion.

Reference: Als (1986). A synactive model of neonatal behavioral organization: Framework for the assessment of neurobehavioral development in the premature infant and for the support of infants and parents in the neonatal intensive care environment. *Physical and Occupational Therapy in Pediatrics*, 6, 3-35.