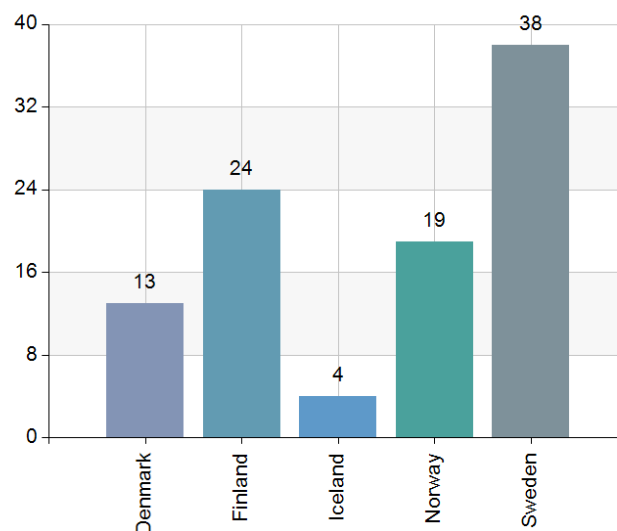


Traumatic Spinal Cord Injury_FIN_PUB

1. In which country do you work?

Namn	Antal	%
Denmark	13	13,3
Finland	24	24,5
Iceland	4	4,1
Norway	19	19,4
Sweden	38	38,8
Total	98	100

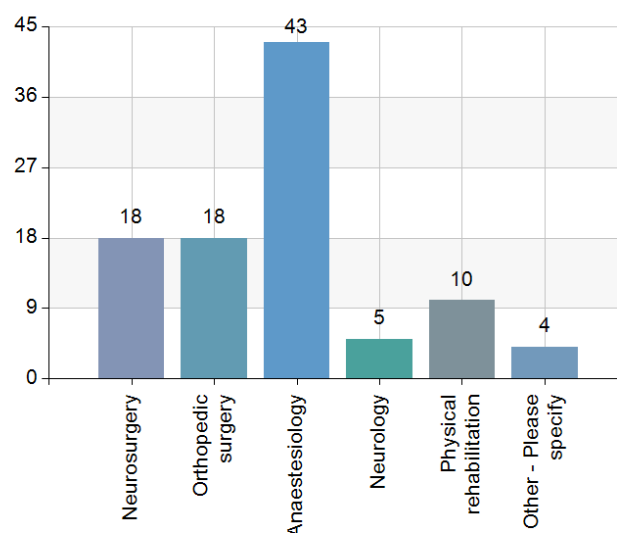
Svarsfrekvens
100% (98/98)



2. What is your medical specialty?

Namn	Antal	%
Neurosurgery	18	18,4
Orthopedic surgery	18	18,4
Anaesthesiology	43	43,9
Neurology	5	5,1
Physical rehabilitation	10	10,2
Other - Please specify	4	4,1
Total	98	100

Svarsfrekvens
100% (98/98)



Other - Please specify

Emergency medicine

Anesthesia and prehospital care

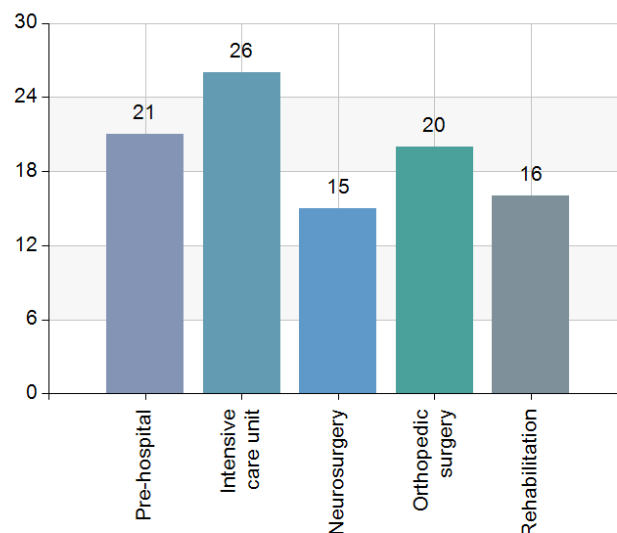
pediatric

Emergency Medicine

3. I work in the following field of medicine:

Namn	Antal	%
Pre-hospital	21	21,4
Intensive care unit	26	26,5
Neurosurgery	15	15,3
Orthopedic surgery	20	20,4
Rehabilitation	16	16,3
Total	98	100

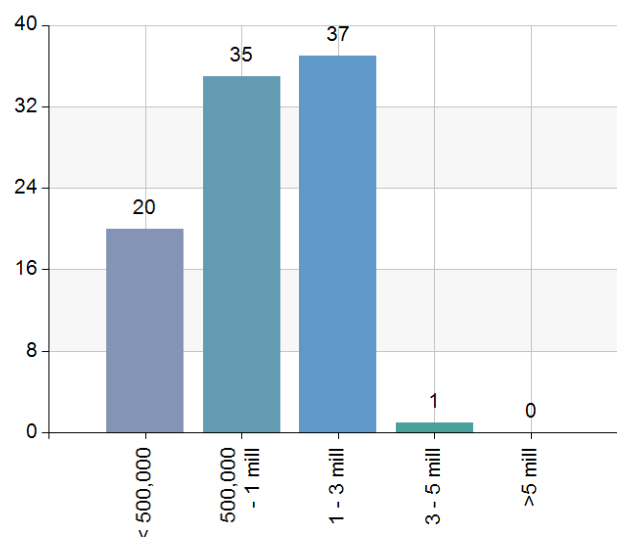
Svarsfrekvens
100% (98/98)



4. Approximately, what size of population does your hospital cover for patients with SCI (Spinal Cord Injury)?

Namn	Antal	%
< 500,000	20	21,5
500,000 - 1 mill	35	37,6
1 - 3 mill	37	39,8
3 - 5 mill	1	1,1
>5 mill	0	0
Total	93	100

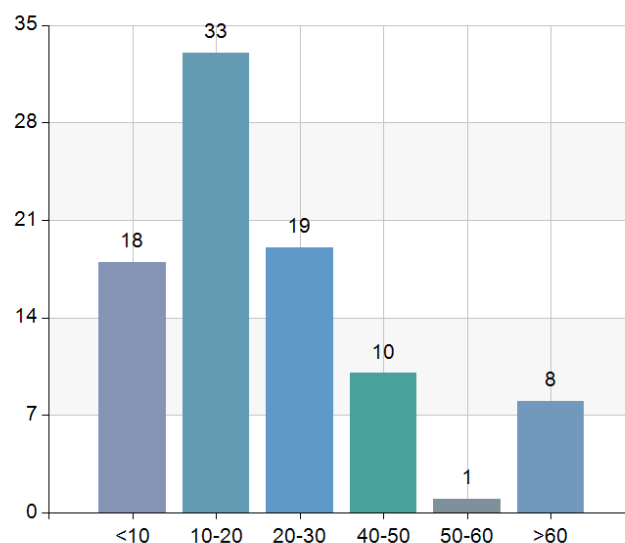
Svarsfrekvens
94,9% (93/98)



5. Approximately, how many cases of SCI (including central cord syndrome) does your department handle per year?

Namn	Antal	%
<10	18	20,2
10-20	33	37,1
20-30	19	21,3
40-50	10	11,2
50-60	1	1,1
>60	8	9
Total	89	100

Svarsfrekvens
90,8% (89/98)

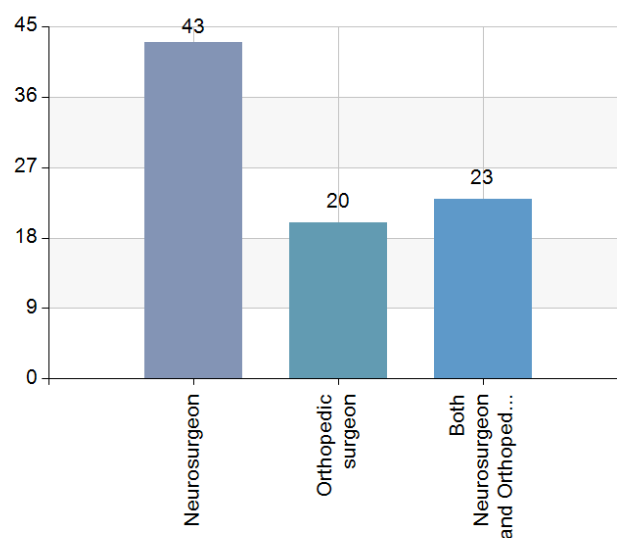


6. At your hospital, which medical specialty performs the surgery in patients with SCI at the following anatomical regions?

- Cervical

Namn	Antal	%
Neurosurgeon	43	50
Orthopedic surgeon	20	23,3
Both Neurosurgeon and Orthopedic surgeon.	23	26,7
Total	86	100

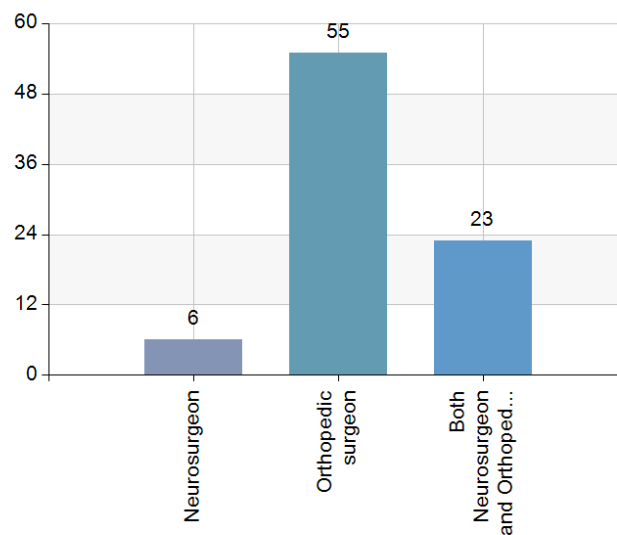
Svarsfrekvens
87,8% (86/98)



- Thoracic

Namn	Antal	%
Neurosurgeon	6	7,1
Orthopedic surgeon	55	65,5
Both Neurosurgeon and Orthopedic surgeon.	23	27,4
Total	84	100

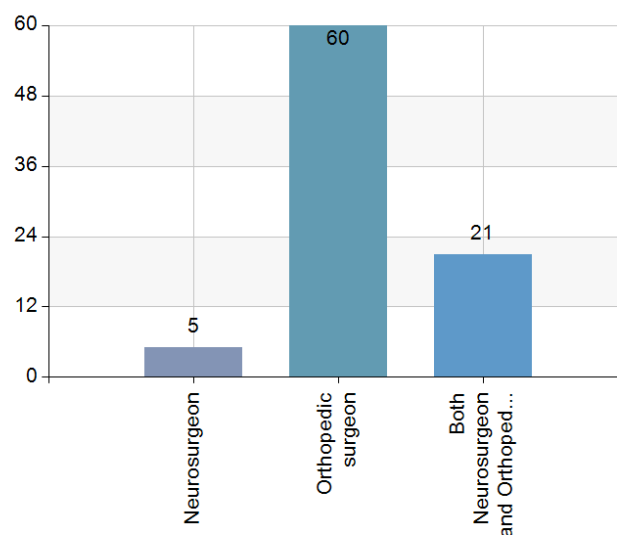
Svarsfrekvens
85,7% (84/98)



- Lumbar

Namn	Antal	%
Neurosurgeon	5	5,8
Orthopedic surgeon	60	69,8
Both Neurosurgeon and Orthopedic surgeon.	21	24,4
Total	86	100

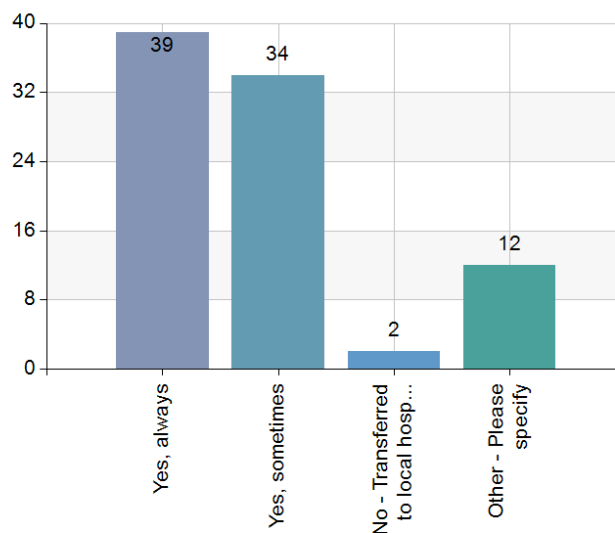
Svarsfrekvens
87,8% (86/98)



7. Are patients transferred directly to a specialized center for SCI rehabilitation after completing treatment at your hospital?

Namn	Antal	%
Yes, always	39	44,8
Yes, sometimes	34	39,1
No - Transferred to local hospitals	2	2,3
Other - Please specify	12	13,8
Total	87	100

Svarsfrekvens
88,8% (87/98)



Other - Please specify

I work prehospitally in HEMS. All our patients are directly flown to our traumacenter (definitive care).

Yes, most of the times

Our patients are not transferred primarily to our hospital for stabilisation

We are a specialized center from SCI rehab, so no transfer, but patients usually go directly to our department from neurosurgery or orthopedics.

I'm not sure of this, as I work in pre-hospital only

Directly to local hospital but later to SCI rehab in our hospital

"Yes, almost always" better reflects our situation.

I dont know

Our hospital (Tampere University Hospital) is one of the three university hospitals in Finland specialized in SCI care and rehabilitation

Within the hospital is a specialized center for SCI rehab, hence they are not transferred to a different hospital

Il patients except very old (>80-85 yrs) and very young (<5-7 yrs) COME diretly to us (specialized SCI Rehab center, at Grensás). We take care of Rehab of all "other" SCI patients in Iceland. (i.e., "Yes always, but the pat.s are referred to us).

All SCI is cared for at Landspítalinn (only centre with neurosurgery). Primary rehabilitation is at one of two main rehabilitation centres in Iceland. Both are capable of caring for SCI patients.

• Do you have any comments related to the questions?

Patients are always assessed by a specialized center for SCI rehabilitation, but sometimes rehabilitated at their own hospital (at a rehabilitation clinic not specialized in SCI)

Goal/ intention is every patient, but there are cases of indirect transfers.

SCI patients are operated by the spine unit at the orthopedic dept. This is however a combined unit comprising both neuro and orthopaedic surgeons

You should have a alternative for other on the questions covering the operation specialities. Most hospitals in Sweden doesn't have thoracic and neurosurgeons.

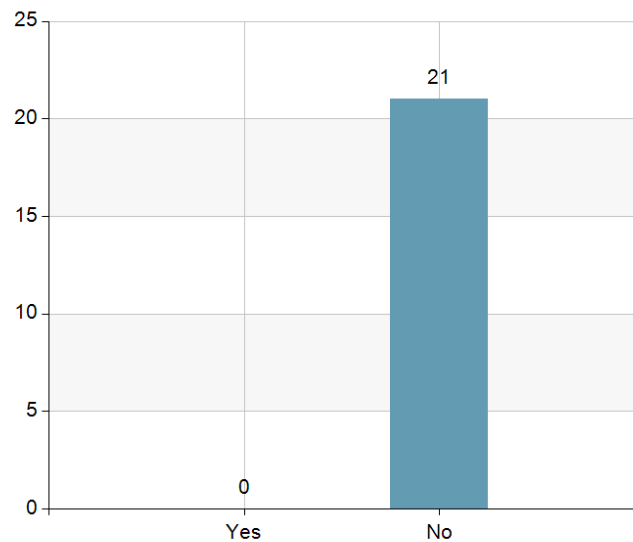
Answers for the prehospital care in Region Stockholm. Q 5,6,7 not applicable

The specialized center is contacted directly for discussion when the patient can be transferred from our hospital to the center.
Question number 5 is slightly unspecific, but I assume you mean newly injured patients. Apart from those we have about 600 SCI patients that we follow up life-long and take in if need for secondary rehab arises.
Things are about to change due to national regulations. There will be a specialized center for SCI rehabilitation soon
If directly means no other stop on the way then yes. If directly means promptly then no, there is often a waiting periode before the sci rehab center can accept the patient, most often 3-6 weeks.
No
As ambulance service we cover the region of Skåne - not directly conected to any hospital
The neurosurgeons are not involved in the surgery of the traumatic SCI. They might be consulted if there is an injury on the dura.
2018-2021 så får jag följande: Nyskadade patienter totalt 172, genomsnitt 43/år. Nyskadade traumatiskt skadade patienter 107, genomsnitt 27/år. Nyskadade icke-traumatiskt skadade patienter 65, genomsnitt 16/år.
SCI patients are admitted to neuro-ICU och evaluated/planned by neurosurgeon and ortohopedic spine surgeon for the surgical procedure, most cases are co-operated but some are operated by neurosurgeons or ortopedic spine surgeons alone.
Question 6, operations: Almost always (with few exceptions), a neurosurgeon AND an orthopedic surgeon operate together, as mentioned in the answer, but of course, the degree of input from each specialist varies with level of injury, as well as on an individual case-to-case basis. In cervical SCI, the neurosurgeon does more, while in lumbar (and thoracic) surgery, where the op. is mainly stabilization with appropriate osteosynthesis material, the orthopedic surgeon does more, sometimes much more, and the neurosurgeon is more "assisting". But close cooperation is the key word to what we here in Iceland think is a very successful approach.
Regarding question 7: See comment: alternative 1 is prehaps the most appropriate answer, but we are THE RECEIVERS (the most specialized center for SCI rehabilitation in Iceland). All patients (except the very young, the vey old, and occasional mild or very severe or complex multitrauma cases, dropouts due to lack of compliance (e.g., due to drug or alcohol addiction) and other exceptional odd cases) are transferred directly to us, as soon as they have became medically stable enough not to need to be in the acute hospital any more.
Somethimes a collaberation Orto spine surgeon an neurosurgeon
In Töölö hospital patients with central cord syndrome are usually operated by neurosurgeons but all traumatic SCIs are treated by orthopaedic surgeons.
Neurosurgeons are involved if neurologic symptoms are present.
ikke så relevante spørsmål for præhospitalt miljø
As a prehospital provider we only treat at transport patientes

- Are paramedics allowed to intubate a patient with SCI (Spinal Cord Injury) if airways need to be secured?

Namn	Antal	%
Yes	0	0
No	21	100
Total	21	100

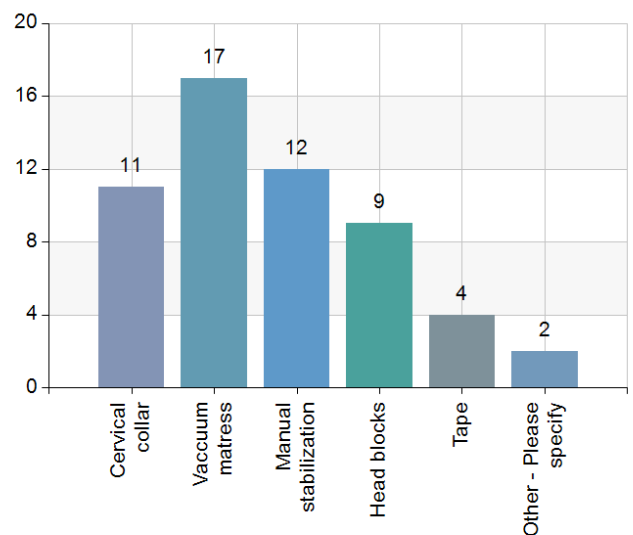
Svarsfrekvens
100% (21/21)



- What method(s) are most commonly used for stabilizing the cervical spine?

