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[Original article, 7 tables, 2 appendices]

## **Development and reliability of a system to classify the eating and drinking ability of people with cerebral palsy**

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### **ABBREVIATIONS**

EDACS	Eating and Drinking Ability Classification System
NGP	Nominal group process
SaLT	Speech and language therapist

## **[Abstract]**

**Aim** The aim of this study was to develop a valid classification system to describe eating and drinking ability in people with cerebral palsy (CP), and to test its reliability.

**Method** The Eating and Drinking Ability Classification System (EDACS) was developed in four stages in consultation with individuals with CP, parents, and health professionals: Stage 1, drafting informed by literature and clinical experience; (Stage 2, modification by nominal groups; Stage 3, refinement in an international Delphi survey; and Stage 4, testing of agreement and reliability between classifications made by speech and language therapists (SaLTs), and between SaLTs and parents.

**Results** Seven nominal groups involved 56 participants; 95 people participated in two rounds of the Delphi survey. Using the version of EDACS produced from this process, pairs of SaLTs classified 100 children. The rate of absolute agreement was 78% ( $\kappa=0.72$ ; intraclass correlation coefficient [ICC]=0.93; 95% confidence interval [CI] 0.90–0.95). Any disagreement was only by one level, with one exception. SaLTs and parents classified 48 children. The rate of absolute agreement was 58% ( $\kappa=0.45$ , ICC=0.86; 95% CI 0.76–0.92). Parents either agreed with SaLTs or rated their children as more able by one level.

**Interpretation** The EDACS provides a valid and reliable system for classifying eating and drinking performance of people with CP, for use in both clinical and research contexts.

### **What this paper adds**

- The EDACS provides a valid and reliable system for classifying eating and drinking performance of people with CP.
- EDACS describes the whole range of ability from age 3 years, providing a context for parents to consider their own child's eating and drinking.

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Classification of Eating and Drinking Ability in CP *Diane Sellers et al.*

### **[Text]**

People with cerebral palsy (CP) are affected by a range of activity limitations, attributed to non-progressive disturbances occurring in the developing fetal or infant brain.<sup>1</sup> The motor disorders of CP are often accompanied by disturbances of sensation, perception, cognition, communication, and behaviour, by epilepsy, and by secondary musculoskeletal problems.<sup>1</sup> Impairments can limit the oral skills required for eating, drinking, and swallowing, with consequent risks of respiratory problems linked to direct aspiration of food and fluid into the lungs,<sup>2–4</sup> and inadequate nutrition and hydration.<sup>5,6</sup> Activity limitations also affect the ability to bring food and drink to the mouth. The degree to which a person with CP can control the posture and movement of the trunk and head has a direct impact on the efficient use of the muscle systems which support feeding and breathing.<sup>7,8</sup>

The prevalence of eating and drinking difficulties in individuals with CP is unclear.<sup>9</sup> Estimates depend on the definitions and tools used, ranging from 27%<sup>10</sup> to 90%.<sup>11</sup> Prevalence has been proposed to be related to severity of motor impairment,<sup>12</sup> although eating and drinking problems have also been reported to occur in individuals at Gross Motor Function Classification System (GMFCS) levels I and II.<sup>13,14</sup> There is no agreement in the literature about the definition of the terms mild, moderate, and severe in relation to limitations to eating and drinking ability, or whether focus should be at the level of body functions and structures, activity, and/or participation. A recent systematic review identified the lack of a valid and reliable ordinal scale to classify the eating and drinking abilities of people with CP in both clinical and research contexts.<sup>15</sup>

The purpose of this study was to develop the Eating and Drinking Ability Classification System (EDACS) for people with CP, and evaluate its validity and reliability, making use of defined quality standards. Content validity is considered positive if there is a clear statement of purpose of the assessment and clear identification of the target population and concepts being measured. Content should be identified with input from the target population as well as experts and investigators; reliability is considered satisfactory if the intraclass correlation coefficient (ICC; or weighted kappa) is at least 0.7 in a sample size of at least 50 patients.<sup>16</sup>

The EDACS is analogous and complementary to the GMFCS,<sup>17</sup> the Manual Ability Classification System (MACS)<sup>18</sup> or the Communication Function Classification System (CFCS).<sup>19</sup> Thus, the intention is for the EDACS to be of use in both research and clinical contexts, by health care professionals and parents.

