

Nordic Casemix Centre - Case #164
Case 2010-MDC01-01 Spinal cord stimulation

2014-01-09 14:08 - Anonymous

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Initiator:	Norway, Sweden	Target year:	2012
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Description

Last updated: 2011-04-20
 Status: CLOSITEM - Closed item
 Initiated: 2009-03-20
 By: Mona Hegg, Boston Scientific/CPK, Sweden

Initiated: 2011-02-18
 By: Helsedirektoratet, Norway

Expert Network 2010-03-12 - Change recommended
 Board 2010-04-09 - Recommendation accepted

Expert Network 2011-03-17 - Change recommended
 Board 2011-04-04 - Recommendation accepted

BACKGROUND

CPK ID 297

Problem

Spinal cord stimulation is used for chronic intractable pain. The procedure code for implanting the stimulation device is ABD30 (Sweden) or ABSD30 (NCSP+). The cost of the device is at least 50 000 to 80 000 SEK. With a rechargeable battery the cost is 150 000 to 200 000 SEK. Non rechargeable batteries have to be replaced (= a new operation) after an average time of 2,2 years while the rechargeable battery has an average lifetime of 10 years. Thus, in the long run it will be less expensive with rechargeable batteries even though the initial cost is higher.

ABD30 has a lot of grouping properties and depending on the diagnosis the procedure can be grouped to many different DRGs. The table below shows the possible DRGs and the Swedish weights.

DRG	i slutenvård	Vikt 2010
004	Operationer på ryggmärg och närliggande vävnad	2,8255
170	Andra operationer i mage och tarm, komplicerat	2,5069
171	Andra operationer i mage och tarm, ej komplicerat	1,1088
214C	Andra rygg- och halsoperationer, komplicerat	2,1369
215C	Andra rygg- och halsoperationer, ej komplicerat	1,3860
315	Andra njur & urinvägsoperationer	0,9047
400	Lymfom och leukemi med större operation	2,0480
406	Myeloproliferativa sjukdomar, ospecificerade tumörer, med stor operation, komplicerat	4,2239
407	Myeloproliferativa sjukdomar, ospecificerade tumörer, med stor operation, ej komplicerat	2,4570
442	Andra operationer efter skada, komplicerat	3,2122
443	Andra operationer efter skada, ej komplicerat	1,4023
461	Op pga annan sjukvårdskontakt	1,2878
478	Övriga kärloperationer, komplicerat	1,8861
479	Övriga kärloperationer, ej komplicerat	1,7095
486	Övriga operationer vid multipelt trauma	5,5451
DRG	i öppenvård	Vikt 2010
0040	Operationer på ryggmärg och närliggande vävnad, öppenvård	1,5207
1710	Andra operationer i mage och tarm, öppenvård	0,2084
2150	Rygg- och halsoperationer, öppenvård	0,5936
3150	Andra njur & urinvägsoperationer, öppenvård	0,1627
4020	Lymfom och leukemi med operation, öppenvård	0,4250
4070	Myeloproliferativa sjukdomar, ospecificerade tumörer, med stor operation, öppenvård	1,2280
4430	Andra operationer efter skada, öppenvård	0,1046
4610	Op annan sjukvårdskontakt O	0,0876
4790	Övriga kärloperationer, öppenvård	0,8550
4860	Reimplantation och andra op vid multipelt trauma, öppenvård	2,7730

Thus, the one and same procedure, ABD30, can be grouped to 15 DRGs for inpatients or 10 DRGs for outpatients with very different weights (0,9 to 5,5 for inpatients and 0,09 to 2,77 for outpatients). This is not a good description and therefore a new DRG for ABD30 is proposed.

Analysis by CPK

In practice the procedure is spread on fewer DRGs (see table below) but the weights for these DRGs are still very different. The table below from the Swedish cost database (inpatients 2008) shows that there are 415 cases with ABD30 spread on 10 different DRGs. The majority (406 cases) are not cost outliers and most of these 406 cases (314 cases) is found in DRGs where the rest of the cases are more expensive while the rest (92 cases) is found in DRGs where the rest of the cases are less expensive.