Namn	Antal	%
Cervical collar	11	52,4
Vacuum mattress	17	81
Manual stabilization	12	57,1
Head blocks	9	42,9
Tape	4	19
Other - Please specify	2	9,5
Total	55	261,9

Svarsfrekvens
100% (21/21)



Other - Please specify

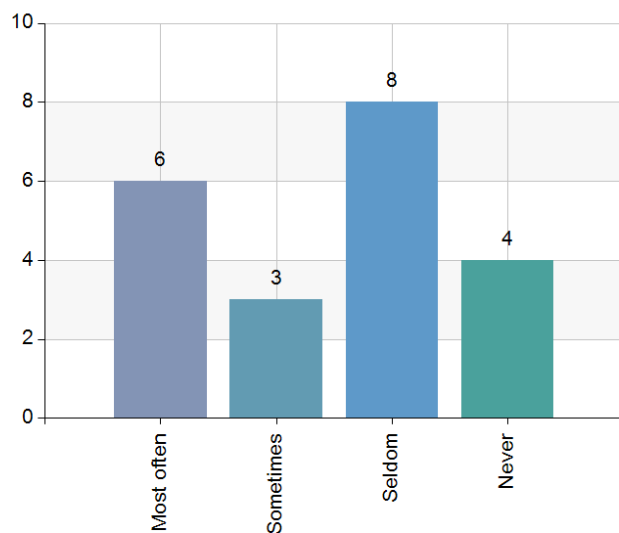
Time critical patients = minimal spinal motion restriction. No backboard, vacuum pillow on stretcher. Non-time critical patients = full motion restriction on scoop stretcher, no cervical collar.

All above methods are used but no specific method is "mandatory". Icelandic guidelines for prehospital treatment of SCI are modelled on the Norwegian guidelines. They stipulate careful handling and if indicated "protection" (rather than "stabilisation") of the cervical spine (and rest of spine) by the most appropriate method according to patient and clinical circumstances. C-collar may be used but is not "mandatory".

- Are backboards routinely applied in patients with SCI?

Namn	Antal	%
Most often	6	28,6
Sometimes	3	14,3
Seldom	8	38,1
Never	4	19
Total	21	100

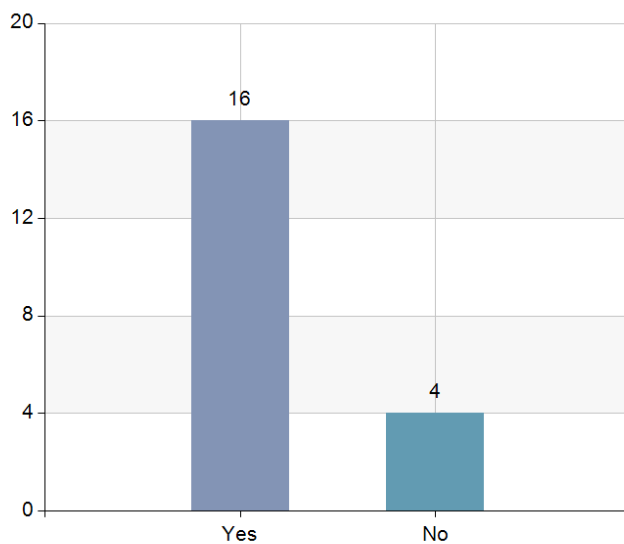
Svarsfrekvens
100% (21/21)



• Does your service allow spinal clearance based on clinical assessment?

Namn	Antal	%
Yes	16	80
No	4	20
Total	20	100

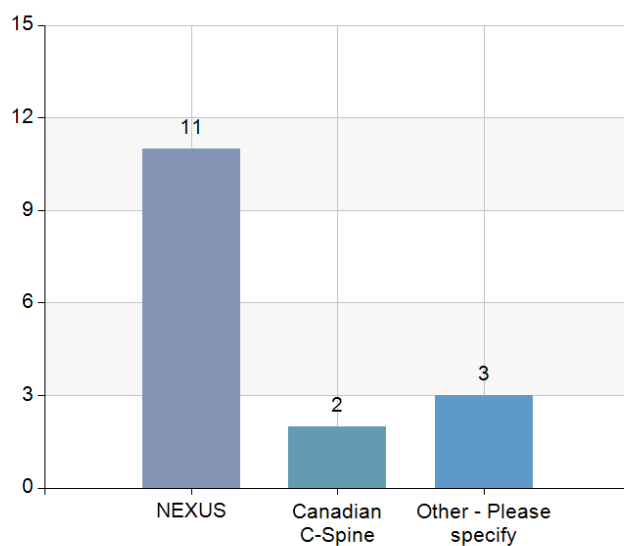
Svarsfrekvens
95,2% (20/21)



• If so, what clinical tool is most often used? [text]

Namn	Antal	%
NEXUS	11	68,8
Canadian C-Spine	2	12,5
Other - Please specify	3	18,8
Total	16	100

Svarsfrekvens
76,2% (16/21)

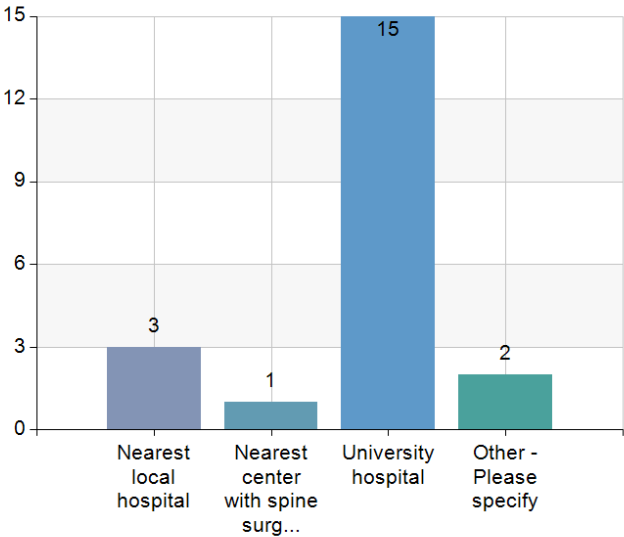


Other - Please specify
combination of Nexus and Canadian C- spine - check Medicinska riktlinjer för ambulanssjukvården i Region Stockholm
NBV - spinal stabilisering

• What is the primary referral center for a patient with suspected isolated SCI?

Namn	Antal	%
Nearest local hospital	3	14,3
Nearest center with spine surgery service	1	4,8
University hospital	15	71,4
Other - Please specify	2	9,5
Total	21	100

Svarsfrekvens
100% (21/21)



Other - Please specify
Depends on trauma mechanism. Trauma center Karolinska Solna if induced by trauma
Nearest hospital with Trauma care

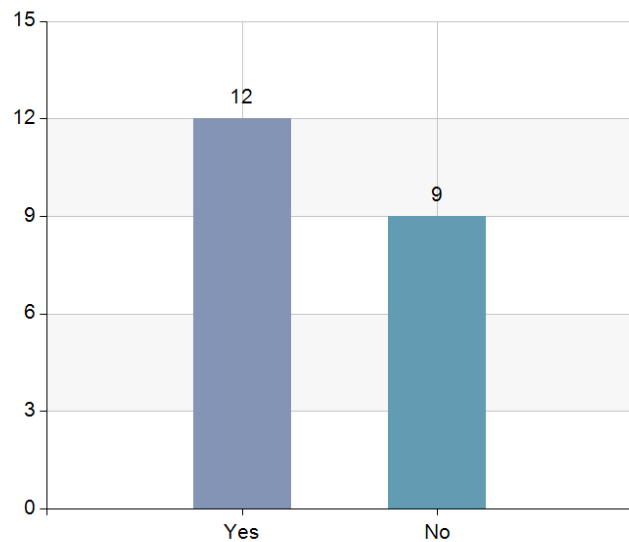
• Do you have any comments related to the questions?

<p>Registered nurses are mandatory in ambulances in Sweden. We dont have paramedics, ambulanssjukvårdare can be part of the team. In Region Stockholm Intubations are performed by Akutläkarbil anesthesiologist, anesthesiology nurse or Emergency physician.</p> <p>We have made guidelines for pre-hospital spine-stabilisation 2019. Vacuum mattress is the mode of stabilisation under transport. Use of hard-collar is less than before, but is not abandoned fully.</p>
No
Backboards are allowed / used, if the prehospital phase won't exceed 30 min.
Some specialist nurses intubate. al staf are trained to secure airway with laryngeal mask
Backboard sometimes used for evacuation from accident sceene. Vacuum madrass for transport.

• In the pre-hospital setting, do you have a specific blood pressure target in patients with suspected SCI?

Namn	Antal	%
Yes	12	57,1
No	9	42,9
Total	21	100

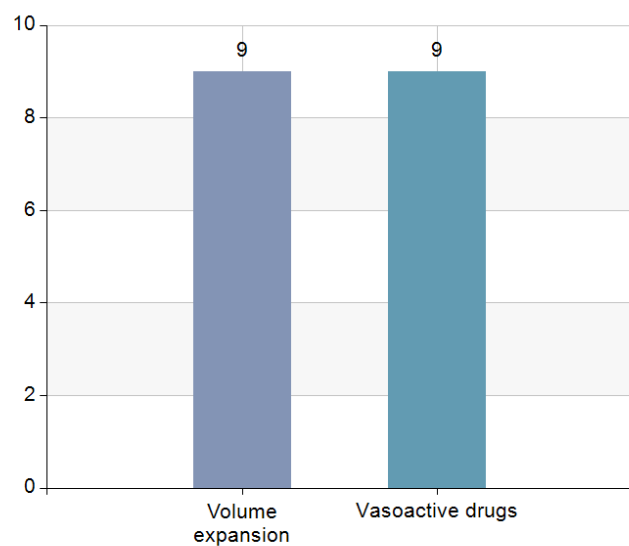
Svarsfrekvens
100% (21/21)



- If so, how is the blood pressure maintained within the target range?

Namn	Antal	%
Volume expansion	9	75
Vasoactive drugs	9	75
Total	18	150

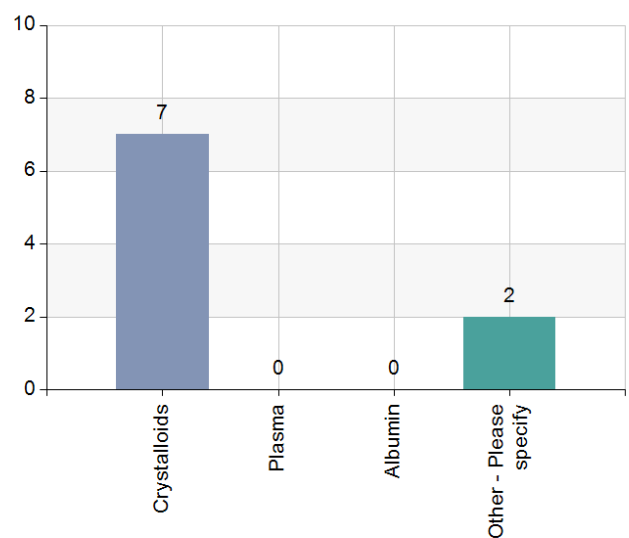
Svarsfrekvens
57,1% (12/21)



- If needed, what volume expansion is used in patients with suspected SCI?

Namn	Antal	%
Crystalloids	7	77,8
Plasma	0	0
Albumin	0	0
Other - Please specify	2	22,2
Total	9	100

Svarsfrekvens
42,9% (9/21)



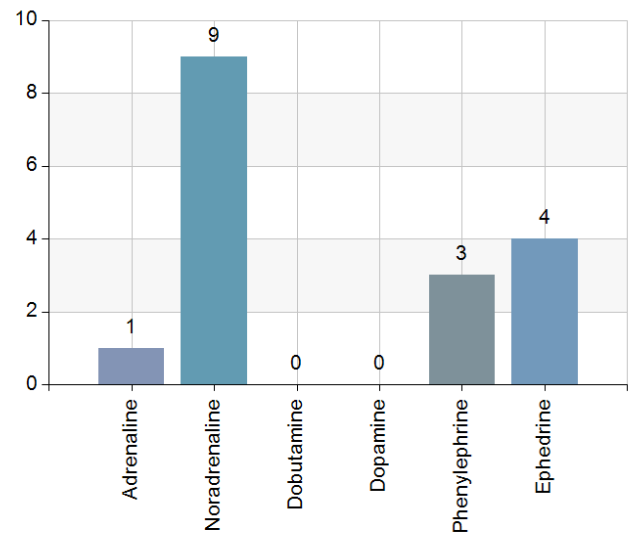
Other - Please specify

depends on the injuries, if we suspect bleeding, we give blood&plasma, if spinal shock, we use noradrenaline

Full blood

- If needed, which vasoactive drugs are used to maintain or elevate the blood pressure in patients with suspected SCI?

Namn	Antal	%
Adrenaline	1	11,1
Noradrenaline	9	100
Dobutamine	0	0
Dopamine	0	0
Phenylephrine	3	33,3
Ephedrine	4	44,4
Total	17	188,9

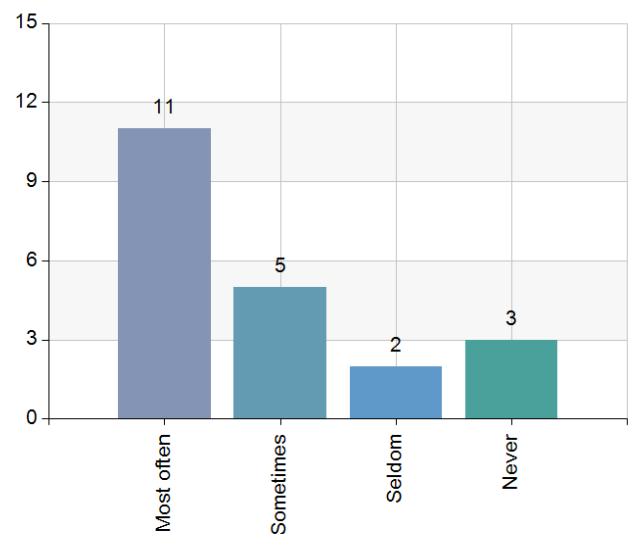


Svarsfrekvens

42,9% (9/21)

- In the pre-hospital setting, is MAP (mean arterial pressure) routinely measured in patients with suspected SCI?

Namn	Antal	%
Most often	11	52,4
Sometimes	5	23,8
Seldom	2	9,5
Never	3	14,3
Total	21	100



Svarsfrekvens

100% (21/21)

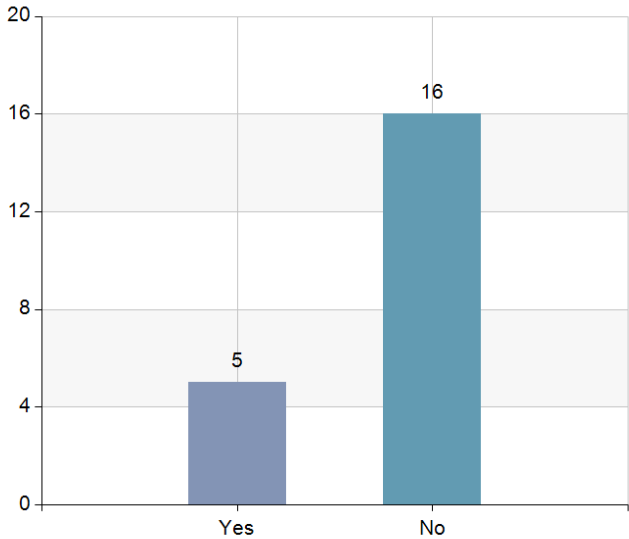
- Do you have any comments related to the questions?

Arterial lines placed prehospitally when necessary.
No specific blood pressure target for SCI, but there is a general target >90mmHg MAP is available from the device, but not measured routinely.
Pre-hospital doctor-teams (HEMS) use MAP routinely, paramedics follow usually systolic pressures
We apply invasiv BT-mesure and target MAP > 80-85. May be a little volume before norepinephrine. (plasma 200 ml)
Isoleret sci hedder det MAP >80 ellers er det permissiv hypotension hvis der er andre organskader

• Is tranexamic acid routinely administered in patients with suspected SCI?

Namn	Antal	%
Yes	5	23,8
No	16	76,2
Total	21	100

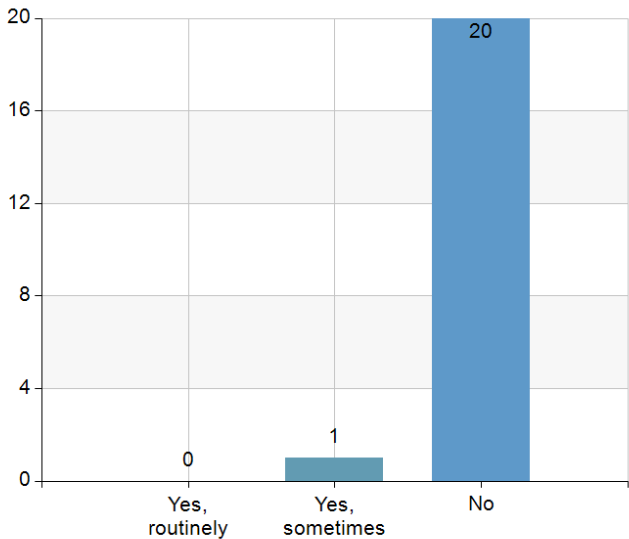
Svarsfrekvens
100% (21/21)



• Are high-dose steroids routinely administered to patients (i.v. or orally)?

Namn	Antal	%
Yes, routinely	0	0
Yes, sometimes	1	4,8
No	20	95,2
Total	21	100

Svarsfrekvens
100% (21/21)



• Do you have any comments related to the questions?

TXA Is given if massive bleeding, ordered from Prehospital Doctor. AKutläkarbil.

To the above question: Steroids are not given pre-hospitally

Tranexamic acid is routinely administered to severely injured patients. Hence, it is administered to SCI patients also, as SCI patients are usually severely injured.

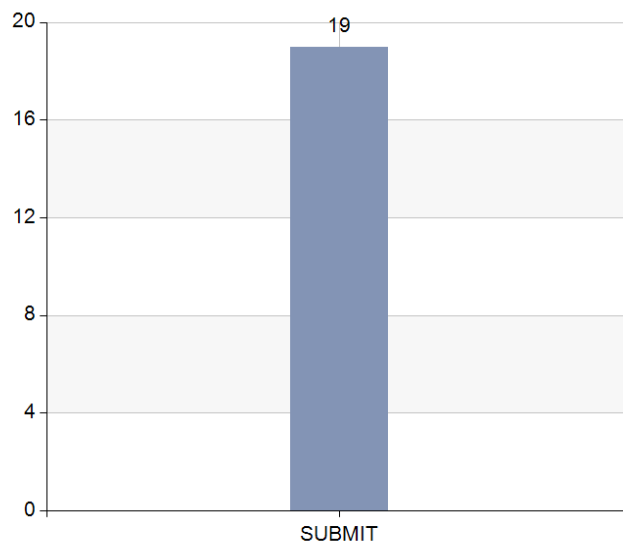
Answers primarily for the prehospital phase of SCI although I am familiar with the in-hospital / ICU treatment as well.

- If you have finished answering the questions, please select "SUBMIT" below and then continue to the next page to submit your answers. Please note that this will lock and submit the survey and no further changes will be possible.
- If you need more time to take the survey, you can continue at a later time. To do so, you can click the pause button at the bottom of the page. You can then resume taking the survey by following the link in the invitation e-mail that was sent to you earlier.

Namn	Antal	%
SUBMIT	19	100
Total	19	100

Svarsfrekvens

100% (19/19)

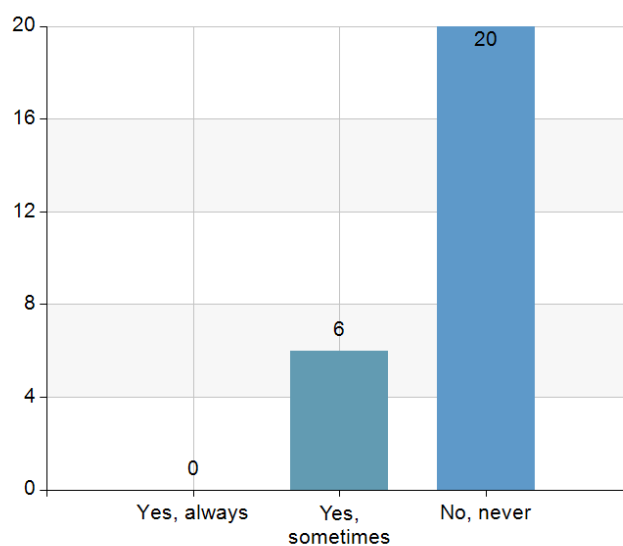


- Does your department use high-dose steroid infusion in patients with SCI (Spinal Cord Injury)?