## **METHOD**

Development of the EDACS involved four distinct stages, derived from the process set out by the developers of the GMFCS, MACS, and CFCS. The original draft for the EDACS was constructed from the literature and clinical experience. The draft was examined and revised using several iterations of a Nominal Group Process.<sup>20</sup> Further examination and revision to the EDACS took place within two rounds of an online Delphi survey<sup>20,21</sup> until agreement about the content was reached. The final stage assessed reliability between speech and language therapists (SaLTs) and between SaLTs and parents. Ethics approval for the research was granted by National Research Ethics Service Brighton West Research Ethics Committee, REC reference 09/H1111/66; Research Governance was provided by Sussex National Health Service Research Consortium.

### **Stage 1: Drafting of the Eating and Drinking Ability Classification System**

The initial draft was constructed based on reviews of the literature,<sup>3-5,7,8,22-24</sup> clinical experience, and discussion with members of the nutrition team at Chailey

Heritage Clinical Services (a SaLT with specialist paediatric dysphagia training, a neurodevelopmental paediatrician, a specialist paediatric dietician, and a nutrition nurse specialist) and Chailey Heritage Research Advisory Group. A hierarchical algorithm model was used to define five levels of eating and drinking ability with reference to the key features of 'safety' and 'efficiency'. 'Safety' referred to food or fluid textures that a person with CP could manage to bite, chew, and swallow without risk of harm, choking, aspiration, coughing, or changes to breathing. 'Efficiency' referred to loss of food and fluid from the mouth as well as the range and speed of oral movements associated with eating and drinking.

## **Stage 2: Nominal group process**

### ***Participants***

The nominal group process (NGP) included 56 invited participants from the UK. Literacy and communication support was available where needed. See Table I for backgrounds of participants.

### ***Procedures***

The NGP was developed to enable investigation of a particular problem within a face-to-face meeting, to provide a means of aggregating group judgements, and to examine levels of consensus.<sup>20</sup> Seven NGP groups were created in different locations around England where participants examined the content of the EDACS and suggested changes. Two or more members of the project team attended every group meeting, and all members of the project team participated in at least one group; the first author facilitated the groups. At least 1 week before each group meeting, participants were sent the latest version of the EDACS. During the session, participants were given time to read the EDACS in silence, and comment individually and in turn on each detail of the system prompted by a series of statements. The statements examined the purpose, content, appropriateness, and clarity of the EDACS draft; participants were encouraged to suggest changes. Feedback from all participants was collated and discussed. At the end of each group, participants were invited to independently select and rank in order of importance five of the suggested changes to the EDACS.

## **Results**

The EDACS draft was revised progressively throughout the NGP using feedback from group participants. The scores given by participants to the suggestions for change were aggregated for each group; the five most popular suggestions were incorporated into the next draft. Attention was also given to other suggestions, particularly if individuals had ranked them as first or second in order of importance; this ensured that views held by solitary specialists within groups were considered. The revised EDACS draft was presented to the next NGP until no new substantive issues emerged, and only text changes were suggested.

A substantial change to the EDACS draft was the emergence of a separate three-level ordinal scale detailing the level of assistance required at mealtimes. There were differences of opinion among participants about the lower age limit from which a classification of eating and drinking ability using the EDACS could be made. Mixed views were expressed about whether the EDACS was appropriate to be used by parents, all health care professionals, or only specialists with expert knowledge about eating and drinking.

### **Stage 3: Delphi survey**

#### ***Participants***

The first author invited participation in the Delphi survey through specialist networks for people with CP, parents and professionals, as well as by directly approaching people with expert knowledge recognized through publication. Ninety-five international participants, with expert knowledge of CP acquired across five continents, were recruited to take part in the Delphi survey. Participants all had more than 2 years' experience of living with CP, caring for or working with someone with CP (range 2–52y; median 16y; mean 19.6y; SD 11.8y). All participants were asked to identify significant features of eating and drinking for individuals with CP as a means of gauging their level of expertise; no participant's contributions were excluded from the survey because of their response to this question. Hard copies of the survey and literacy and

communication support were made available where required. Eighty-seven participants took part in the first round of the Delphi survey; 64 also completed round 2. There were seven participants who participated in the second round who had not responded in first round; one new participant joined in round 2. See Table I for backgrounds of participants.

