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राष्ट्रीय आयुर्विज्ञान आयोग  
**NATIONAL MEDICAL COMMISSION**  
आचार और चिकित्सा पंजीकरण बोर्ड  
**ETHICS AND MEDICAL REGISTRATION BOARD**

No. R-13014/28/2022/Ethics

Dated the 6<sup>th</sup> December, 2022

**RECOMMENDATIONS OF THE COMMITTEE ON STEM CELL USE IN ASD**

Ethics & Medical Registration Board (EMRB) of the National Medical Commission had constituted a committee of experts to examine the issues related to prescription, recommendation or administration of stem cell treatment for Autism Spectrum Disorder (ASD). The committee has finalized its report. The report of the Committee along with its recommendations is enclosed.

*V. Nag*  
6/12/2022  
(Dr. Vijaya Lakshmi Nag)  
Member, EMRB

Encl.: As above.

## REPORT OF THE COMMITTEE ON STEM CELL USE IN AUTISM SPECTRUM DISORDER

### Sections

1. Current understanding of ASD
2. Stem cells in health and SCT research in ASD
3. Well-established clinical uses of SCT
4. SCT in ASD - a critical appraisal and recommendations

### SECTION 1: CURRENT UNDERSTANDING OF ASD

**Definition and Epidemiology: Autism spectrum disorder (ASD) belongs to group of disorders called neurodevelopmental disorders, which are** characterized by delay or disturbance in the acquisition of skills in a variety of developmental domains, including motor, social, language and intellectual development. Defining feature of ASD is impairment in development of social interaction and social communication, with repetitive patterns of behaviours, beginning in the early developmental period. The worldwide prevalence of ASD is 0.76% as per the World Health Organization (WHO). Prevalence in India is estimated to be around 1-2/1000. ASD occurs in all racial, ethnic, and socioeconomic groups, and is about 3 times more common in boys.

**Clinical features, nature, course and early diagnosis:** ASD is a chronic condition with onset in early childhood, with core symptoms that often persist throughout the lifespan. However, its manifestations and severity may vary from person to person, and with age. Impairment in social communication manifests as failure of back and forth communication, Impairment in non-verbal communicative behaviours, and failure to initiate or respond to social interactions. They are often seen to be 'in their own world', having no interest in people or interacting with people and have difficulty in developing and maintaining relationships and friendships. Restricted, repetitive patterns manifest as stereotyped repetitive motor movements, insistence on sameness, or highly restricted, fixated interests. Diagnosis is based on meticulous history, careful clinical evaluation by an expert supplemented by standardised checklists, rating scales and interviews. There is no "specific test" or physical investigation to diagnose ASD.

Early diagnosis is imperative for developing an early intervention strategy in ASD. Checklists such as Modified checklist for autism for toddlers (M-CHAT) are useful in identifying children at risk for ASD.

**Comorbidities:** A subset of individuals with ASD may have co-existing other developmental medical and behavioural problems. These comorbidities often exacerbate core features and bear a significant impact on activities of daily living. **Developmental comorbidities** include intellectual disability, severe speech and language impairments, and attention deficit hyperactivity disorder (ADHD). **Medical comorbidities** comprise epilepsy, sleeping and feeding disorders, and underlying genetic conditions. **Behavioural / psychiatric comorbidities** include hyperactivity, irritability, agitation, aggression, self-injurious behaviors, anxiety, mood disturbances, and obsessive compulsive disorder.

  