Namn	Antal	%
Yes, always	0	0
Yes, sometimes	6	23,1
No, never	20	76,9
Total	26	100

Svarsfrekvens

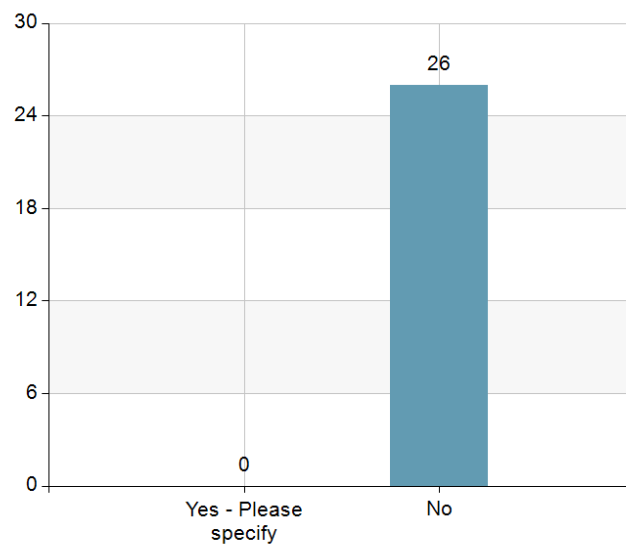
100% (26/26)



- Does your department administer other putative neuroprotective agents?

Namn	Antal	%
Yes - Please specify	0	0
No	26	100
Total	26	100

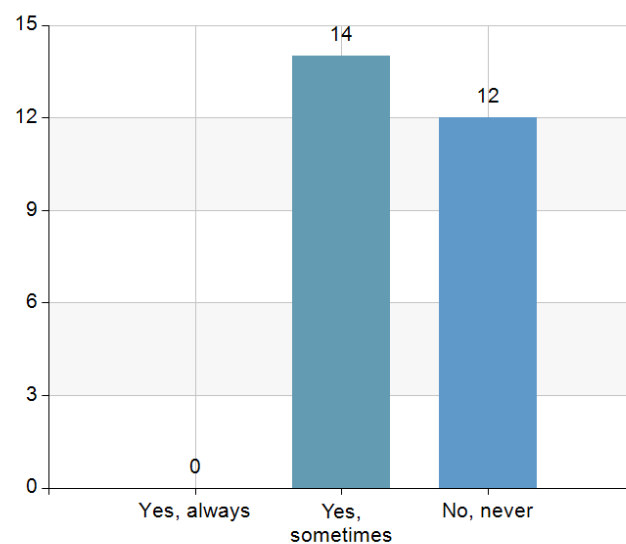
Svarsfrekvens
100% (26/26)



• Does your department apply lumbar drains to improve spinal perfusion?

Namn	Antal	%
Yes, always	0	0
Yes, sometimes	14	53,8
No, never	12	46,2
Total	26	100

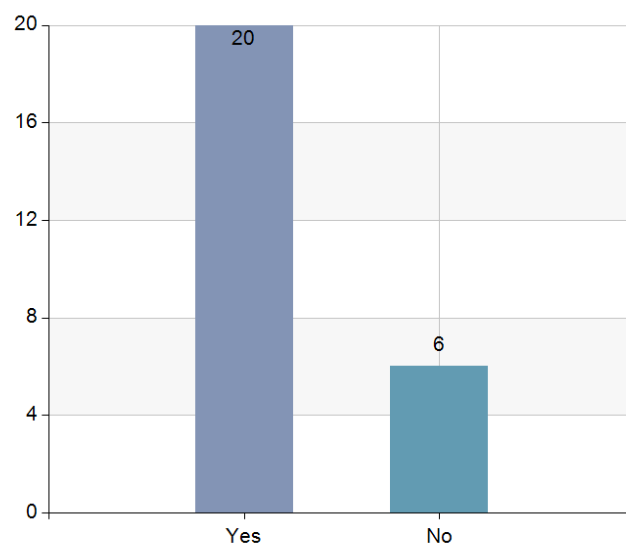
Svarsfrekvens
100% (26/26)



• In your department, is fever considered to negatively affect neurological outcome in patients with SCI?

Namn	Antal	%
Yes	20	76,9
No	6	23,1
Total	26	100

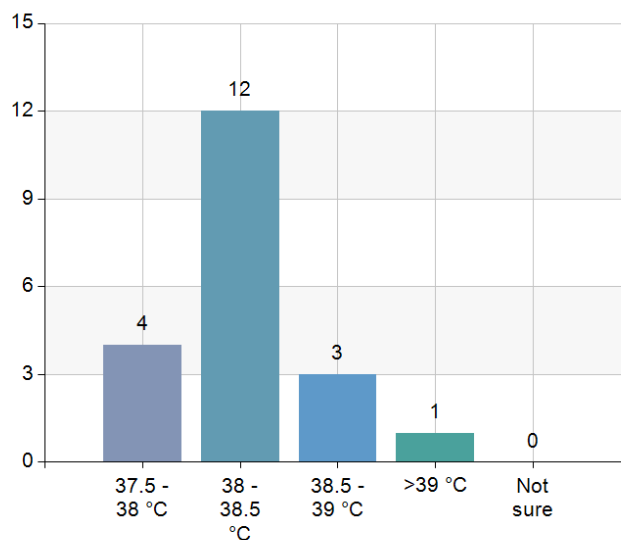
Svarsfrekvens
100% (26/26)



- If so, at what temperature threshold would treatment start for fever?

Namn	Antal	%
37.5 - 38 °C	4	20
38 - 38.5 °C	12	60
38.5 - 39 °C	3	15
>39 °C	1	5
Not sure	0	0
Total	20	100

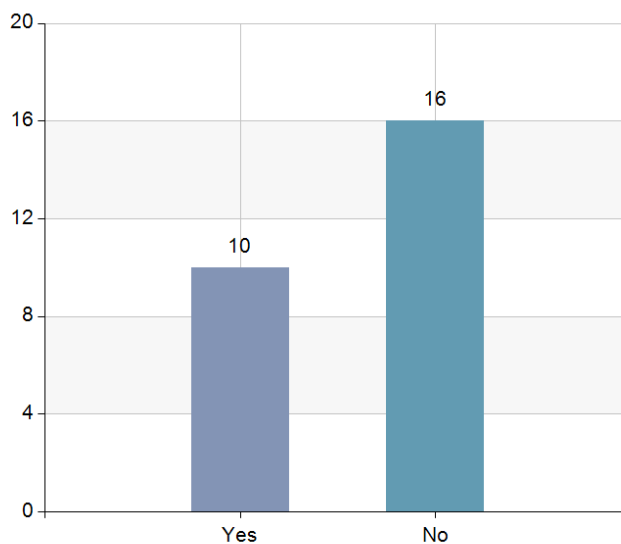
Svarsfrekvens
76,9% (20/26)



- Is a lower threshold level of hemoglobin used?

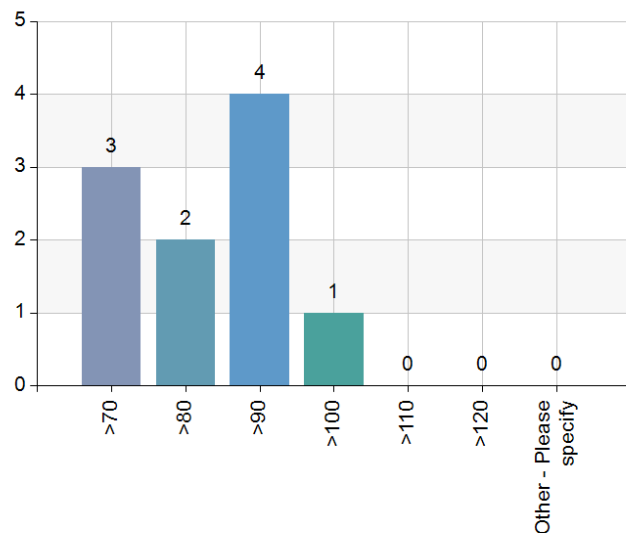
Namn	Antal	%
Yes	10	38,5
No	16	61,5
Total	26	100

Svarsfrekvens
100% (26/26)



- If so, what threshold is used (g/L)?

Namn	Antal	%
>70	3	30
>80	2	20
>90	4	40
>100	1	10
>110	0	0
>120	0	0
Other - Please specify	0	0
Total	10	100



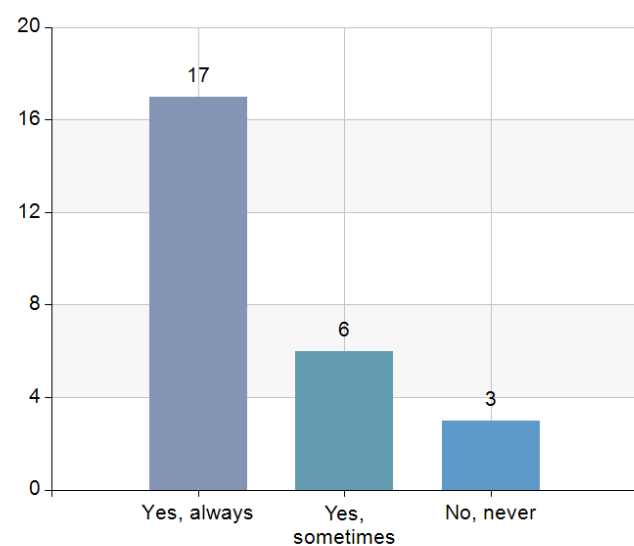
Svarsfrekvens
38,5% (10/26)

• Do you have any comments related to the questions?

We treat SCI and TBI (traumatic brain injury) very similar - by applying normal Hb levels, normal albumine levels, normal sodium levels, normal ABGs... MAP>70 mmHg.
It would be helpful if you had an alternative such as not applicable. In my region we don't receive this patients primarily they are transferred to the trauma centre directly from the scene of accident.
We do not have any written guidelines regarding ICU-treatment in patients with SCI.

• Does your department use a specific MAP (Mean Arterial Pressure) protocol?

Namn	Antal	%
Yes, always	17	65,4
Yes, sometimes	6	23,1
No, never	3	11,5
Total	26	100

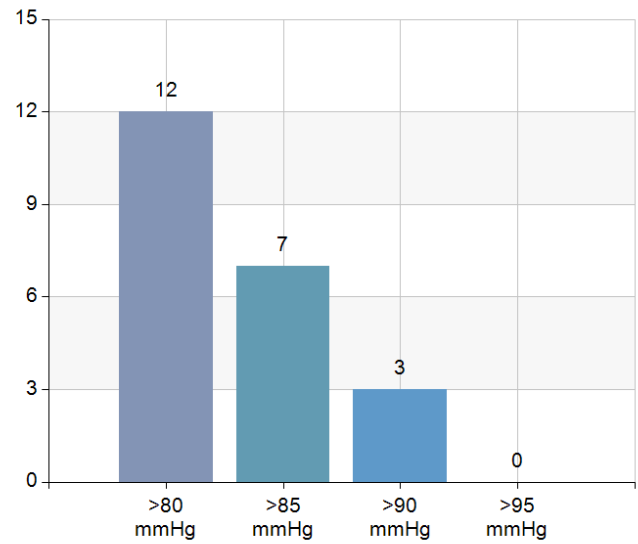


Svarsfrekvens
100% (26/26)

• If so, what is the target value for MAP?

Namn	Antal	%
>80 mmHg	12	54,5
>85 mmHg	7	31,8
>90 mmHg	3	13,6
>95 mmHg	0	0
Total	22	100

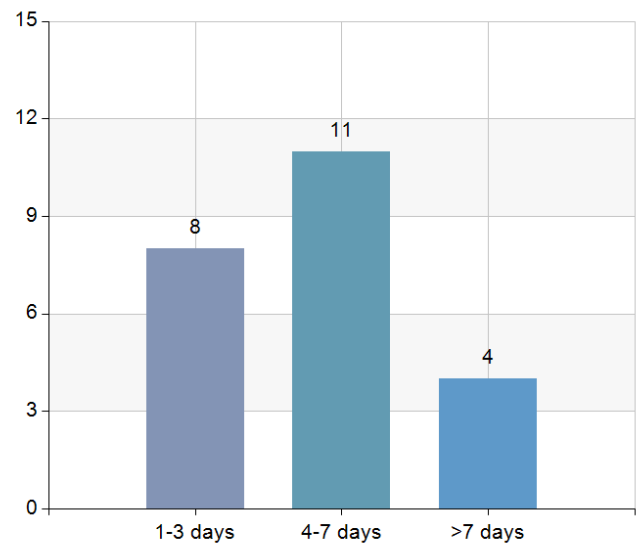
Svarsfrekvens
84,6% (22/26)



- For how long is the target value appropriate?

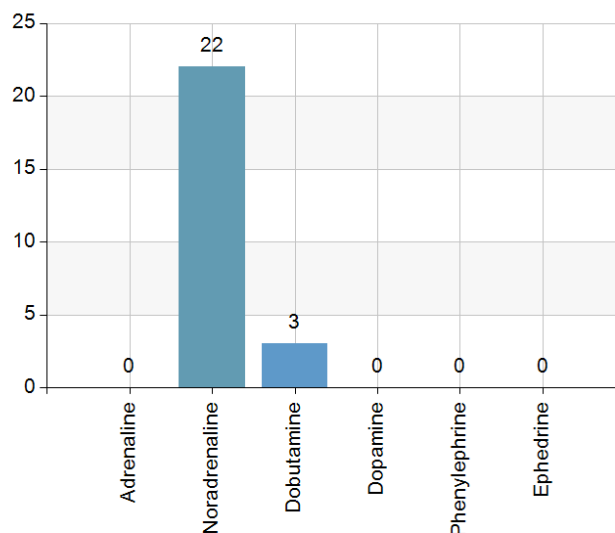
Namn	Antal	%
1-3 days	8	34,8
4-7 days	11	47,8
>7 days	4	17,4
Total	23	100

Svarsfrekvens
88,5% (23/26)



- What is the choice of drug(s) to maintain adequate MAP?

Namn	Antal	%
Adrenaline	0	0
Noradrenaline	22	95,7
Dobutamine	3	13
Dopamine	0	0
Phenylephrine	0	0
Ephedrine	0	0
Total	25	108,7

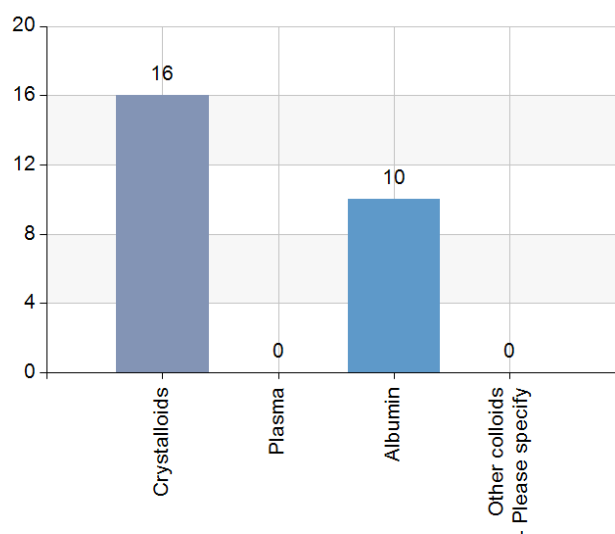


Svarsfrekvens

88,5% (23/26)

- If needed, what volume expander is used?

Namn	Antal	%
Crystalloids	16	61,5
Plasma	0	0
Albumin	10	38,5
Other colloids - Please specify	0	0
Total	26	100



Svarsfrekvens

100% (26/26)

- Do you have any comments related to the questions?

MAP>70. After patients kan swallow - pills with etilefrin is given if needed.

You should allow multiple answers

Mixed crystalloids and albumin

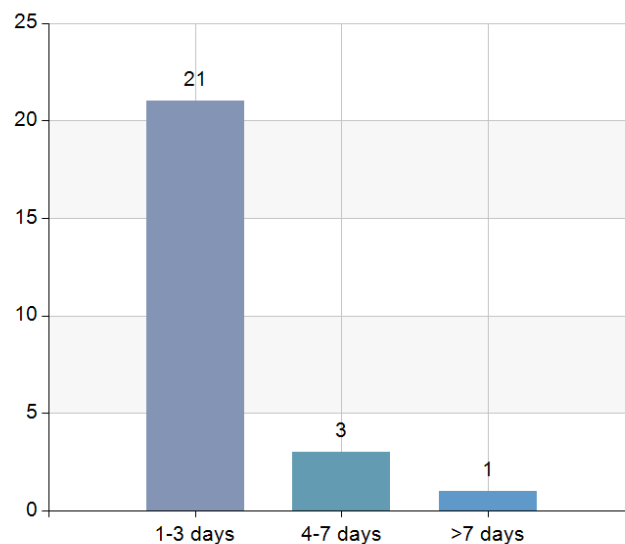
MAP for 7 days

We use both crystalloids and albumin depending on for example fluidbalance.

- Post-operatively, at what time is active physical rehabilitation initiated (including in-bed exercises)?

Namn	Antal	%
1-3 days	21	84
4-7 days	3	12
>7 days	1	4
Total	25	100

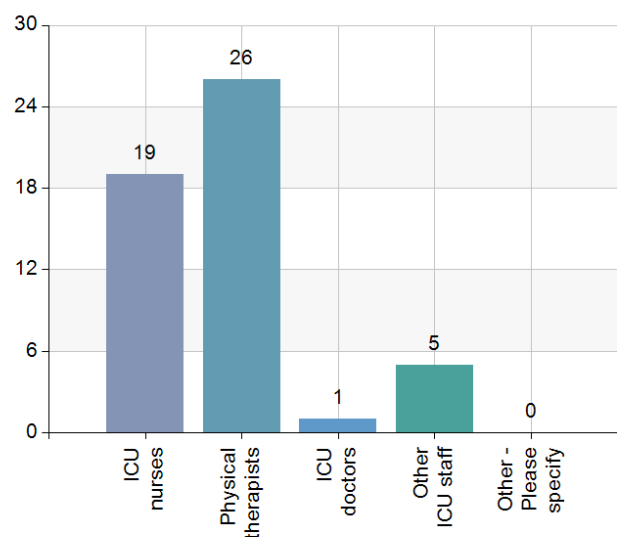
Svarsfrekvens
96,2% (25/26)



• Who performs mobilization of patients with SCI?

Namn	Antal	%
ICU nurses	19	73,1
Physical therapists	26	100
ICU doctors	1	3,8
Other ICU staff	5	19,2
Other - Please specify	0	0
Total	51	196,2

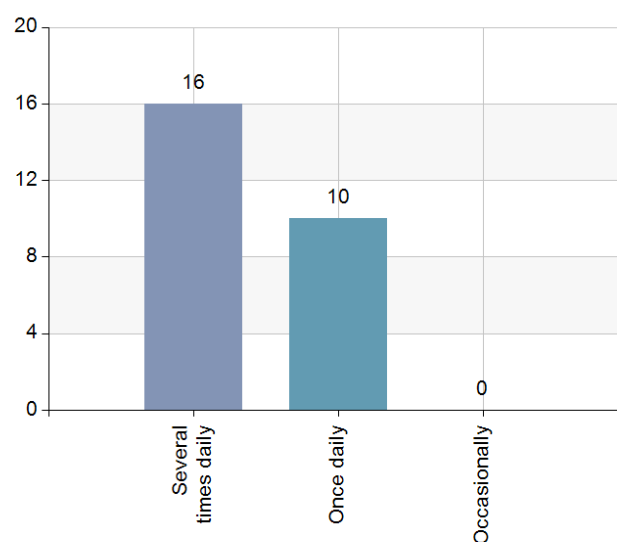
Svarsfrekvens
100% (26/26)



• What is the frequency of physical therapy in SCI patients?