### ***Procedures***

Delphi surveys provide a means of structuring group interaction, facilitating equal participation, with the potential to preserve the anonymity of participants who contribute their opinions.<sup>20,21</sup> Feedback from each round is given to participants until stability of group opinion or consensus emerges. Participants were asked to examine the content of the EDACS represented in a series of statements, using both open-ended questions and seven-point Likert scales (where 1 = strong disagreement, 4 = neither agree nor disagree, 7 = strong agreement). Surveys were completed either online or on hard copy. The survey was repeated until there was more than 80% agreement for all statements representing the EDACS content. The EDACS was modified after each round using free-text feedback, and returned to all participants with a summary of the group responses and relevant revisions. The conduct of the Delphi survey followed recommended good practice.<sup>25</sup>

### ***Results***

More than 80% of participants agreed with 39 out of 42 statements representing the content of the EDACS in round 1, selecting a score of 5 or more on each Likert scale. In the case of the remaining three statements, the levels of agreement were, for statement 22 (EDACS should classify the eating and drinking abilities of individuals with CP from the age of 3 years), 58% agreement; for statement 30 (No other definitions are required), 70% agreement; and, for statement 31 (EDACS should contain five levels, in line with other functional classification systems), 78% agreement.

Changes made to the EDACS following round 1 included revisions to the definitions of terms used and a clearer layout of information presented. Where participants commented on their disagreement with statement 22, 37 out of 41 suggested that classification should take place from diagnosis of CP or at a younger age than 3 years. The EDACS draft was further revised and five statements representing content yet to reach the required level of agreement were sent out for consideration in round 2. These five statements concerned the content and clarity of definitions used, whether the five EDACS levels covered the range of eating and drinking ability, the clarity of the distinctions between the levels, and the validity of the descriptions of eating and drinking ability for people with CP from 3 years of age. All statements received the required level of agreement in round 2.

Fifteen of the 69 participants who agreed with more than 80% of the content of the EDACS in round 1 did not complete the second round of the Delphi survey; 10 out of 18 participants who agreed with less than 80% of the EDACS content did not complete the second round. Overall, 86 out of 87 participants in round 1 and 71 out of 72 participants in round 2 agreed with more than 60% of the content of the EDACS.

The key features of 'safety' and 'efficiency' of eating and drinking, with reference to a range of food textures and fluid consistencies, in five levels of ability, were endorsed. Individuals at level I were agreed to have few limitations to eating and drinking, and individuals at level V are unable to eat and drink. Three levels indicating degree of assistance required when eating and drinking were also defined. The EDACS was agreed to be appropriate from age 3 years. Table II shows general summary headings for the five EDACS levels and three levels of assistance required, alongside the five levels of the GMFCS. The EDACS has been included in Appendix SI (online supporting information) and can be downloaded from the EDACS website ([www.EDACS.org](http://www.EDACS.org)).

#### **Stage 4: Reliability**

## **Participants**

Participants in the reliability study comprised 25 SaLTs with specialist knowledge about eating and drinking and CP, working in special schools in the UK, and 48 parents of children with CP who attended these schools. Although no parent was excluded from the reliability study, participation was dependent upon understanding written English in order to read EDACS and complete the postal survey. The EDACS was used to classify the eating and drinking ability of 129 children and young people with CP (age range 4y–22y; median age 14y; mean age 14y, SD 4y 3mo). Other demographic information collected for the children and young people included sex, GMFCS level, CP subtype, presence of feeding tube, and presence of seizure activity (Tables III and VII).

## **Procedures**

Pairs of SaLTs who both knew the same child or young person with CP well were asked to classify their eating and drinking performance and levels of assistance required, using their knowledge of the child, case notes and written mealtime guidance. SaLT1 was identified as the therapist who knew the child best and was working with the child on a regular basis; SaLT2 was another therapist who was familiar with the child's eating and drinking ability. Parents of children with CP known to the SaLTs were invited to participate in a postal survey, by rating the eating and drinking ability and levels of assistance required using the EDACS. The survey was returned by 48 of 233 of parents invited (20.6%). The EDACS levels assigned by parents were compared with those assigned by SaLTs ( $n=19$ ) familiar with the child. Neither parents nor SaLTs received any training in using the EDACS; classification was based on instructions provided in the document.