DRG	Trimning	Åtgärd	Antal	Vårdkostnader		
				Medel	Median	CV
004	Innerfall	ABD30	178	70 226	49 366	88
004	Innerfall	Andra åtgärder	491	121 384	112 168	50
004	Alla	ABD30	180	74 008	49 545	97
004	Alla	Andra åtgärder	526	154 548	116 553	103
170	Innerfall	ABD30	1	28 666	28 666	
170	Innerfall	Andra åtgärder	689	83 895	62 757	79
170	Alla	ABD30	1	28 666	28 666	
170	Alla	Andra åtgärder	739	116 640	68 614	143
171	Innerfall	ABD30	7	54 662	49 725	53
171	Innerfall	Andra åtgärder	1 488	39 576	31 483	64
171	Alla	ABD30	8	71 768	59 222	77
171	Alla	Andra åtgärder	1 591	50 877	33 495	113
214C	Innerfall	ABD30	2	100 481	100 481	21
214C	Innerfall	Andra åtgärder	490	87 085	73 077	54
214C	Alla	ABD30	2	100 481	100 481	21
214C	Alla	Andra åtgärder	515	99 917	75 462	77
215C	Innerfall	ABD30	66	51 620	37 013	69
215C	Innerfall	Andra åtgärder	2 341	55 312	49 831	47
215C	Alla	ABD30	69	58 229	39 552	81
215C	Alla	Andra åtgärder	2 448	63 433	51 213	97
315	Innerfall	ABD30	1	22 328	22 328	
315	Innerfall	Andra åtgärder	1 010	33 604	29 214	56
315	Alla	ABD30	1	22 328	22 328	
315	Alla	Andra åtgärder	1 097	46 997	30 484	152
442	Innerfall	ABD30	1	165 982	165 982	
442	Innerfall	Andra åtgärder	355	113 123	87 506	78
442	Alla	ABD30	1	165 982	165 982	
442	Alla	Andra åtgärder	380	151 840	94 604	122
461	Innerfall	ABD30	64	83 395	78 215	46
461	Innerfall	Andra åtgärder	1 400	52 655	36 261	83
461	Alla	ABD30	67	90 101	80 008	54
461	Alla	Andra åtgärder	1 482	69 327	38 163	134
478	Innerfall	ABD30	18	79 535	82 219	49
478	Innerfall	Andra åtgärder	1 635	71 643	56 357	77
478	Alla	ABD30	18	79 535	82 219	49
478	Alla	Andra åtgärder	1 722	88 848	60 379	111
479	Innerfall	ABD30	68	56 329	55 110	59
479	Innerfall	Andra åtgärder	1 497	65 535	53 724	66
479	Alla	ABD30	68	56 329	55 110	59
479	Alla	Andra åtgärder	1 572	77 818	56 871	100
Summa	Innerfall	ABD30	406	67 259		
Summa	Alla	ABD30	415	71 398		

The analysis supports that the description of ABD30 is rather poor in NordDRG, especially the medical description but probably also the economical description.

A new DRG for ABD30 will contain more than 400 cases per year in Sweden. The average cost according to the table above (67 259 SEK or 71 398 SEK with cost outliers) is probably too low. Note that the reported median cost is less than the device cost (50 000 SEK) in more than 50 % of the cases. In the long run the cost will probably also increase if rechargeable batteries are used more frequently.

A withdrawal of ABD30 from the DRGs in the table above will have a negligible effect on the "leaving" DRG in most of the cases. ABD30 is a substantial portion (25 %) only in DRG 004. The effect on DRG 004 will be that the average cost is increased after a removal of ABD30.

Thus, it is possible to create a new DRG for ABD30 (Inläggande av spinal stimuleringsutrustning) but it is unusual to construct a DRG for just one procedure code. This, in combination with the related problem with ADB00 (Inläggande av vagusnervsstimuleringsutrustning) and AEA00 (Byte av impulsgenerator i stimuleringsutrustning i nervsystemet) makes it eligible with a common solution for all these three codes. Such a solution is described in CPK ID 327, Implantation of vagus nerv stimulator.

Recommendation by CPK

A new DRG as described in CPK ID 327, see [Case #165 2010-MDC01-02 Implantation of vagus nerve stimulator](#).

COMMENTS

Expert Network 2010-03-12

The meeting recommended accepting the proposal to create a new DRG for ABD30 in every thinkable MDC.

Martti Virtanen 2010-03-23

After consideration I have changed the technical solution for this case. The MDC 01 rule must obviously be before Carpal tunnel – DRG because that is a relatively minor intervention and low value DRG. In other MDC's the definition of the correct position of new rules is problematic since we do not have relative information for the weight of the new groups compared with all other surgical DRG's. Therefore I prefer creating a postMDC rule for all other situations than those with MDC 01 principal diagnosis. This solves also the problem where the new group should be accepted – it is always accepted and no DRG 477 cases will be created.

CHANGES

Technical change

A new procedure property 01S51 'Insertion or replacement of nervous system central stimulation device' is given to the procedures:

- ABSD30 'Implantation of spinal stimulation device'
- ADSB00 'Implantation of vagus nerve stimulating device'
- AESA00 'Replacement of impulse generator of stimulation device in the nervous system'

All current procedure properties of these codes will be removed.