Namn	Antal	%
Several times daily	16	61,5
Once daily	10	38,5
Occasionally	0	0
Total	26	100

Svarsfrekvens
100% (26/26)



- Do you have any comments related to the questions?

Patients are put in a supine position if breathing is affected - and always moved from side to side frequently to avoid decubitus.

Patients may sit up when the blood pressure allows it, and always gradually and very careful.

Again you should have a alternative not applicable

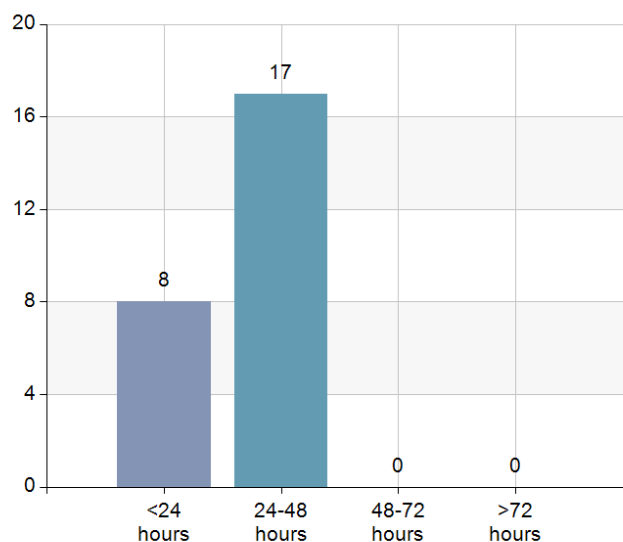
No particular local programme for physical therapy aimed at SCI-patients in particular exist at our ICU. This is the general approach to a longstayer in the ICU.

- Provided no other injuries, at what time is thromboprophylactic treatment initiated after spinal surgery?

Namn	Antal	%
<24 hours	8	32
24-48 hours	17	68
48-72 hours	0	0
>72 hours	0	0
Total	25	100

Svarsfrekvens

96,2% (25/26)

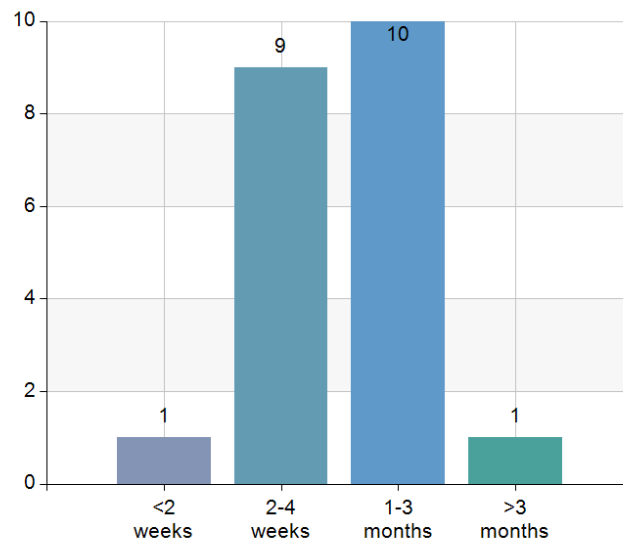


- In patients with SCI and neurological deficits affecting the degree of mobilization - for how long is thromboprophylactic treatment considered necessary?

Namn	Antal	%
<2 weeks	1	4,8
2-4 weeks	9	42,9
1-3 months	10	47,6
>3 months	1	4,8
Total	21	100

Svarsfrekvens

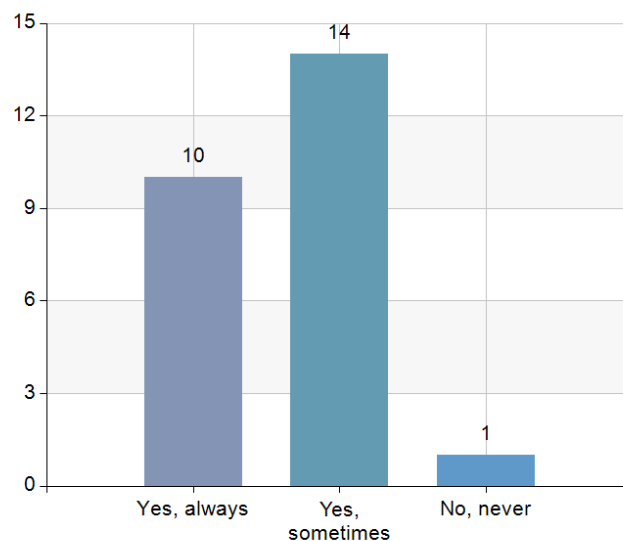
80,8% (21/26)



- Are compression stockings part of the thromboprophylactic protocol?

Namn	Antal	%
Yes, always	10	40
Yes, sometimes	14	56
No, never	1	4
Total	25	100

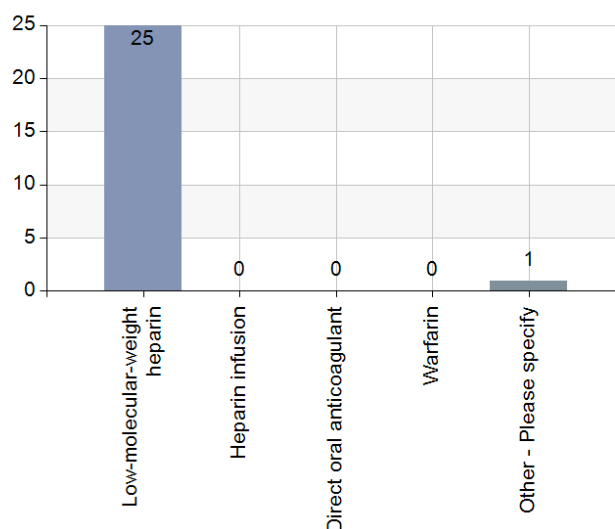
Svarsfrekvens
96,2% (25/26)



- What thromboprophylactic treatment is the primary choice of your department?

Namn	Antal	%
Low-molecular-weight heparin	25	96,2
Heparin infusion	0	0
Direct oral anticoagulant	0	0
Warfarin	0	0
Other - Please specify	1	3,8
Total	26	100

Svarsfrekvens
100% (26/26)



Other - Please specify

Mechanical IPC

- Do you have any comments related to the questions?

Se the comments before

DVT-prophylaxis is ordered by the orthopaedic surgeon or in dialogue with them, particularly in the early phases of the course.

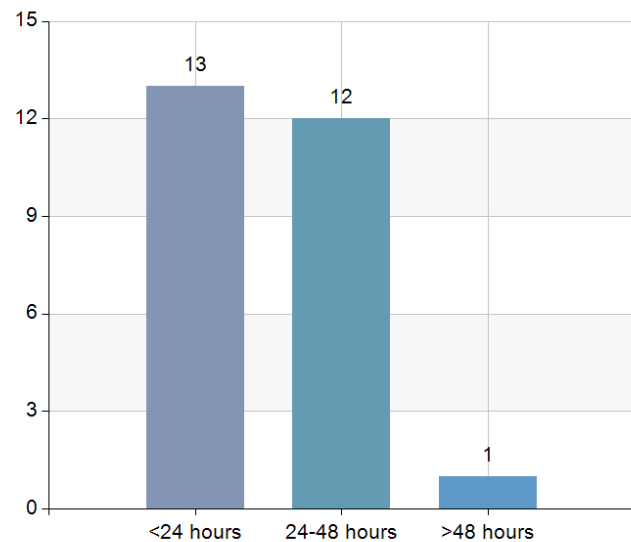
I am not sure about the answers. The orthopedic surgeons is responsible for antikoagulant treatment.

not sure of question 4.2

- At what time is enteral feeds initiated post-operative?

Namn	Antal	%
<24 hours	13	50
24-48 hours	12	46,2
>48 hours	1	3,8
Total	26	100

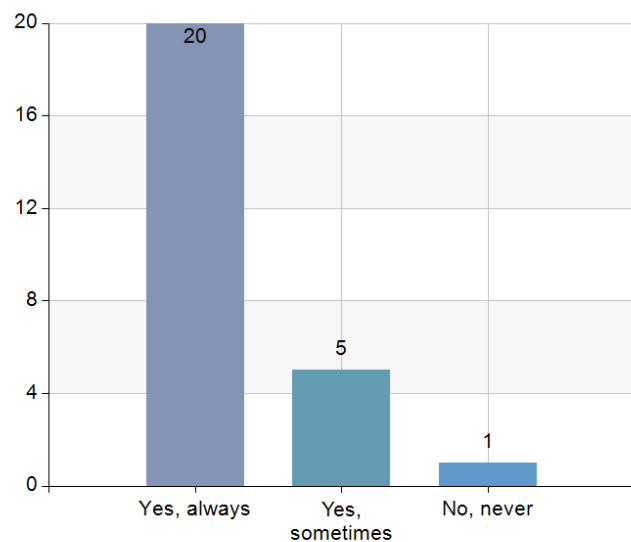
Svarsfrekvens
100% (26/26)



• Is a standardized regimen applied for bowel emptying to mitigate constipation?

Namn	Antal	%
Yes, always	20	76,9
Yes, sometimes	5	19,2
No, never	1	3,8
Total	26	100

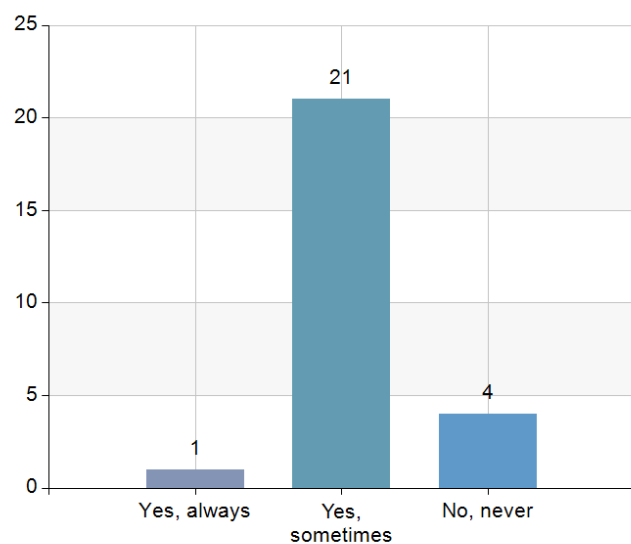
Svarsfrekvens
100% (26/26)



• Are GABAergic agents routinely applied in the ICU as part of the analgesic regimen?

Namn	Antal	%
Yes, always	1	3,8
Yes, sometimes	21	80,8
No, never	4	15,4
Total	26	100

Svarsfrekvens
100% (26/26)



- Do you have any comments related to the questions?

When indicated

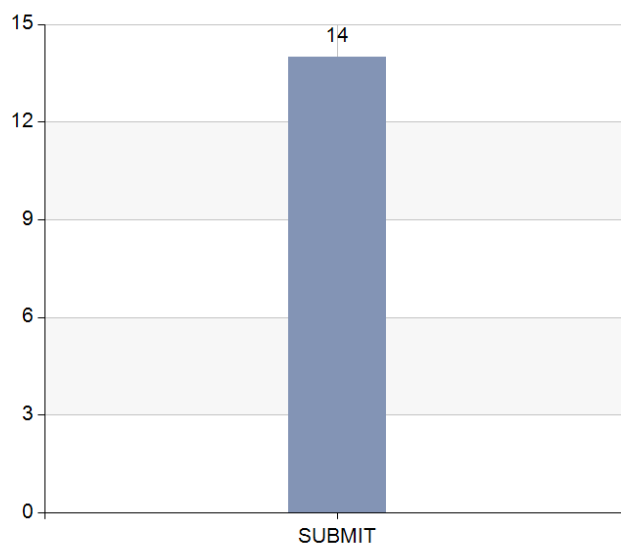
All these things are individualized in our ICU, and we do not have a particular guideline for SCI-patients.

- If you have finished answering the questions, please select "SUBMIT" below and then continue to the next page to submit your answers. Please note that this will lock and submit the survey and no further changes will be possible.
- If you need more time to take the survey, you can continue at a later time. To do so, you can click the pause button at the bottom of the page. You can then resume taking the survey by following the link in the invitation e-mail that was sent to you earlier.

Namn	Antal	%
SUBMIT	14	100
Total	14	100

Svarsfrekvens

100% (14/14)

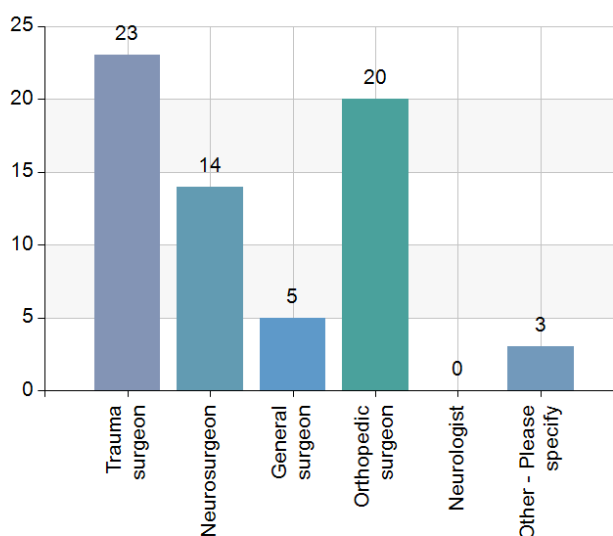


- Upon arrival at your hospital, which medical specialty performs the initial neurological assessment of a patient with suspected SCI (Spinal Cord Injury)?

Namn	Antal	%
Trauma surgeon	23	65,7
Neurosurgeon	14	40
General surgeon	5	14,3
Orthopedic surgeon	20	57,1
Neurologist	0	0
Other - Please specify	3	8,6
Total	65	185,7

Svarsfrekvens

100% (35/35)

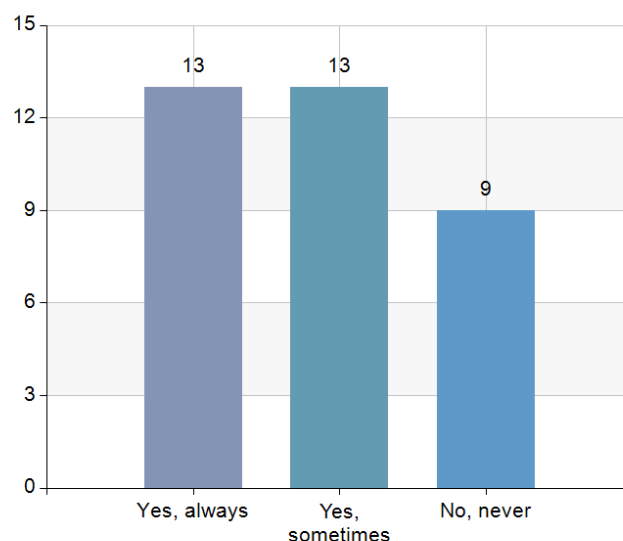


Other - Please specify
ER specialist
"Akutläkare"
Ortho spine surgeon

- Is a standardized form routinely used and registered to assess the neurological status of such patients?

Namn	Antal	%
Yes, always	13	37,1
Yes, sometimes	13	37,1
No, never	9	25,7
Total	35	100

Svarsfrekvens
100% (35/35)



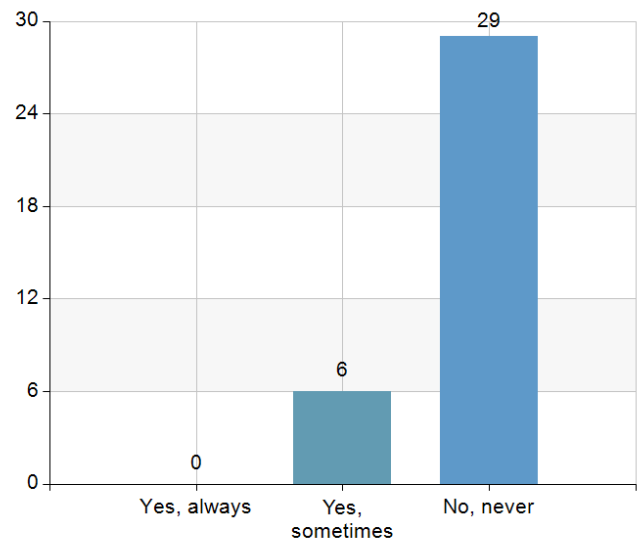
- Do you have any comments related to the questions?

Neurological status is assessed by a specialized team (physician + fysioterapeut) from the Dept of Rehabilitationmedicine within 1-3 days after arrival
In the very beginning there are no forms to be filled up. After the surgical treatment, there are forms like ASIA.
We have no standardized protocol for this since quite some time
In a trauma setting there is no room for complete AISA scoore. We have adapted short version AISA, and AO spine classification NO-NX . The traunma surgeon are requested to specify muscle functions and Sphincther tounus if possible.

- In your department, are high-dose intravenous steroid injections routinely given to patients with suspected or known SCI?

Namn	Antal	%
Yes, always	0	0
Yes, sometimes	6	17,1
No, never	29	82,9
Total	35	100

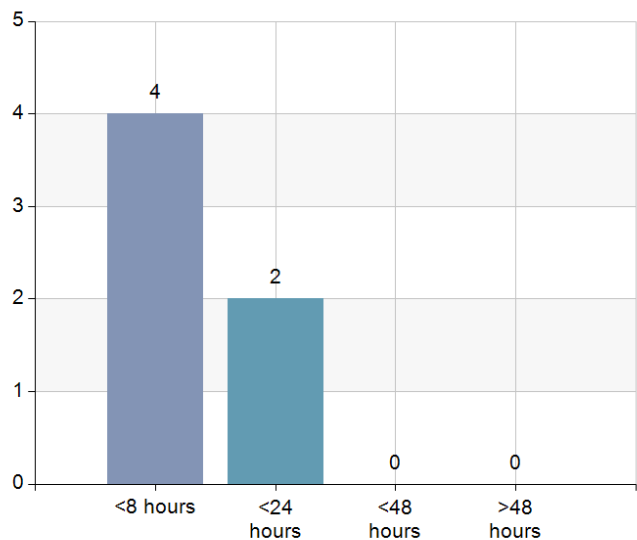
Svarsfrekvens
100% (35/35)



- If so, at what time interval after injury is steroid infusion started? [text]

Namn	Antal	%
<8 hours	4	66,7
<24 hours	2	33,3
<48 hours	0	0
>48 hours	0	0
Total	6	100

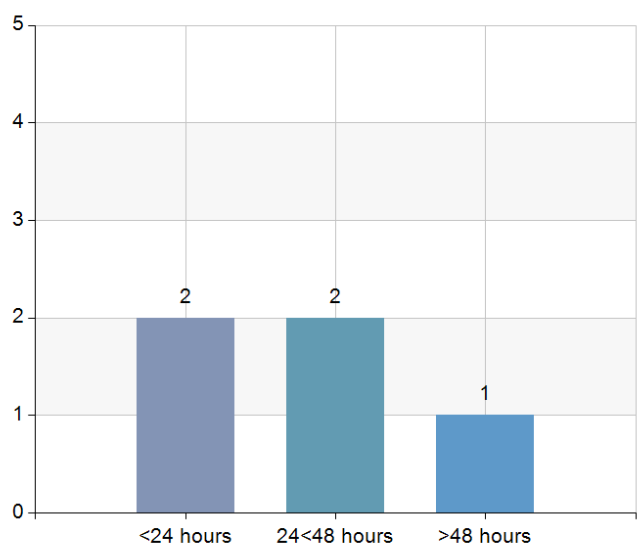
Svarsfrekvens
17,1% (6/35)



- If steroid treatment is routinely applied, for how long is this provided?

Namn	Antal	%
<24 hours	2	40
24<48 hours	2	40
>48 hours	1	20
Total	5	100

Svarsfrekvens
14,3% (5/35)



- Do you have any comments related to the questions?

It was used many years ago.