Absolute agreement and the extent to which agreement exceeded chance (kappa)<sup>26</sup> were calculated between twinned independent observers. Kappa values of 0.41–0.6 indicate moderate agreement, 0.61–0.80 substantial agreement, and values between 0.81 and 1.00 almost perfect agreement.<sup>27</sup> ICCs (two-way random effects single measures consistency) were calculated to assess reliability;<sup>28</sup> an ICC of 0.7 or higher is considered acceptable for measures in

groups, and ICCs exceeding 0.9 are regarded as reliable for use clinically with individuals.<sup>29</sup> Kendall's tau was calculated to examine the association between EDACS level and level of assistance required at mealtimes, and the association between EDACS and GMFCS levels.

## **Results**

Tables IV and V show the results of the reliability studies. When pairs of SaLTs ( $n=19$ ) used the EDACS to rate 100 children (age range 4–22y, mean 14y, SD 4y 3mo), absolute agreement was 78% ( $\kappa=0.72$ , indicating substantial agreement).<sup>27</sup> There was a high level of consistency in the use of the EDACS by SaLTs ( $ICC=0.93$ ; 95% CI 0.90–0.95); where there was disagreement it was only by one level, with one exception. When pairs of SaLTs assigned the degree of assistance required, absolute agreement was 87% ( $\kappa=0.80$ ;  $ICC=0.92$ ; 95% CI 0.88–0.94), indicating excellent agreement and reliability.

When SaLTs and parents used the EDACS to rate 48 children (age range 4–17y, mean 12y, SD 3.84y), absolute agreement was 58% ( $\kappa=0.45$ ;  $ICC=0.86$ ; 95% CI 0.76 to 0.92); for degree of assistance, absolute agreement was 79% ( $\kappa=0.64$ ;  $ICC=0.77$ ; 95% CI 0.62–0.87), indicating moderate to substantial agreement and good to excellent reliability. Parents either agreed with the SaLT or assigned a level one higher than that assigned by the SaLT, that is, some parents rated their children as more able.

There is a significant positive correlation between EDACS level and level of assistance required to bring food and fluid to the mouth (Kendall's tau=0.69,  $p<0.01$ ). Table VI shows a comparison between GMFCS levels and EDACS levels; there was a statistically significant but only moderate positive correlation between the EDACS and the GMFCS (Kendall's tau=0.5,  $p<0.01$ ), challenging the assumption that individuals with the most severe overall movement difficulties will have the greatest limitations to eating and drinking. Table VII shows the presence of a feeding tube and seizure activity associated with EDACS levels.

## **DISCUSSION**

The EDACS has been carefully developed using a staged approach, including review of the research literature and clinical experience, NGP, and an online Delphi survey to engage the collective expert knowledge and opinions of a wide range of participants, and reliability testing. We have demonstrated evidence of the content validity of the EDACS, and that classification is broadly reliable.<sup>16</sup> The system describes functional eating and drinking ability in people with CP from the age of 3 years. The EDACS identifies the key features of safety (choking and aspiration risk) and efficiency (time taken in relation to peers and loss of food and fluid from the mouth) linked with limitations to oral skills required for biting, chewing, and swallowing. The level of assistance required at mealtimes is described in a separate scale. The five distinct levels of ability include information about biting, chewing, and swallowing ability, food and fluid textures that are managed, breath changes associated with eating and/or drinking, and risk due to aspiration or choking.

When specialist trained SaLTs use the EDACS to rate the eating and drinking ability of children with CP known to them, measures of agreement and reliability are 'substantial'; measures of agreement for the scale measuring level of assistance required are 'almost perfect'.<sup>27</sup> SaLTs assigned the same level or disagreed by only one level for all but one child, for whom disagreement was by two levels. There are differences in the ways that parents use the EDACS, as indicated by lower agreement. Parents, however, appear generally consistent in the way they use the scale compared with SaLTs, assigning either the same level or one level higher, indicating a greater level of ability. It is unclear from this study whether differences are associated with children's different abilities in different environments with familiar and unfamiliar carers or whether they arise from different levels of awareness of the risks associated with eating and drinking, such as silent aspiration.<sup>2-4</sup> Feedback during the reliability studies from parents and SaLTs suggested that some differences were linked to different levels of risk that children were exposed to: school environments often limit the exposure of children with CP to food and fluid textures that increase the risks of

choking and aspiration, whereas parents are willing to work at the edges of their children's abilities even if this entails emergency interventions. This emphasizes the potential importance of professionals asking parents to classify their child's eating and drinking ability in order to have a fuller understanding of their performance across environments.

