

Neurotoxicity assessment for CAR-T cell therapy

Assessment and grading of ICANS using the Immune Effector Cell-Associated Encephalopathy (ICE) Score should be done at least every 8 h.

Surname	MRN
Forename	D.o.B
Address	NHS No.
Postcode	

Date	Baseline												
Time													
Year (1p)													
Month (1p)													
City (1p)													
Hospital (1p)													
Follow commands (1p)													
Naming three nearby objects (max 3p)													
Writing a standard sentence (1p)													
Count backwards from 100 in tens (1p)													
ICE score													
Depression level of consciousness													
Seizures													
Motor findings													
Elevated ICP/cerebral oedema													
ICANS Grade													

ASTCT ICANS Consensus Grading for Adults

Neurotoxicity Domain	Grade 0	Grade 1	Grade 2	Grade 3	Grade 4
ICE Score ¹	10	7 - 9	3 - 6	0 - 2	0 (patient is unarousable and unable to perform ICE)
Depression level of consciousness ²	N/A	Awakens spontaneously	Awakens to voice	Awakens only to tactile stimulus	Patient is unarousable or requires vigorous or repetitive tactile stimuli to arouse. Stupor or coma
Seizures	N/A	N/A	N/A	Any clinical seizure focal or generalized that resolves rapidly or nonconvulsive seizures on EEG that resolve with intervention	Life-threatening prolonged seizure (>5 min); or Repetitive clinical or electrical seizures without return to baseline in between
Motor findings ³	N/A	N/A	N/A	N/A	Deep focal motor weakness such as hemiparesis or paraparesis
Elevated ICP/cerebral edema	N/A	N/A	N/A	Focal/local edema on Neuroimaging ⁴	Diffuse cerebral edema on neuroimaging; decerebrate or decorticate posturing; or cranial nerve VI palsy; or papilloedema; or Cushing's triad

ICANS grade is determined by the most severe event (ICE score, level of consciousness, seizure, motor findings, raised ICP/cerebral oedema) not attributable to any other cause; for example, a patient with an ICE score of 3 who has a generalized seizure is classified as grade 3 ICANS.

N/A indicates not applicable.

1. A patient with an ICE score of 0 may be classified as grade 3 ICANS if awake with global aphasia, but a patient with an ICE score of 0 may be classified as grade 4 ICANS if unarousable.
2. Depressed level of consciousness should be attributable to no other cause (eg, no sedating medication).
3. Tremors and myoclonus associated with immune effector cell therapies may be graded according to CTCAE v5.0, but they do not influence ICANS grading.
4. Intracranial hemorrhage with or without associated edema is not considered a neurotoxicity feature and is excluded from ICANS grading. It may be graded according to CTCAE v5.0.

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