In metastatic disease we frequently use

Corticosteroid are used only on tumor patients. Never for acute fractures.

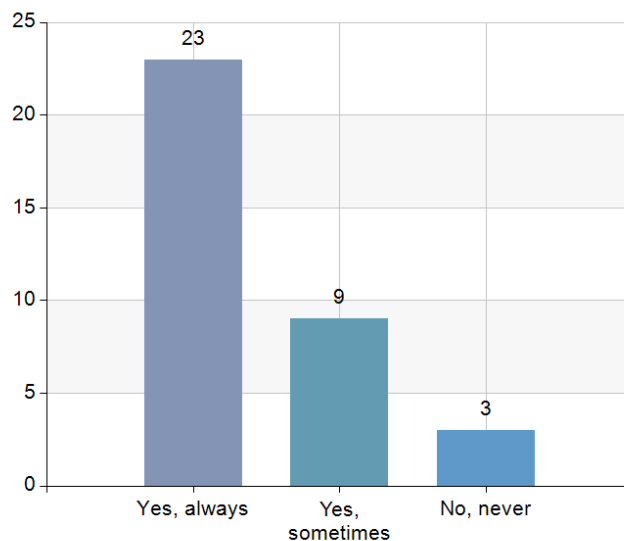
Steroids are removed from ATLS protocol.

- Does your department have a specific MAP (Mean Arterial Pressure) target in patients with suspected SCI?

Namn	Antal	%
Yes, always	23	65,7
Yes, sometimes	9	25,7
No, never	3	8,6
Total	35	100

Svarsfrekvens

100% (35/35)

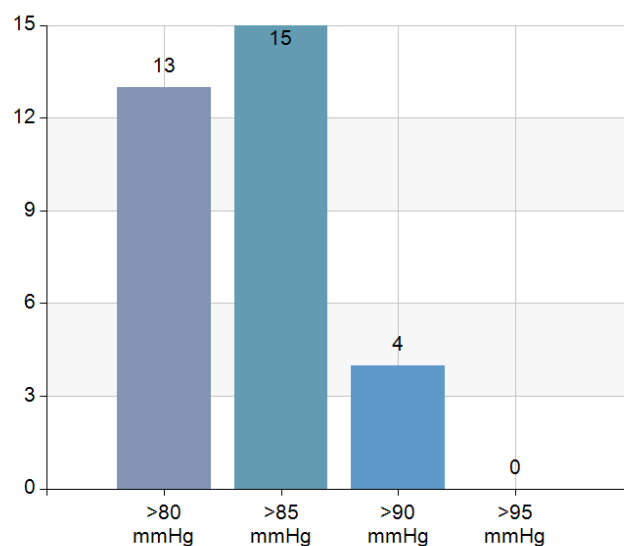


- If so, what is the MAP target?

Namn	Antal	%
>80 mmHg	13	40,6
>85 mmHg	15	46,9
>90 mmHg	4	12,5
>95 mmHg	0	0
Total	32	100

Svarsfrekvens

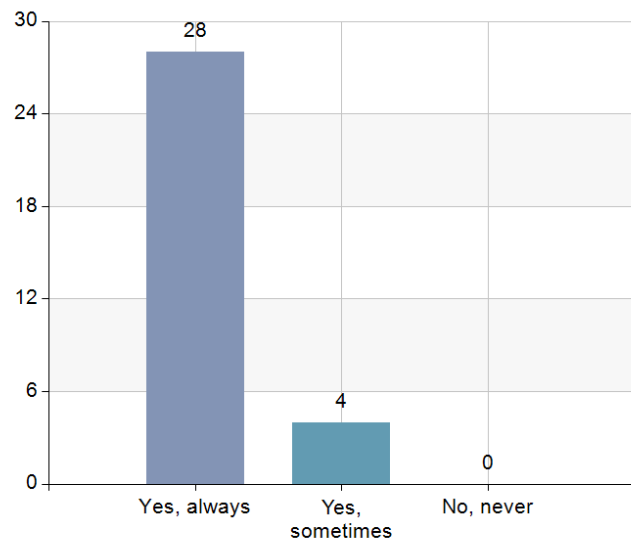
91,4% (32/35)



- If MAP is targeted, is invasive blood pressure (arterial) monitoring used?

Namn	Antal	%
Yes, always	28	87,5
Yes, sometimes	4	12,5
No, never	0	0
Total	32	100

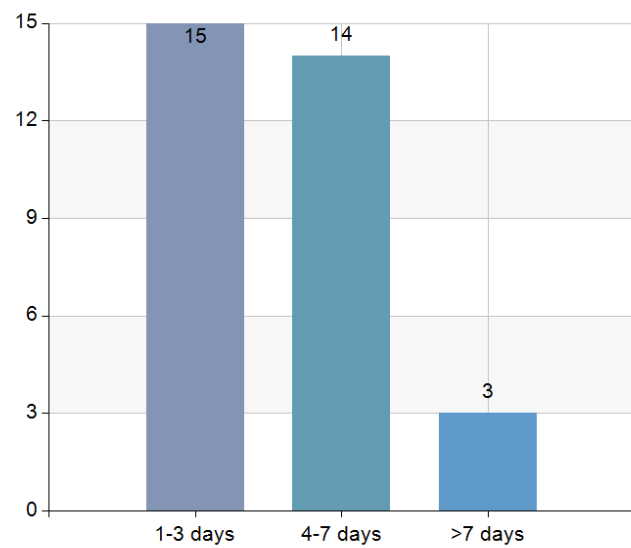
Svarsfrekvens
91,4% (32/35)



• What time interval is elevated MAP applied?

Namn	Antal	%
1-3 days	15	46,9
4-7 days	14	43,8
>7 days	3	9,4
Total	32	100

Svarsfrekvens
91,4% (32/35)



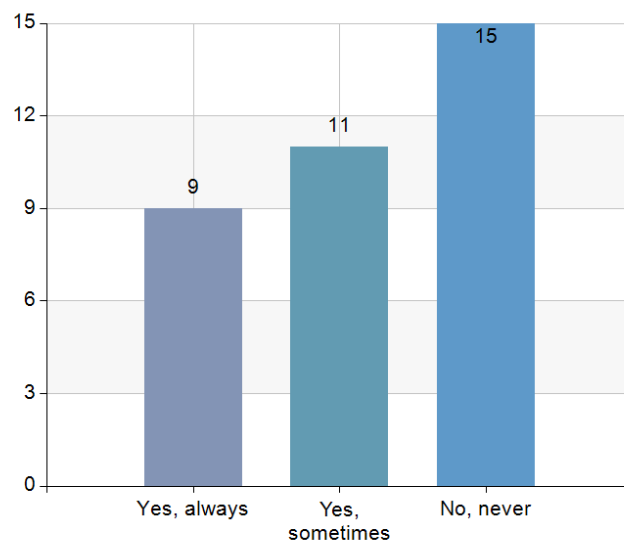
• Do you have any comments related to the questions?

Time interval after agreement between ICU anesthesiologist and orthopedic surgeon / neurosurgeon. Most common 1-3 days and always until surgical treatment is performed, if this is planned.
This is very interesting issue to clarify! Waiting for your results... :-)
Not involved so I dont know
elevated MAP is applied for exactly 7 days post trauma
MAP> 80 if 16 years MAP>85. MAP targeted in CC, THx, not if injury is below cauda.
Elevated MAP not applied after decompressive surgery or closed reduction and MRI verified relief of compression.

• Are spine X-rays routinely used as part of the initial radiological assessment?

Namn	Antal	%
Yes, always	9	25,7
Yes, sometimes	11	31,4
No, never	15	42,9
Total	35	100

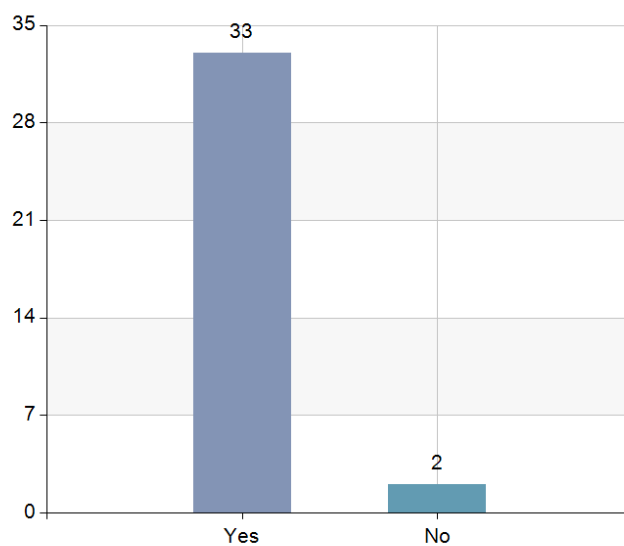
Svarsfrekvens
100% (35/35)



• Is MRI (Magnetic Resonance Imaging) available as a 24/7 service at your institution?

Namn	Antal	%
Yes	33	94,3
No	2	5,7
Total	35	100

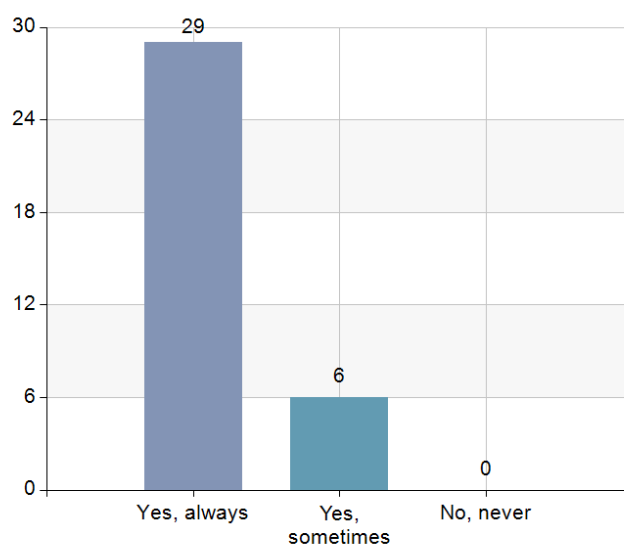
Svarsfrekvens
100% (35/35)



• Is MRI part of the acute (

Namn	Antal	%
Yes, always	29	82,9
Yes, sometimes	6	17,1
No, never	0	0
Total	35	100

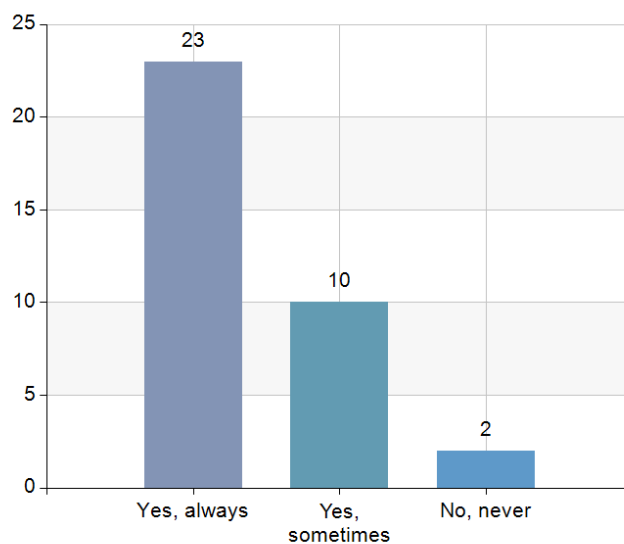
Svarsfrekvens
100% (35/35)



- Is MRI considered compulsory before surgery is performed in patients with suspected SCI? (Level of injury C1-L1)

Namn	Antal	%
Yes, always	23	65,7
Yes, sometimes	10	28,6
No, never	2	5,7
Total	35	100

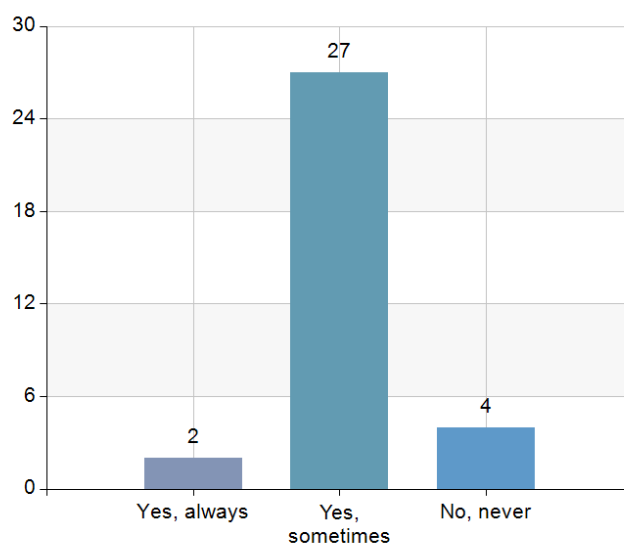
Svarsfrekvens
100% (35/35)



- Is an MRI of the brain part of the initial radiological assessment when cervical spinal cord injury is demonstrated?

Namn	Antal	%
Yes, always	2	6,1
Yes, sometimes	27	81,8
No, never	4	12,1
Total	33	100

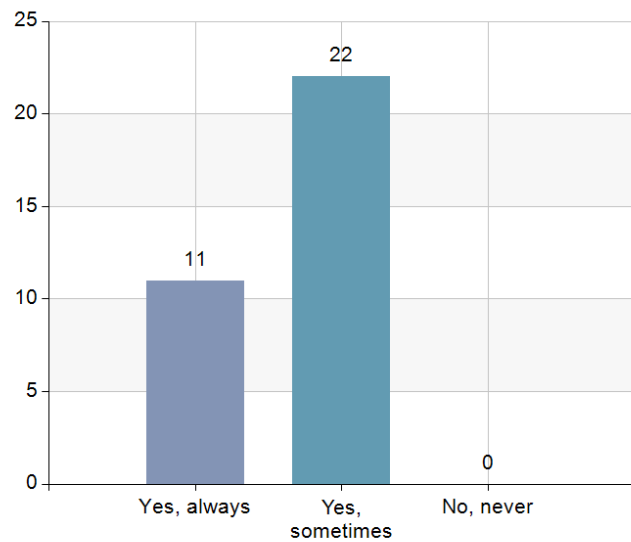
Svarsfrekvens
94,3% (33/35)



- Is a CT (Computed Tomography) angiogram of pre-vertebral arteries part of the radiological investigations when cervical spine injury is demonstrated?

Namn	Antal	%
Yes, always	11	33,3
Yes, sometimes	22	66,7
No, never	0	0
Total	33	100

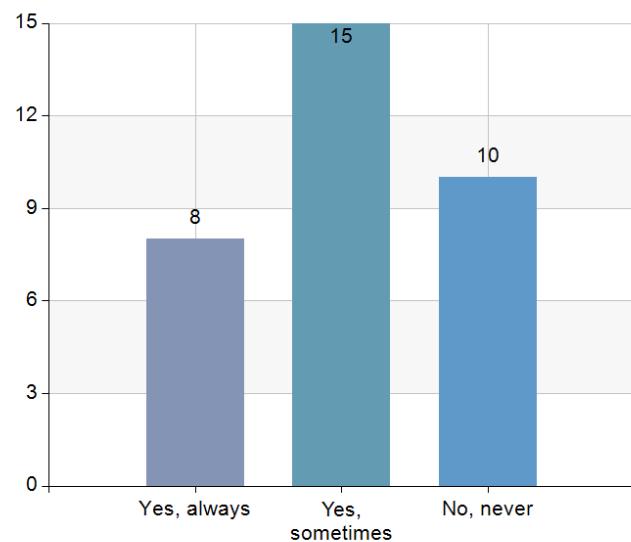
Svarsfrekvens
94,3% (33/35)



- Is a standard classification scheme routinely used for radiological evaluation of spine injuries?

Namn	Antal	%
Yes, always	8	24,2
Yes, sometimes	15	45,5
No, never	10	30,3
Total	33	100

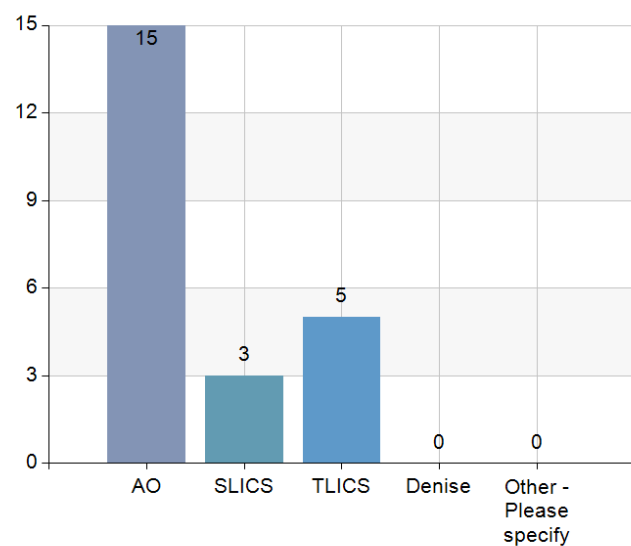
Svarsfrekvens
94,3% (33/35)



- If so, what classification system is most often used in your department?

Namn	Antal	%
AO	15	65,2
SLICS	3	13
TLICS	5	21,7
Denise	0	0
Other - Please specify	0	0
Total	23	100

Svarsfrekvens
65,7% (23/35)



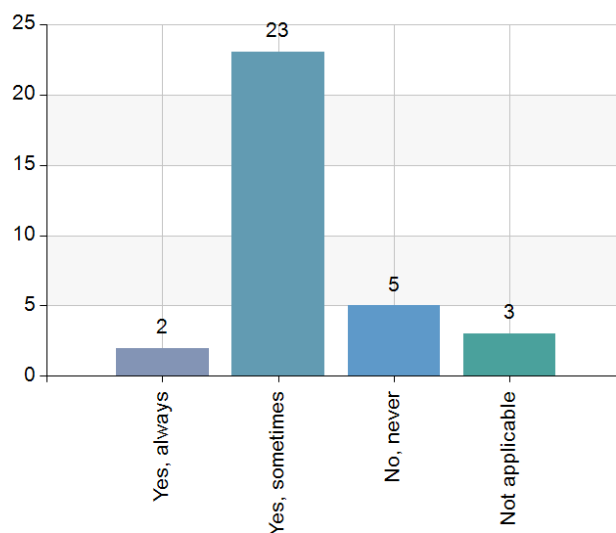
- Do you have any comments related to the questions?

Also TL-AOSIS And TLICS
I can't answer the questions regarding treatment and radiologic examination of the cervical spine because evaluation and treatment of these injuries is performed by the neurosurgeons.
Should have 2 possibilities we use AO and SLICS
Minority of surgeon use AO
no spine x-rays are performed but all patients have done a primary Trauma-CT.
We always take CT complete spine if fracture, and therefore not always spine x ray
Spine X-rays indicated, but this means computed tomography, never conventional radiographs

- Is skull traction used in patients with unstable C-spine injury?

Namn	Antal	%
Yes, always	2	6,1
Yes, sometimes	23	69,7
No, never	5	15,2
Not applicable	3	9,1
Total	33	100

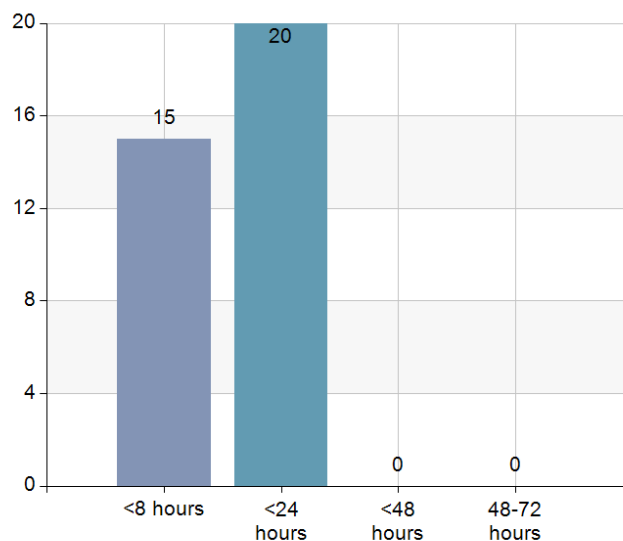
Svarsfrekvens
94,3% (33/35)



- What time frame does your department regard as early surgery for patients with SCI?