The significant but moderate association between the EDACS and the GMFCS highlights the need for eating and drinking ability to be considered separately from gross motor function. The association between eating and drinking ability and the ability to bring food and drink to the mouth is also significant but moderate, supporting the need for these skills to be considered separately. As might be expected, the incidence of tube feeding increases with EDACS levels although feeding tubes were used by some children at EDACS levels I to III. There is, also, an increased incidence of seizure activity with increasing limitations to eating and drinking ability.

The EDACS offers a system for classifying eating and drinking ability that is distinct from detailed clinical assessments and/or guidelines for mealtime management. It provides a means to recognize and distinguish different levels of functional performance to aid communication between people with CP, their parents and different healthcare professionals working in different settings. It provides a context, describing the whole range of ability, for parents to consider and understand their own child's eating and drinking ability. It has the potential to be used in population studies to explore the stability, progression or regression of eating and drinking ability for individuals with CP, as well as associations with compromised hydration and nutrition, respiratory illness and other health concerns.

There are limitations to the study in that a large number of parents invited to take part in the reliability studies chose not to return the survey. There were very few responses from parents of children rated by SaLTs as EDACS level I. Reduced variability in the sample can influence assessment of reliability.<sup>28</sup> Some

individuals with CP found the full instruction leaflet difficult to understand and requested a shorter version in plain English. Specific questionnaires to enable family report for the GMFCS have been found to be reliable.<sup>30,31</sup> Future studies could explore the cognitive processes by which parents and professionals use classification systems like the EDACS, and further assessment of the reliability between parents' and professionals' classifications using the EDACS is warranted.

Participants in the NGP and Delphi survey identified the need for the development of descriptions of eating and drinking ability for children with CP younger than 3 years; sufficient research data to outline the developmental progression of eating and drinking ability for children with CP under 3 years were not available when the EDACS draft was under construction. Continued development of the EDACS to describe levels of ability for children with CP under 3 years should be considered.

The EDACS contributes another dimension to the growing family of classification systems (GMFCS, MACS, CFCS) describing functional performance within daily life for people with CP. The EDACS is designed for use by parents and/or professionals, and could facilitate working in partnership, and enable more robust clinical and population-based research.

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## Supporting information

The following additional material may be found online.

**Appendix SI:** Full EDACS documents

**Appendix SII:** Participants of the Delphi survey who gave consent to the publication of their names

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**Table I:** Backgrounds of participants in nominal group process and Delphi survey

Background	Nominal group, <i>n</i> =56 (%)	Delphi survey round 1, <i>n</i> =87 (%)	Delphi survey round 2, <i>n</i> = 72 (%)
Individuals with neurodisability	2 (4)	7 (7)	8 (10)
Parents of individuals with cerebral palsy	9 (16)	4 (4)	6 (7)
Speech and language therapists/pathologists	21 (37)	46 (46)	35 (42)
Community paediatricians and neurodevelopmental specialists	7 (12)	16 (16)	12 (14)
Nurses	5 (9)	4 (4)	5 (6)
Dieticians	2 (4)	5 (5)	5 (6)
Occupational therapists/physiotherapists	8 (14)	3 (3)	1 (1)
Researchers/epidemiologists	2 (4)	10 (10)	6 (7)
Other	1 (2)	6 (6)	5 (6)
Total	57	101	83

GMFCS, Gross Motor Function Classification System; EDACS, Eating and Drinking Ability Classification System.

