Abnormal movements in newborn babies

Seizure activity

- **Clonic**
  - Repetitive muscle contraction
- **Tonic**
  - Sustained muscle contraction
- **Myoclonic**
  - Brief active muscle contraction (s)
- **Automatisms**
  - **Orolingual**
    - Mouthing/chewing
    - Tongue movements
    - Crying
    - Yawning
    - Noises or vocalisation
    - Dry retching
  - **Ocular**
    - Opening
    - Flickering
    - Deviation
    - Nystagmus
- **Limb movements**
  - Pedalling
  - Swimming
  - Rowing
  - Boxing jabs
- **Epileptic spasms**
  - Sudden flexion or extension
  - Grimacing, head nodding, subtle eye movements

Autonomic
- Cardio-pulmonary
  - Colour change
  - Sigh/grasp/breathing change
  - Oxygen saturation reduces
  - Apnoea
  - HR change > 10 bpm
  - BP increase or decrease
- Pupillary
- Gastrointestinal
- Sudomotor
- Vasomotor
- Thermoregulatory

Behavioural arrest
- Motionless/mark reduction in activity
- Staring

Sequential
- Sequence of signs, symptoms and EEG changes

Unclassified
- Features not usual to other categories

Non-seizure activity

- Jitteriness
- Excessive startles
- Benign neonatal sleep myoclonus
- Tremors
- Clonus

<table>
<thead>
<tr>
<th>Jitteriness versus seizures</th>
<th>Jitteriness</th>
<th>Seizures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abnormal gaze/eve movement</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Predominant movement</td>
<td>Tremor, rapid, oscillatory</td>
<td>Repetitive clonic, jerking, tonic</td>
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<tr>
<td>Movements cease with passive flexion</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Stimulus provoked movement</td>
<td>Yes</td>
<td>Maybe</td>
</tr>
<tr>
<td>Conscious state/autonomic change</td>
<td>Awake or asleep</td>
<td>Altered</td>
</tr>
</tbody>
</table>

**Abbreviations:** BP: blood pressure, EEG: electroencephalogram, HR: heart rate, > greater than