Namn	Antal	%
<8 hours	15	42,9
<24 hours	20	57,1
<48 hours	0	0
48-72 hours	0	0
Total	35	100

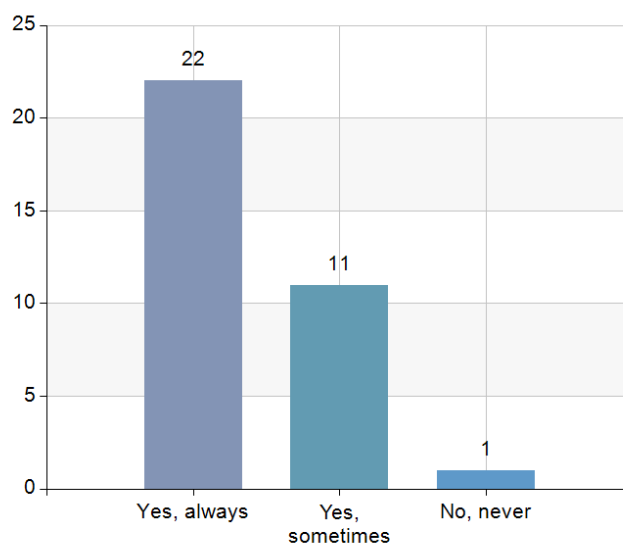
Svarsfrekvens
100% (35/35)



- Is timing of surgery depending on the neurological status (i.e., ASIA classification) of the patient?

Namn	Antal	%
Yes, always	22	64,7
Yes, sometimes	11	32,4
No, never	1	2,9
Total	34	100

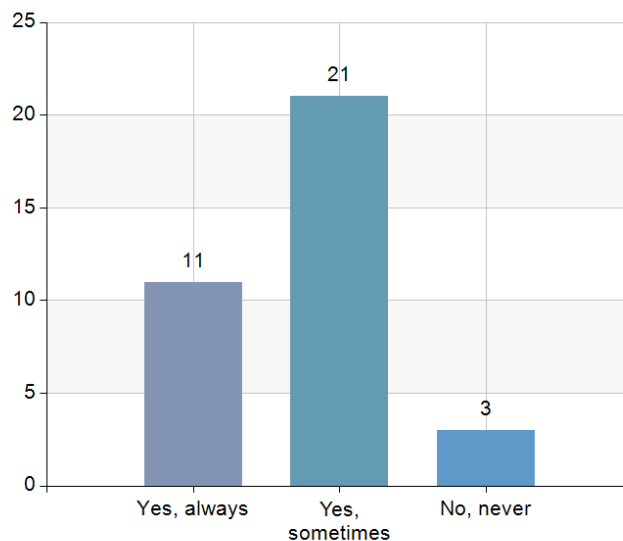
Svarsfrekvens
97,1% (34/35)



- Is intraoperative spinal navigation for spinal injuries in use at your department?

Namn	Antal	%
Yes, always	11	31,4
Yes, sometimes	21	60
No, never	3	8,6
Total	35	100

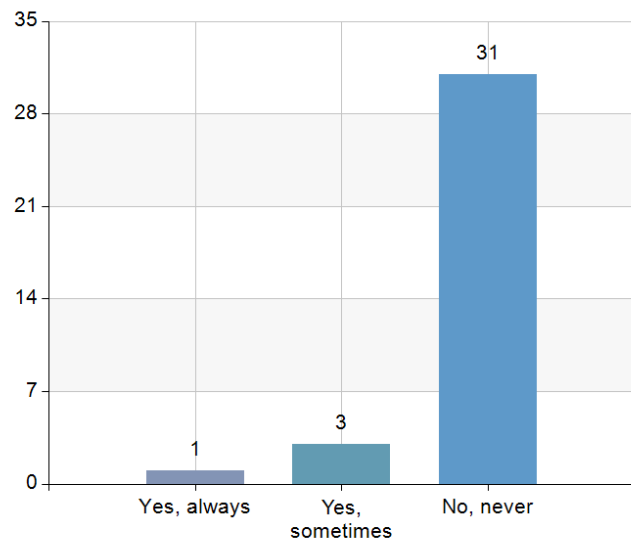
Svarsfrekvens
100% (35/35)



- Is lumbar drain applied to lower the intraspinal pressure in patients with SCI?

Namn	Antal	%
Yes, always	1	2,9
Yes, sometimes	3	8,6
No, never	31	88,6
Total	35	100

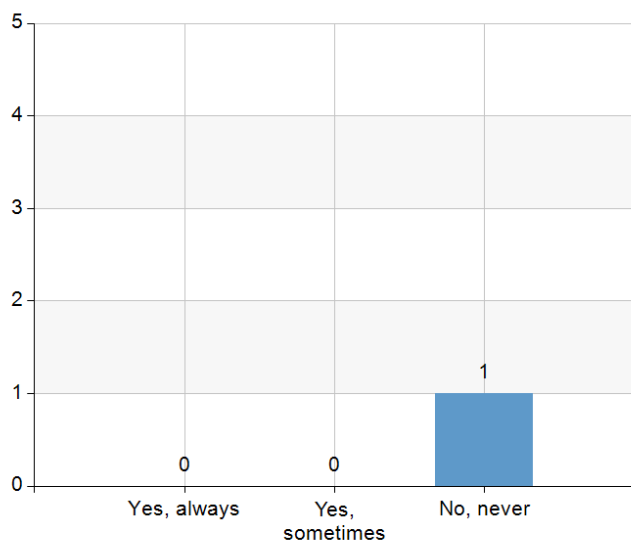
Svarsfrekvens
100% (35/35)



• If so, is a specific spinal perfusion pressure targeted?

Namn	Antal	%
Yes, always	0	0
Yes, sometimes	0	0
No, never	1	100
Total	1	100

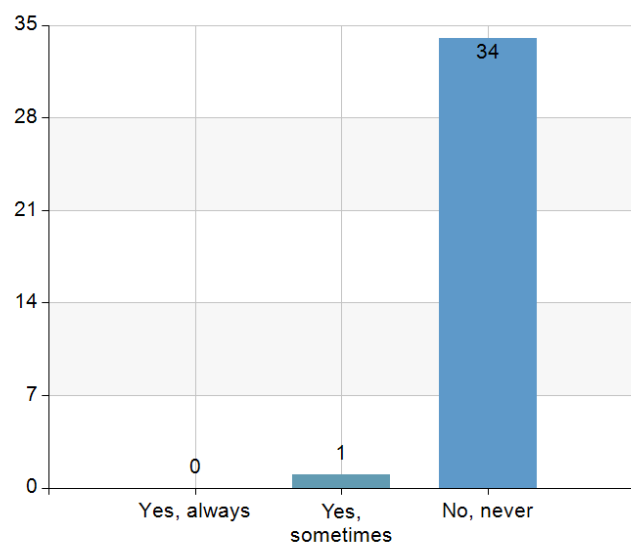
Svarsfrekvens
2,9% (1/35)



• Is durotomy performed at your institution to lower the intraspinal pressure?

Namn	Antal	%
Yes, always	0	0
Yes, sometimes	1	2,9
No, never	34	97,1
Total	35	100

Svarsfrekvens
100% (35/35)



- Do you have any comments related to the questions?

We tend to start with duroplastic soon.

I can't answer the questions regarding the cervical spine because evaluation and treatment of these injuries is performed by the neurosurgeons

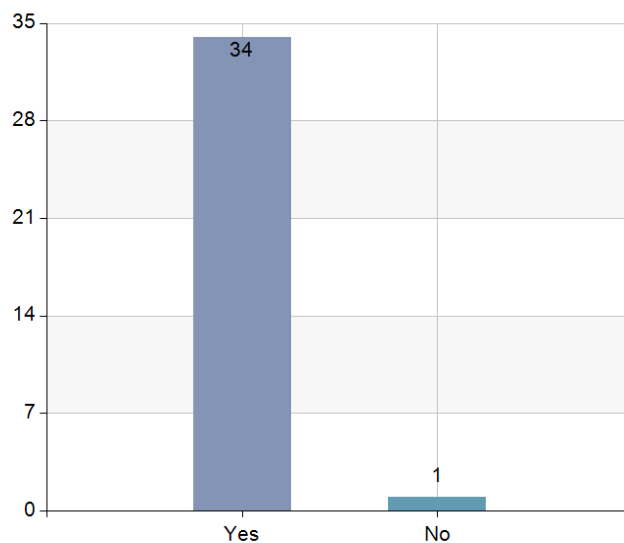
Timing of surgery based on the progression of neurologic deficits rather than the severity.

- Does your hospital have a management protocol for thromboprophylactic medication in patients with SCI?

Namn	Antal	%
Yes	34	97,1
No	1	2,9
Total	35	100

Svarsfrekvens

100% (35/35)

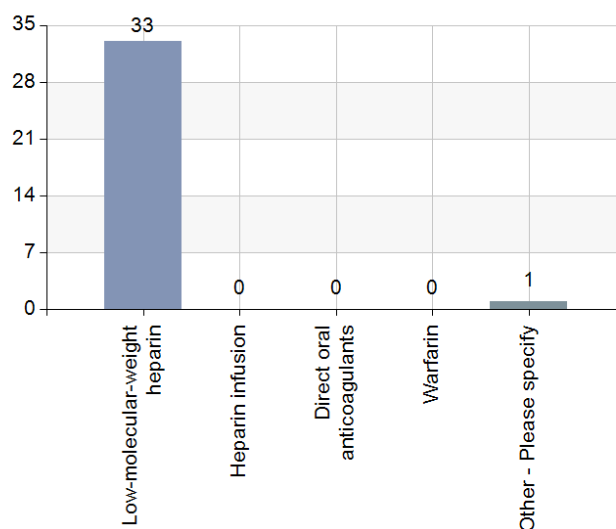


- What is your department's drug of choice for thromboprophylaxis in hospitalized patients with SCI?

Namn	Antal	%
Low-molecular-weight heparin	33	97,1
Heparin infusion	0	0
Direct oral anticoagulants	0	0
Warfarin	0	0
Other - Please specify	1	2,9
Total	34	100

Svarsfrekvens

97,1% (34/35)



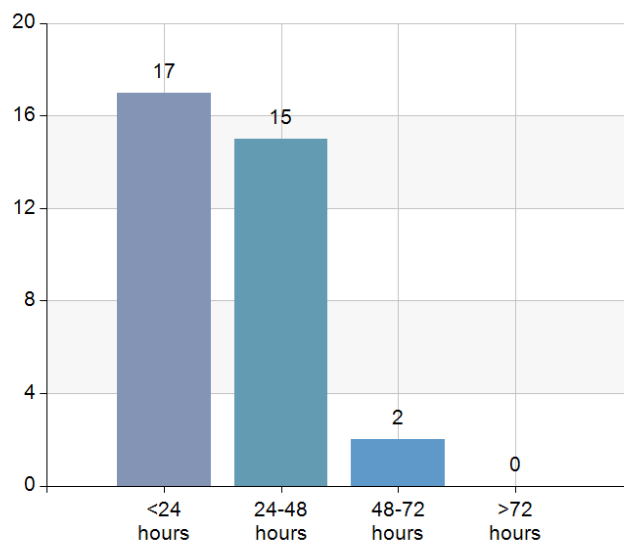
Other - Please specify

SCD

- Given that a patient has only a SCI, at what time point from completed surgery do you consider it safe to start thromboprophylactic treatment?

Namn	Antal	%
<24 hours	17	50
24-48 hours	15	44,1
48-72 hours	2	5,9
>72 hours	0	0
Total	34	100

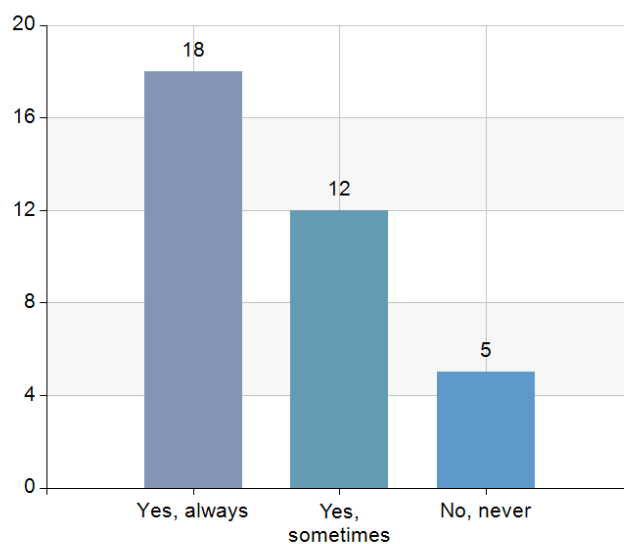
Svarsfrekvens
97,1% (34/35)



- Does your department apply stockings on a routine basis for patients with SCI and neurological deficits?

Namn	Antal	%
Yes, always	18	51,4
Yes, sometimes	12	34,3
No, never	5	14,3
Total	35	100

Svarsfrekvens
100% (35/35)



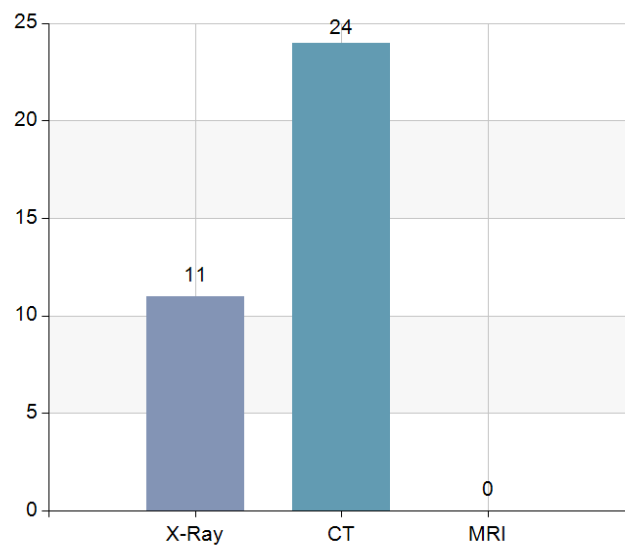
- Do you have any comments related to the questions?

Intermittent pneumatic leg compression (intermittent vadmkompression, "benpump") vår vanligaste metod för trombosprofylax under operation i nacke och rygg, även vid elektiva operationer.

- What is the routine radiological investigation for the initial post-operative control?

Namn	Antal	%
X-Ray	11	31,4
CT	24	68,6
MRI	0	0
Total	35	100

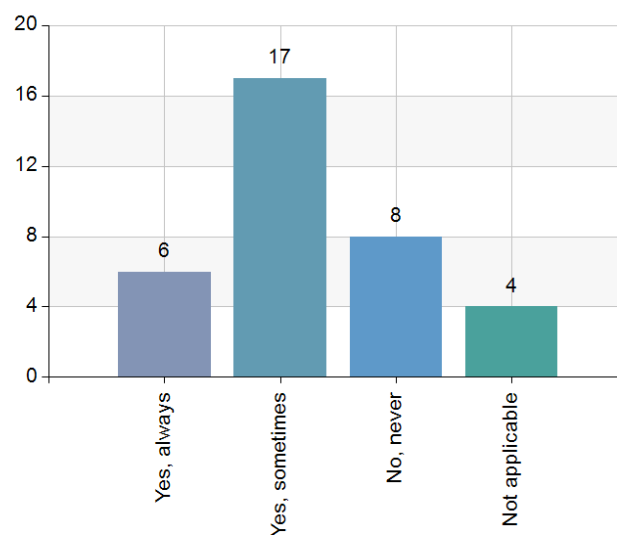
Svarsfrekvens
100% (35/35)



- In operated patients with SCI and C-spine fractures: Are cervical collars routinely applied post-operatively?

Namn	Antal	%
Yes, always	6	17,1
Yes, sometimes	17	48,6
No, never	8	22,9
Not applicable	4	11,4
Total	35	100

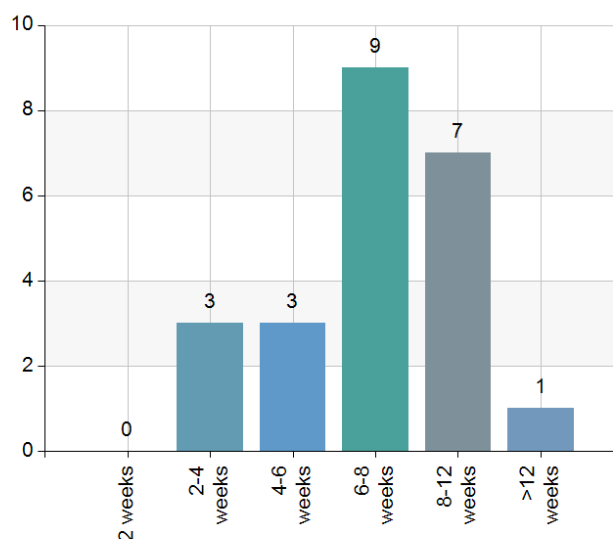
Svarsfrekvens
100% (35/35)



- If so, for how long, on average, are collars applied?

Namn	Antal	%
2 weeks	0	0
2-4 weeks	3	13
4-6 weeks	3	13
6-8 weeks	9	39,1
8-12 weeks	7	30,4
>12 weeks	1	4,3
Total	23	100

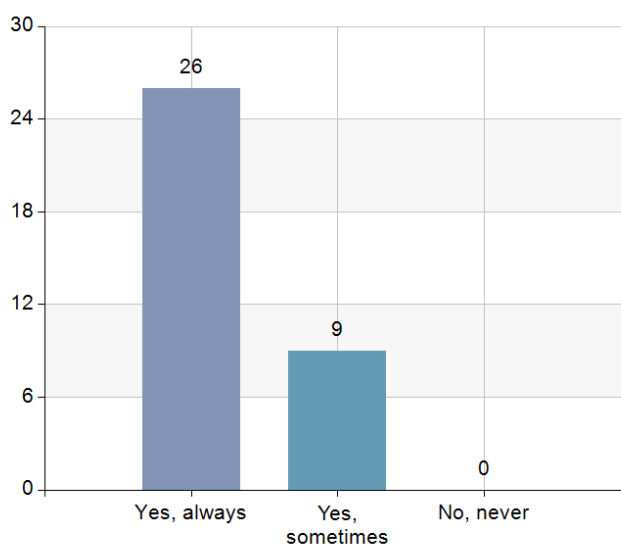
Svarsfrekvens
65,7% (23/35)



- Are operated patients with SCI undergoing regular follow-up controls in your department?

Namn	Antal	%
Yes, always	26	74,3
Yes, sometimes	9	25,7
No, never	0	0
Total	35	100

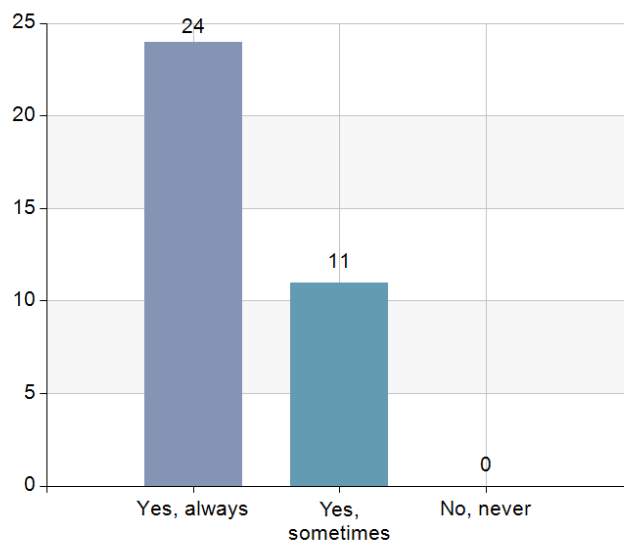
Svarsfrekvens
100% (35/35)



- At discharge, is the neurological status of the patient recorded and documented?