**Table II:** General summary headings for GMFCS, EDACS, and EDACS levels of assistance

<b>Level</b>	<b>GMFCS</b>	<b>EDACS</b>	<b>EDACS levels of assistance</b>
<b>I</b>	Walks without limitations	Eats and drinks safely and efficiently	Independent
<b>II</b>	Walks with limitations	Eats and drinks safely but with some limitations to efficiency	Requires assistance
<b>III</b>	Walks using a hand-held mobility device	Eats and drinks with some limitations to safety; there may be limitations to efficiency	Totally dependent
<b>IV</b>	Self-mobility with limitations; may use powered mobility	Eats and drinks with significant limitations to safety	
<b>V</b>	Transported in a manual wheelchair	Unable to eat and drink safely – tube feeding may be considered to provide nutrition	

**Table III:** Demographics of children and young people with cerebral palsy included in reliability studies

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Age	
Range	4–22y
Median	14y
Mean	14y (SD 4.3y)
Sex: Males/Females	78/51
GMFCS level, <i>n</i> (%)	
I	7 (5)
II	10 (8)
III	12 (9)
IV	33 (25.6)
V	66 (51.2)
Total	128 <sup>a</sup>
SCPE (CP subtype , <i>n</i> (%))	
Spastic unilateral	5 (4%)
Spastic bilateral	69 (54)
Dyskinetic	37 (29)

Ataxic	4 (3)
Worster-Drought	8 (6.2)
Unclassifiable	5 (4)
Total	128 <sup>a</sup>

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<sup>a</sup>Data missing for one participant. GMFCS, Gross Motor Function Classification System; SCPE, Surveillance of Cerebral Palsy in Europe.

**Table IV:** Reliability measures associated with use of EDACS by speech and language therapists (SaLTs)

(a) Reliability of EDACS levels I–V, SaLT1 versus SaLT2:

SaLT2	SaLT1					Total
	I	II	III	IV	V	
I	9	3	1	0	0	13
II	1	21	5	0	0	27
III	0	4	12	2	0	18
IV	0	0	3	14	1	18
V	0	0	0	2	22	24
Total	10	28	21	18	23	100

Absolute agreement 78%; kappa=0.72; ICC 0.93 (95% CI 0.90–0.95)

(b) Reliability of EDACS levels of assistance, SaLT1 versus SaLT2

SaLT2	SaLT1			Total
	Independent	Requires assistance	Totally dependent	
Independent	29	5	0	34
Requires assistance	4	15	2	21
Totally dependent	0	2	43	45

**Total**

33

22

45

100

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Absolute agreement 87%; kappa=0.80; ICC 0.92 (95% CI 0.88–0.94); EDACS, Eating and Drinking Ability Classification System.

**Table V:** Reliability measures associated with use of EDACS by speech and language therapists and parents

(a) Reliability of EDACS levels I–V, SaLT1 versus parents

Parent	SaLT 1					Total
	I	II	III	IV	V	
I	1	2	0	0	0	3
II	1	5	5	1	0	12
III	0	1	5	7	0	13
IV	0	0	0	11	3	14
V	0	0	0	0	6	6
Total	2	8	10	19	9	48

Absolute agreement 58%; kappa=0.45; ICC 0.86 95% (CI 0.76–0.92)

(b) Reliability of levels of assistance, SaLT1 versus parents:

Parent	SaLT 1			Total
	Independent	Requires assistance	Totally dependent	
Independent	6	1	0	7
Requires assistance	3	8	3	14
Totally dependent	1	2	23	26

**Total**

10

11

26

47

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Absolute agreement 79%; kappa=0.64; ICC 0.77 (95% CI 0.62–0.87)

**Table VI:** Comparison of EDACS and GMFCS levels<sup>a</sup>

GMFCS level	EDACS level (SaLT1)					Total
	I	II	III	IV	V	
I	0	7	0	0	0	7
II	2	7	0	1	0	10
III	3	3	5	1	0	12
IV	6	8	11	6	2	33
V	1	7	15	20	23	66
Total	12	32	31	28	25	128

<sup>a</sup>Significant but moderate positive correlation between the Eating and Drinking Ability Classification System (EDACS) and Gross Motor Function Classification System (GMFCS); Kendall's tau=0.5,  $p<0.01$ ).

**Table VII:** Presence of feeding tube and seizure activity by EDACS level

<b>EDACS level</b>	<b>Feeding tube present, <i>n</i> (%)</b>	<b>Seizure activity present, <i>n</i> (%)</b>
I	1/12 (8)	2/8 (25)
II	1/32 (3)	8/27 (30)
III	5/31 (16)	12/26 (46)
IV	12/28 (43)	16/25 (64)
V	25/26 (96)	19/25 (76)
Total	44/129 (34)	57/111 <sup>a</sup> (51)

<sup>a</sup>Denotes missing data – seizure activity data not available for 18 children.

EDACS, Eating and Drinking Ability Classification System