Two new DRG's are created:

- DRG 570(X) 'Insertion or replacement of nervous system central stimulation device'
- DRG 570O 'Insertion or replacement of nervous system central stimulation device, short therapy'

4 new rules are created in the Drglogic table:

A new rule is placed immediately before the rule for DRG 006O (currently ORD 101D060) with following values:

- DRG: 570O
- ICD: +

- MDC: 01
- OR: S
- Propro1: 01S51
- Disch: N
- Dur: <2
- RTC: 0

A new rule is placed immediately before the current postMDC rule for DRG 008O (currently ORD 190D0100). It will have the same values as the previous one except MDC which is left empty.

A new rule is placed immediately before the rule for DRG 006(X) (currently ORD 401D061) with following values:

- DRG: 570X
- ICD: +
- MDC: 01
- OR: S
- Propro1: 01S51
- RTC: 0

A new rule is place immediately before the current postMDC rule for DRG 007(X) (currently ORD 490D0101). It will have the same values as the previous one except MDC which is left empty.

DRG change

In MDC 01 all cases with the 3 interventions are assigned to DRG 570/570O if no major interventions were performed (DRG 001-005).

In other MDC's all cases with the 3 interventions are assigned to DRG 570/570O if no MDC specific interventions were performed.

Introduction

2011

COMMENTS

Helsedirektoratet, Norway 2011-02-18

BACKGROUND

During the creation of the new DRGs 570/ 570O for 2011, Norway decided to include procedure AAW01 "Implantasjon av intrakraniell stimulator" into the same DRG. This change is implemented in the Norwegian version in 2011.

Discussion

Cases with the procedure AAW01 "Implantasjon av intrakraniell stimulator" are grouped to DRG 1E in the common Nordic version. We find it more meaningful that such cases are grouped together with similar cases in the new DRGs 570/570O.

Proposal

Cases with the procedure AAW01 "Implantasjon av intrakraniell stimulator" should be grouped to DRG 570/570O instead of DRG 1E.

Technical changes

The PROCPR 01S51 "Insertion or replacement of nervous system central stimulation device" is currently assigned to four codes:

- ABD30 Implantasjon av spinal stimulator
- ADB00 Implantasjon av vagusstimulator
- AEA00 Utskifting av impulsgenerator til stimulator i nervesystemet
- AEA30 Utskifting av implantert pumpe til injeksjonskateter i nervesystemet

PROCPR 01S51 must be assigned to AAW01 as well.

To prevent grouping of AAW01 cases to DRG 1E, an seproc exclusion must be added to the 1E rule, or the property 01S01 "Craniotomy or intracranial procedure" must be removed from AAW01.

Fredrik A.S.R. Hanssen, Helsedirektoratet, Norway 2011-02-28

The same changes as proposed for code AAW01 "Implantasjon av intrakraniell stimulator" should also be applied to the procedure "AAG20 Stereotaktisk intrakraniell implantasjon av elektrode"

COMMENTS

Expert Network 2011-03-17

The meeting recommended acceptance of the proposal to add proc.prop 01S51 to ABD30 Implantasjon av spinal stimulator, ADB00 Implantasjon av vagusstimulator, AEA00 Utskifting av impulsgenerator til stimulator i nervesystemet AEA30 Utskifting av implantert pumpe til injeksjonskateter i nervesystemet, AAW01 Implantasjon av intrakraniell stimulator and AAG20 Stereotaktisk intrakraniell implantasjon av elektrode.

Change the name for DRG 570O and 570 to Central nervous stimulation (inkl. vagus stimulator).

The case will be closed.

CHANGES

Technical change 2011-03-29

The procedure property 01S51 is given to ABSD30 'Implantation of spinal stimulation device', ADSB00 'Implantation of vagus nerve stimulating device', AESA00 'Replacement of impulse generator of stimulation device in the nervous system', AESA30 'Replacement of implanted pump of injection device in the nervous system', AASG20 'Stereotactic intracranial implantation of electrodes' and AASW01 'Implantation of intracranial stimulation device' (and all linked national procedures).

Eventual other 01SXX properties are removed from these codes.

The name of DRG 570 will be changed to "Central nervous stimulation including vagal stimulation" and of DRG 570O to "Central nervous stimulation including vagal stimulation, short therapy".

DRG change 2011-03-28

Cases with the list procedures will be assigned to DRG 570 or 570O depending on the length of contact.

Introduction

NordDRG 2012

History

#1 - 2014-01-09 14:28 - Anonymous

- Description updated

#2 - 2014-01-09 14:32 - Anonymous

- Description updated

Files

2010-MDC01_1.jpg	88.8 KB	2014-01-09	Anonymous
2010-MDC01_2.jpg	113 KB	2014-01-09	Anonymous