Namn	Antal	%
Yes, always	24	68,6
Yes, sometimes	11	31,4
No, never	0	0
Total	35	100

Svarsfrekvens
100% (35/35)



- Do you have any comments related to the questions?

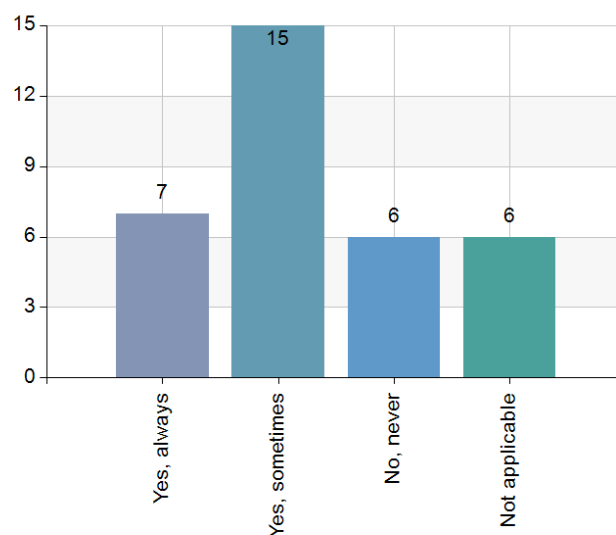
Continued FU is mainly at the Dept Rehab med, but at least one FU including radiological examination at our dept. The neurological status at discharge is evaluated of a specialized team from the Dept Rehabilitationmedicine (physioterapeut + physician)

We have some slip, but all pt SCI should have complete AISA scoore before discharge

- Are elevated levels of MAP considered equally important for patients with CCS compared to “regular” SCI in your department?

Namn	Antal	%
Yes, always	7	20,6
Yes, sometimes	15	44,1
No, never	6	17,6
Not applicable	6	17,6
Total	34	100

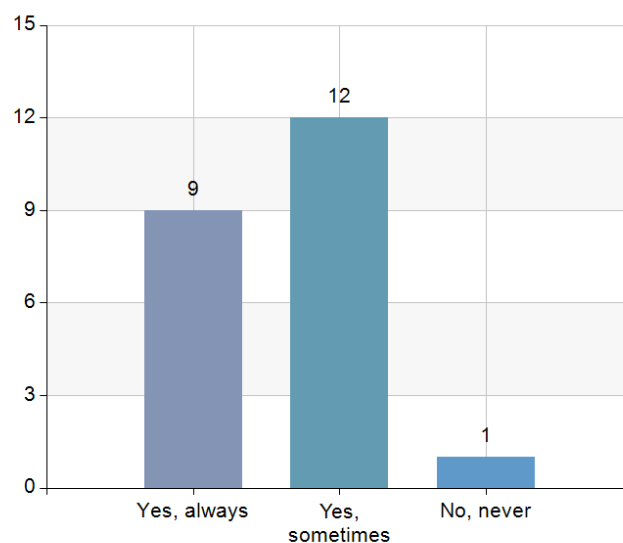
Svarsfrekvens
97,1% (34/35)



- If so, are patients with CCS admitted to ICU for observation and inotropic medications?

Namn	Antal	%
Yes, always	9	40,9
Yes, sometimes	12	54,5
No, never	1	4,5
Total	22	100

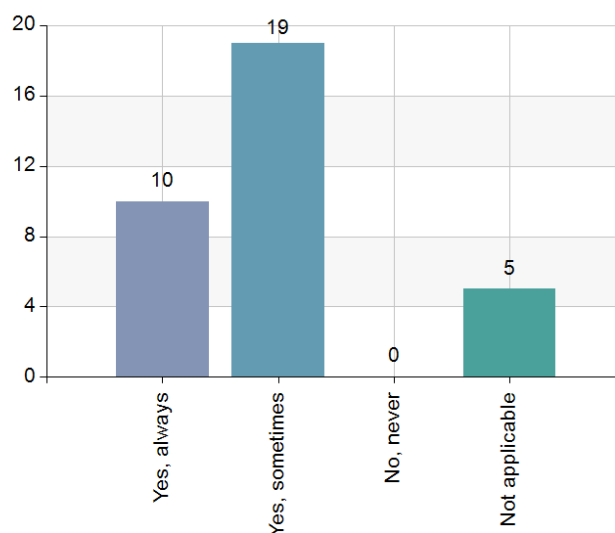
Svarsfrekvens
62,9% (22/35)



- Is timing of surgery for CCS considered along the same guidelines as SCI patients in your department?

Namn	Antal	%
Yes, always	10	29,4
Yes, sometimes	19	55,9
No, never	0	0
Not applicable	5	14,7
Total	34	100

Svarsfrekvens
97,1% (34/35)



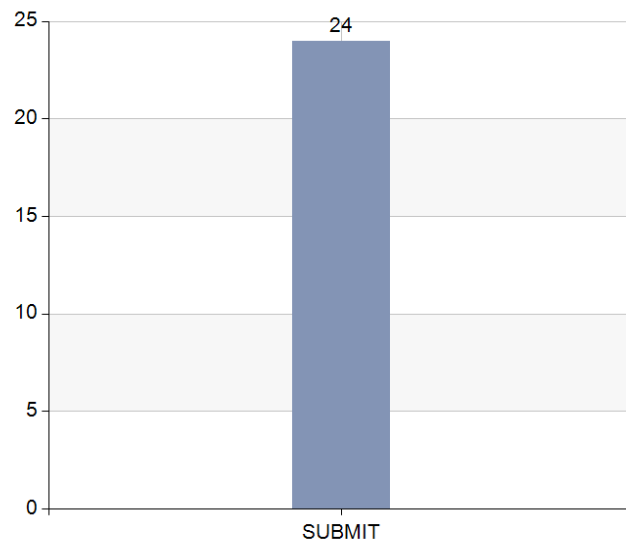
- Do you have any comments related to the questions?

I can't answer the questions regarding the cervical spine because evaluation and treatment of these injuries is performed by the neurosurgeons
Not involved
Dept policy: CCS should be considered for decompression <48 hrs after trauma
CCS usually treated by neurosurgeons and SCI by orthopedic surgeons.

• If you have finished answering the questions, please select "SUBMIT" below and then continue to the next page to submit your answers. Please note that this will lock and submit the survey and no further changes will be possible. • If you need more time to take the survey, you can continue at a later time. To do so, you can click the pause button at the bottom of the page. You can then resume taking the survey by following the link in the invitation e-mail that was sent to you earlier.

Namn	Antal	%
SUBMIT	24	100
Total	24	100

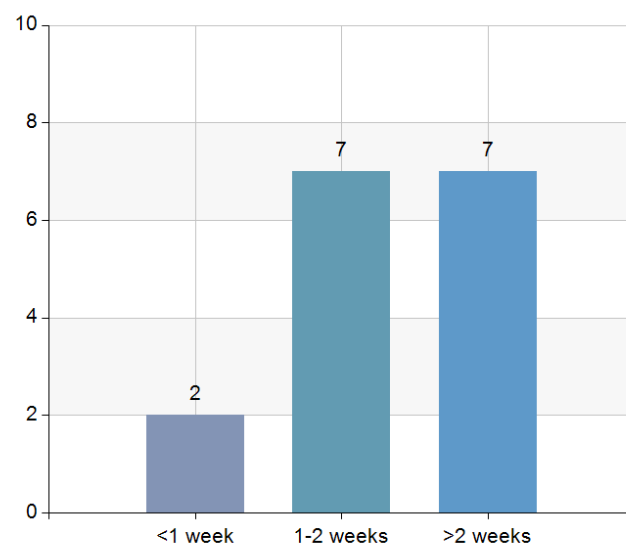
Svarsfrekvens
100% (24/24)



- On average, what is the number of days from injury until transfer to rehabilitation?

Namn	Antal	%
<1 week	2	12,5
1-2 weeks	7	43,8
>2 weeks	7	43,8
Total	16	100

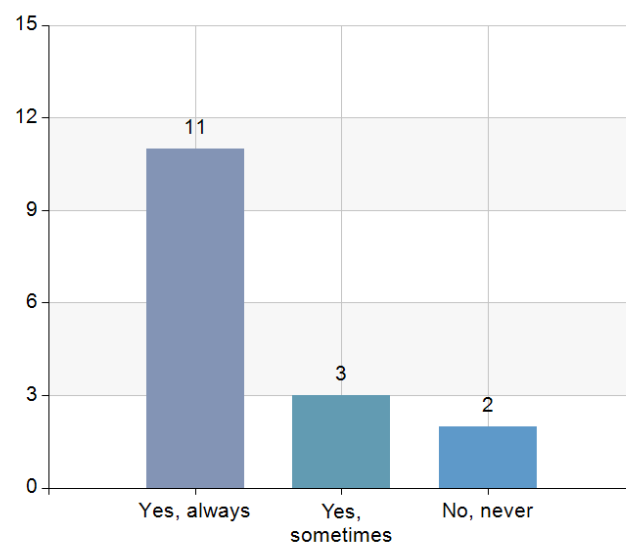
Svarsfrekvens
100% (16/16)



- Does rehabilitation take place in a spinal unit with only or predominantly spinal cord injuries?

Namn	Antal	%
Yes, always	11	68,8
Yes, sometimes	3	18,8
No, never	2	12,5
Total	16	100

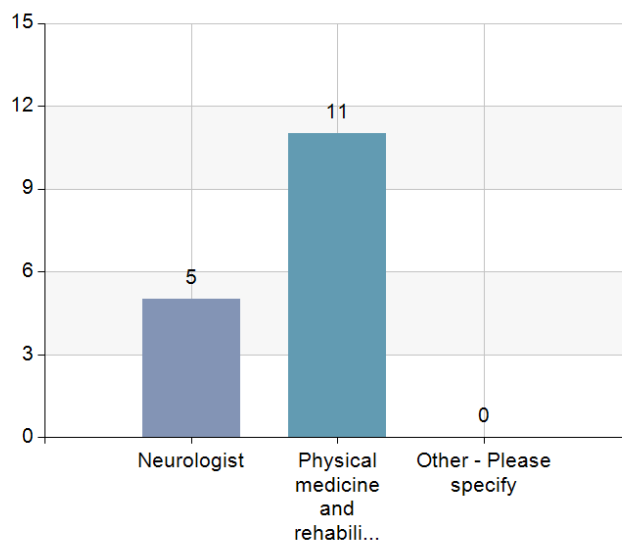
Svarsfrekvens
100% (16/16)



- Which medical specialty is in charge of the rehabilitation?

Namn	Antal	%
Neurologist	5	31,2
Physical medicine and rehabilitation physician	11	68,8
Other - Please specify	0	0
Total	16	100

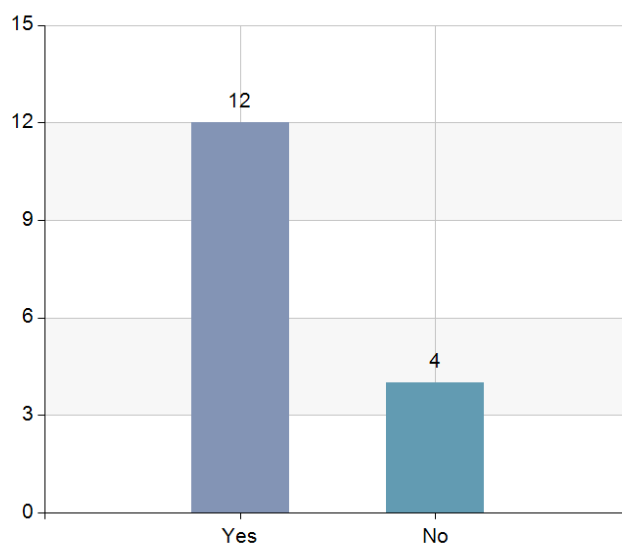
Svarsfrekvens
100% (16/16)



- Are there one or more advanced physical devices that improves mobilization such as therapy pool, body weight supported treadmill, or exoskeleton available at your institution?

Namn	Antal	%
Yes	12	75
No	4	25
Total	16	100

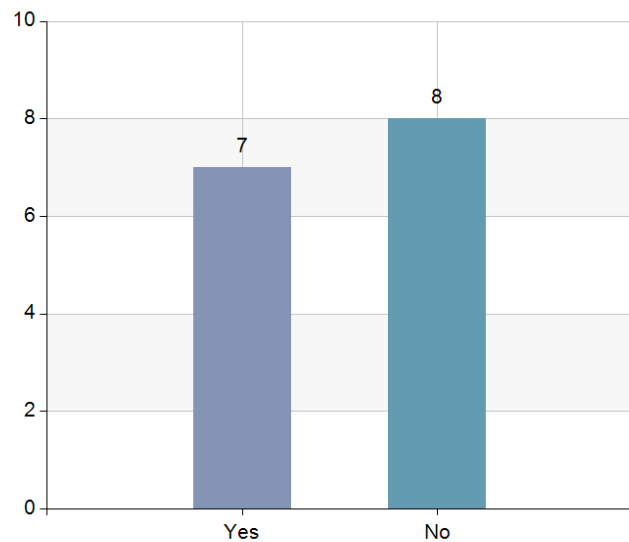
Svarsfrekvens
100% (16/16)



- Is your unit or program accredited according to international standards like ISO or CARF?

Namn	Antal	%
Yes	7	46,7
No	8	53,3
Total	15	100

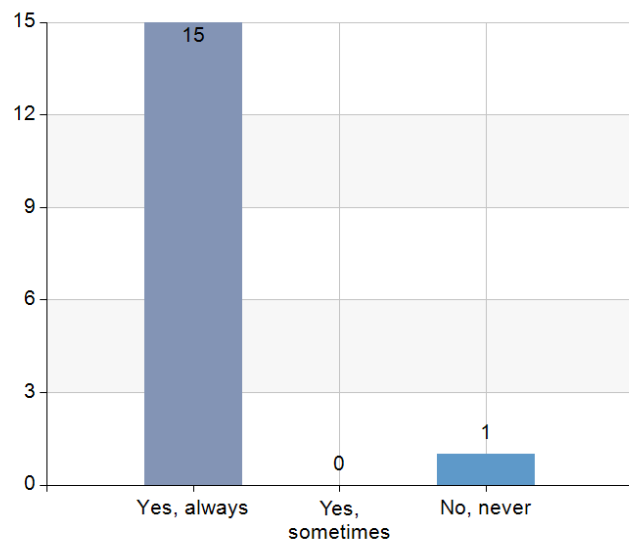
Svarsfrekvens
93,8% (15/16)



- Is systematic registration of data based on international data sets implemented in your unit or program (e.g., NordicSCIR)?

Namn	Antal	%
Yes, always	15	93,8
Yes, sometimes	0	0
No, never	1	6,2
Total	16	100

Svarsfrekvens
100% (16/16)



- Do you have any comments related to the questions?

Question no 1 concerning timing is difficult to answer. Depends on the kind, level and consequences of injury. Cervical injuries with respiratory impairment and need for intensive care as well as other aptients with need of intensive care might take longer time before transfer to our unit is possible. "Uncomplicated" patients can often be transferred within one week.

In Region Örebro län we send all our tSCI-patients to Uppsala for primary rehabilitation and they go there straight from the acute orthopedic ward, without passing our department. So the first two questions above therefor applies to Uppsala. But the following questions apply to our ward.

Apart from PM&R specialists there are sometimes neurosurgeons or neurologists who might be in charge of the acute SCI ward.

In one of our rehabilitation units the SCI patients are in the same ward as other neurorehabilitaion patients (stroke, traumatic braininjury etc)

Question 2: We do not have a specialized Spinal Unit in Iceland (the population of the country, i.e., the catchment area, is by far too small to allow that. Instead, we have a specialized SCI team within the department of rehabilitation medicine

Last question: The registration of data based on international data sets (last question) is mainly due to our participatoin in NordicSCIR (The Nordic Spinal Cord Injury Registry).

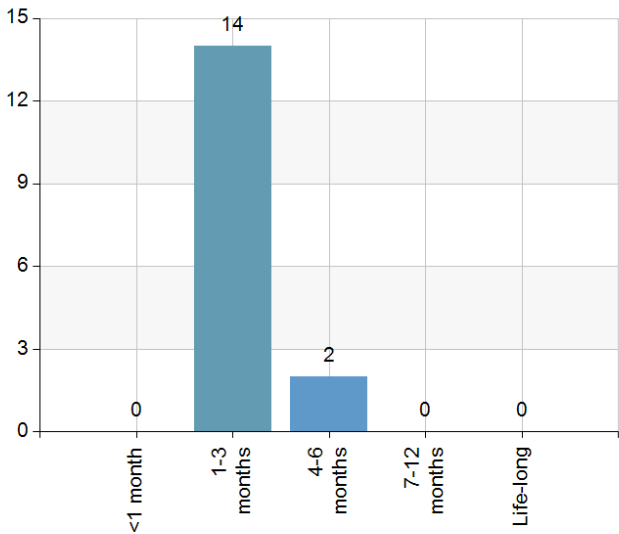
Otherwise, we have "traditional" medical records .

4th question (the third in chapter 2): But we have a warm large therapy pool, Lokomat computer-assisted treadmill for locomotion training, and a well equipped physiotherapy facility.

- In patients with SCI with permanent ASIA A, B, or C, for how long is routinely thromboprophylactic treatment considered necessary?

Namn	Antal	%
<1 month	0	0
1-3 months	14	87,5
4-6 months	2	12,5
7-12 months	0	0
Life-long	0	0
Total	16	100

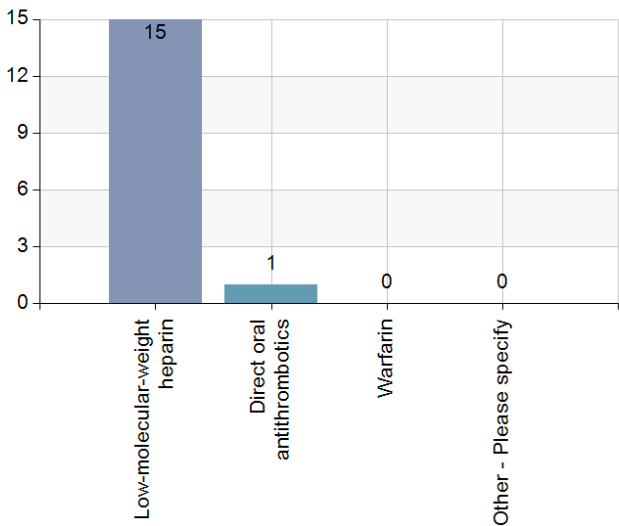
Svarsfrekvens
100% (16/16)



- In your institution, what is the drug of choice for long term (>2 months) treatment?

Namn	Antal	%
Low-molecular-weight heparin	15	93,8
Direct oral antithrombotics	1	6,2
Warfarin	0	0
Other - Please specify	0	0
Total	16	100

Svarsfrekvens
100% (16/16)



- Do you have any comments related to the questions?

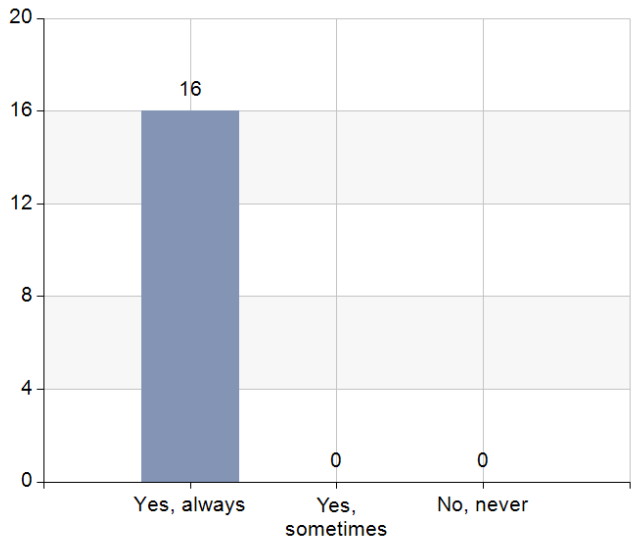
We change to direct oral antithrombotics if the patients gets a complication with pulmonary embolous, deep vein thrombosis.

When OTHER REASONS than SCI necessitate longer treatment duration than 12 weeks / 3 months, (such as e.g. repeated pulmonary embolism), then peroral anticoagulatoin is started (usually direct oral antithrombotics, more seldom Warfarin). But this is the exception - the main rule is that 3 months of anticoagulation (with Fragmin low molecular Heparin) is appropriate, so that most patients continue with Fragmin for the third month as well. In mild injuries who quickly regain near full mobility, we can have shorter duration of thromboprophylactic treatment.

- Are patients with SCI (Spinal Cord Injury) followed up at regular intervals in your department?

Namn	Antal	%
Yes, always	16	100
Yes, sometimes	0	0
No, never	0	0
Total	16	100

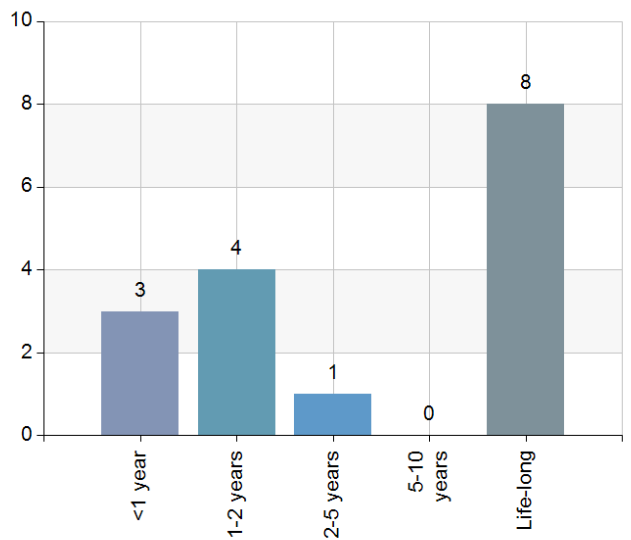
Svarsfrekvens
100% (16/16)



- If so, for how long does routine follow-up occur after initial injury?

Namn	Antal	%
<1 year	3	18,8
1-2 years	4	25
2-5 years	1	6,2
5-10 years	0	0
Life-long	8	50
Total	16	100

Svarsfrekvens
100% (16/16)



- Do you have any comments related to the questions?

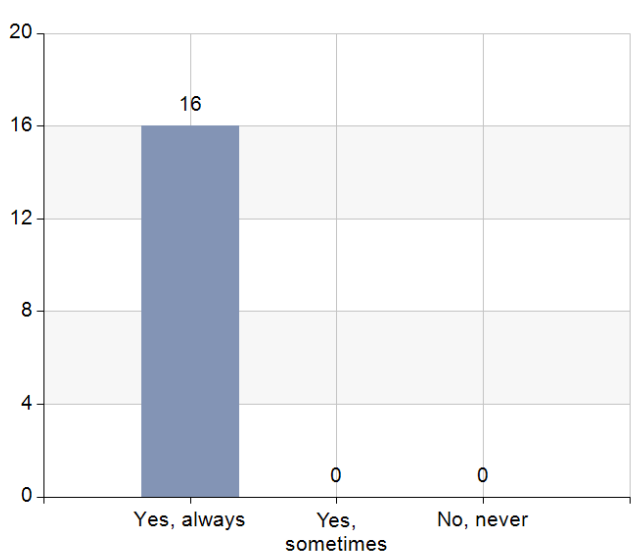
We do our follow-ups are every third year.

Lifelong follow-up, first annually, then with gradually increasing interval with up to 5 years between visits if everything goes well, mainly for the more severe cases, that have a neurogenic bladder paralysis, and need to go through neuro-urologic exam (cystometry, sometimes also cystoscopy, or only cystoscopy for those with indwelling suprapubic catheter) and ultrasound examination of kidneys, and these patients also meet all team mmebers (doctor, nures, physioth,ergother., social worker, psychologist if needed) during a 1 1/2 days visit to the daycare ward. The patients who have retained (or regain) their voluntary voiding ability, and also usually have much less severe SCI, are referred to primary care, and they are also offered to take contact and meet their doctor at the outpatient ward as needed (but unfortunately only on an a-needed bases, not on a regular basis for all patients, mainly due to lack of doctor’s manpower at our clinic).

• Do you have access to treatment with botulinum toxin injections in your unit/hospital?

Namn	Antal	%
Yes, always	16	100
Yes, sometimes	0	0
No, never	0	0
Total	16	100

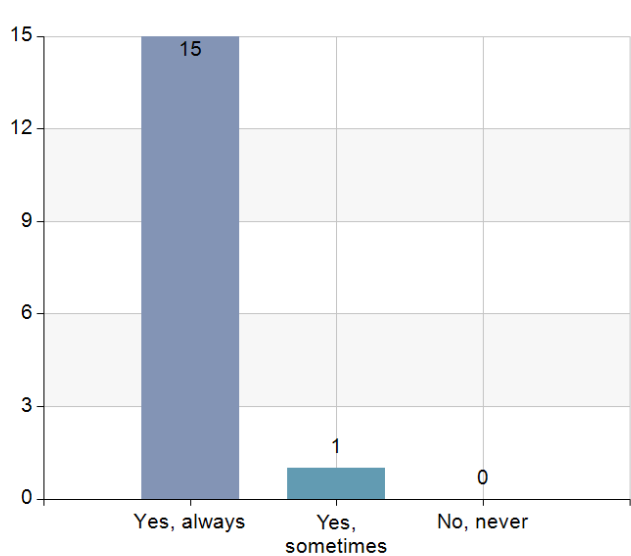
Svarsfrekvens
100% (16/16)



• Do you have access to Baclofen pump refilling and adjustment in your unit/hospital?

Namn	Antal	%
Yes, always	15	93,8
Yes, sometimes	1	6,2
No, never	0	0
Total	16	100

Svarsfrekvens
100% (16/16)

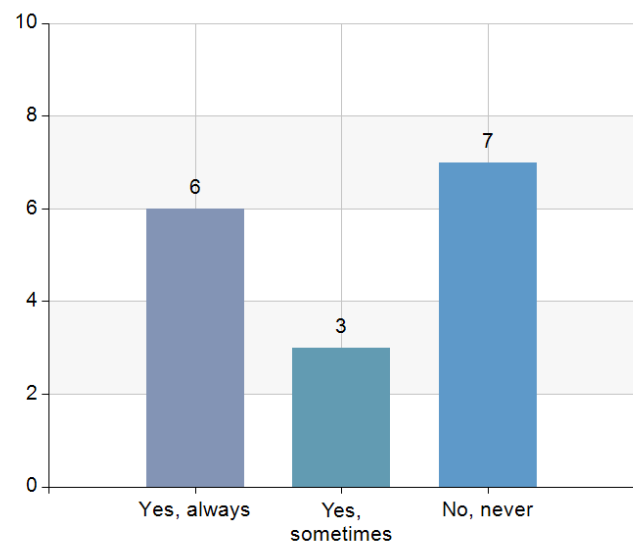


• Do you have any comments related to the questions?

- Do you have a pediatric unit with special expertise in children with spinal cord injuries?

Namn	Antal	%
Yes, always	6	37,5
Yes, sometimes	3	18,8
No, never	7	43,8
Total	16	100

Svarsfrekvens
100% (16/16)



- Do you have any comments related to the question?

Young adults transfer to regional SCI rehabilitation center. Younger children remain at pediatric hospital with SCI rehabilitation expertise on consultational basis.

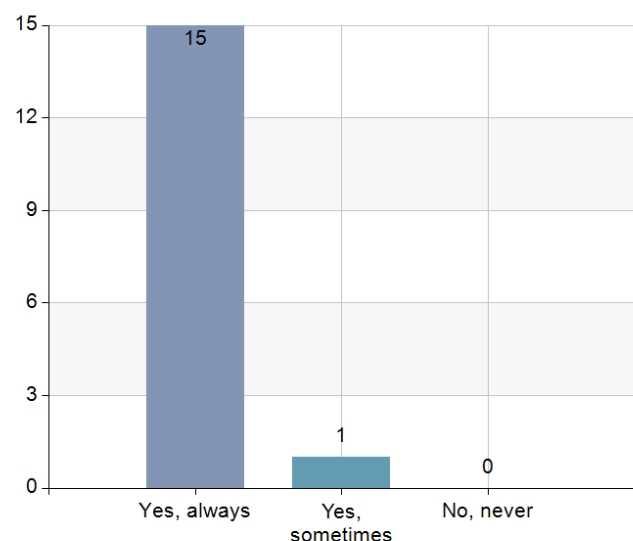
The youngest children (up to approx. 5-7 years) are taken care of at the Pediatric clinic.

The older children (<5-7 years approx.) usually start at the pediatric ward during the acute phase, then they are transferred to a small pediatric rehab unit, but come to the day care ward of the rehabilitation clinic (where specialized SCI rehabilitation is done) for the specialized SCI training (PT, OT etc.) for most part of their SCI rehabilitation. Then, they get specialized training and advice, but do not need to sleep and stay around the clock among adult and sometimes quite old other patients.

- Do you have access to urodynamic examinations in your unit/hospital?

Namn	Antal	%
Yes, always	15	93,8
Yes, sometimes	1	6,2
No, never	0	0
Total	16	100

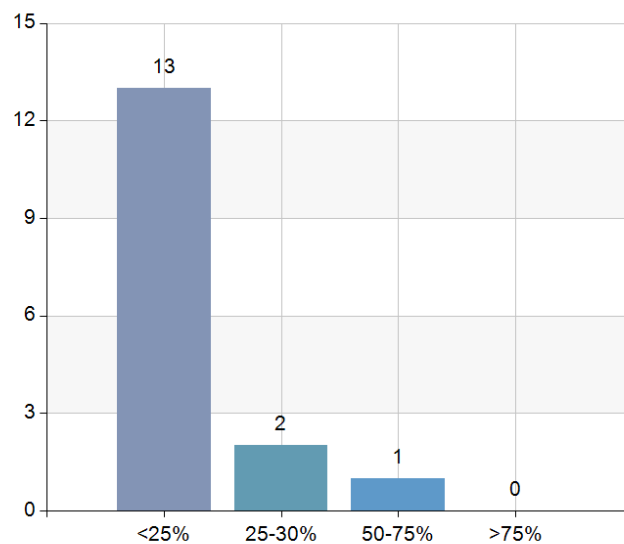
Svarsfrekvens
100% (16/16)



- What is the approximate percentage of patients discharged with indwelling catheter (urethral or suprapubic)?

Namn	Antal	%
<25%	13	81,2
25-30%	2	12,5
50-75%	1	6,2
>75%	0	0
Total	16	100

Svarsfrekvens
100% (16/16)

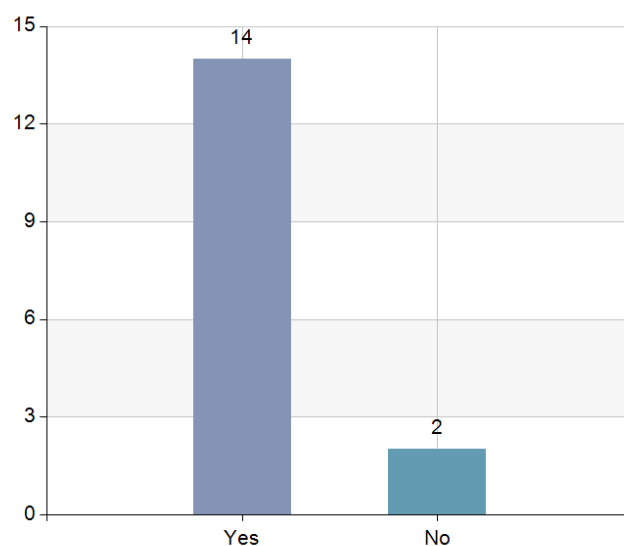


• At your department, do you have specialized personnel for:

- Urinary problems (i.e., urotherapists)?

Namn	Antal	%
Yes	14	87,5
No	2	12,5
Total	16	100

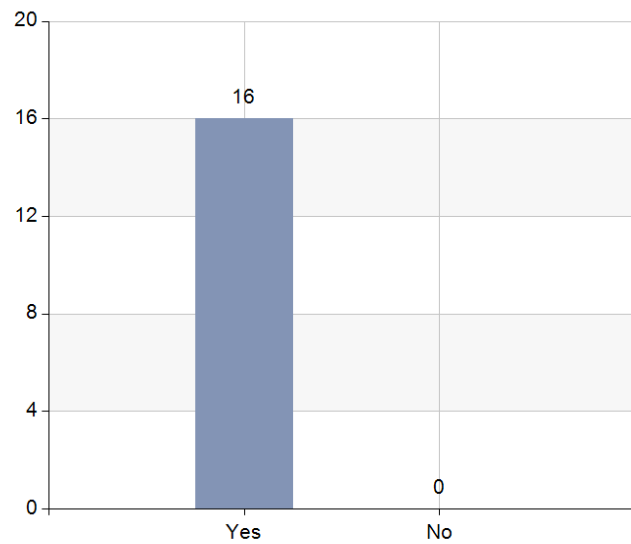
Svarsfrekvens
100% (16/16)



- Sexual counseling?

Namn	Antal	%
Yes	16	100
No	0	0
Total	16	100

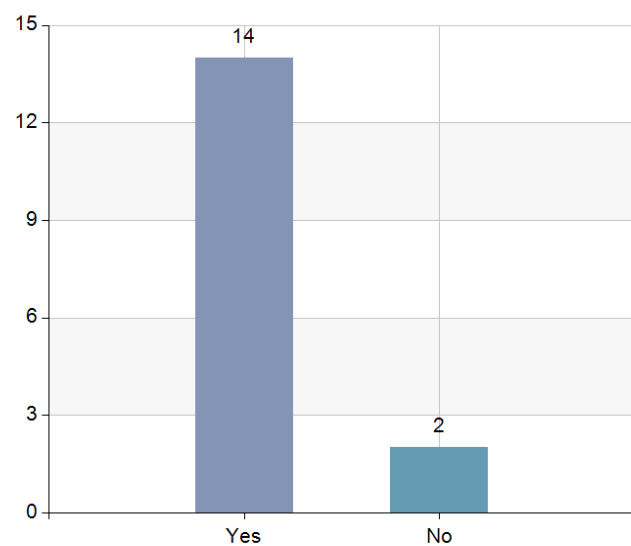
Svarsfrekvens
100% (16/16)



- Bowel management?

Namn	Antal	%
Yes	14	87,5
No	2	12,5
Total	16	100

Svarsfrekvens
100% (16/16)



• Do you have any comments related to the questions?

One of our nurses has extended knowledge of bladder and bowel management after tSCI.

Only 0-5 patients annually are discharged with indwelling catheter.

The last question: I am not sure how to answer this question. We have considerable expertise in all three areas of concern among the team members or the ward, which in almost all cases is sufficient to solve most, if not all, or problems.

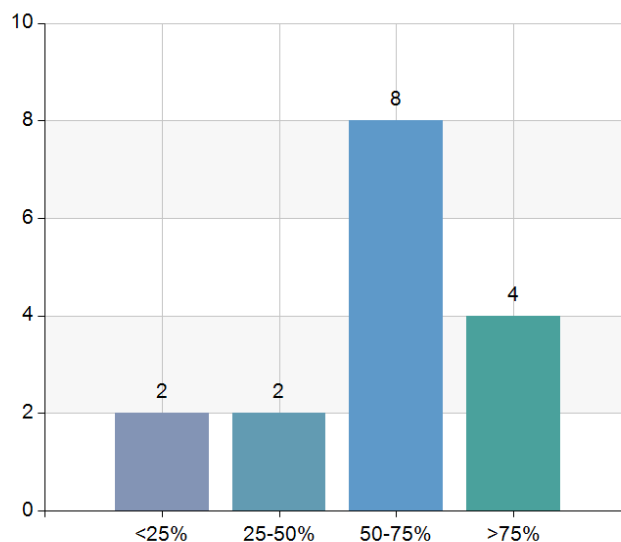
We also have very good and direct ACCESS to even more specialized staff which are dedicated to these issues (but not always with a focus of the specialized problems related to SCI!). However, these persons are NOT located in our small department of rehabilitation medicine, they work in other departments of the hospital (e.g., urotherapists at the neuro-dynamic lab., where cystometries, cystoscopies, suprapubic catheter insertions etc. are performed; stoma therapists that work at the gastroenterology unit within the department of internal medicine, that are concerned with bowel management, mainly but not only in connection with colostomies etc.,; as well as possibility to counsel a sexolog, which works as a consultant for the whole hospital, and covers sexual issues in disease in general, not only the specific problems that occur in patients with SCI).

So, we are a little "in between" - however, I answered yes, as I and my co-workers (not the least the specialized nurse at the day care department who organizes and coordinates all activities in connection with the regular SCI follow ups mentioned above, as well as the most experienced nurses in the inpatient ward, who take care of most of the primary SCI rehabilitation period) can in almost all cases, function as "specialized personnel" that can give adequate advice to our patients.

- What is the percentage of patients discharged directly home?

Namn	Antal	%
<25%	2	12,5
25-50%	2	12,5
50-75%	8	50
>75%	4	25
Total	16	100

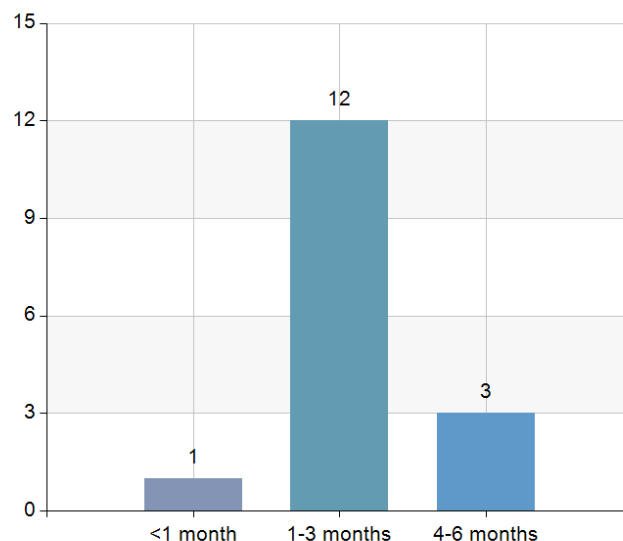
Svarsfrekvens
100% (16/16)



- Following SCI ASIA A-D, what is the average length of stay in your department?

Namn	Antal	%
<1 month	1	6,2
1-3 months	12	75
4-6 months	3	18,8
Total	16	100

Svarsfrekvens
100% (16/16)



• Do you have any comments related to the questions?

The last question: Very much dependent on the level of injury. A low complete injury (ASIA A) might need shorter hospitalisation.

At our ward we give patients secondary rehabilitation after transfer from Uppsala (where they treat patients with tetraplegia 10-12 weeks and paraplegia 6-8 weeks). Our LOS is a few weeks shorter, respectively.

First question: Percentage discharged home varies: often >75%, but unfortunately, when we looked back the last 4-5 years, more often slightly more than 25% needed to go either to other wards (mainly malignant tumor metastases to the spinal cord, that go back to the oncologic ward, or sometimes to terminal care), or directly to a nursing home (as personal assistance (Sw. Personlig assistans), and home nursing, are unfortunately less developed in Iceland than in the other Scandinavian countries)..

4-6 months OR MORE ... cervical injuries probably have 6-9 months average length of stay (and the high or skyhigh tetraplegics sometimes need considerably longer durations of stay - up to a year or more!).

• If you have finished answering the questions, please select "SUBMIT" below and then continue to the next page to submit your answers. Please note that this will lock and submit the survey and no further changes will be possible. • If you need more time to take the survey, you can continue at a later time. To do so, you can click the pause button at the bottom of the page. You can then resume taking the survey by following the link in the invitation e-mail that was sent to you earlier.

Namn	Antal	%
SUBMIT	12	100
Total	12	100

Svarsfrekvens
100% (12/12)

