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# Spinal Cord Injuries Rehabilitation Program - NorSCI

*New initiative, by:*

Imam Sadr Foundation (ISF) & NORWAC

NorSCI Open House – Wed. 02.11.2016



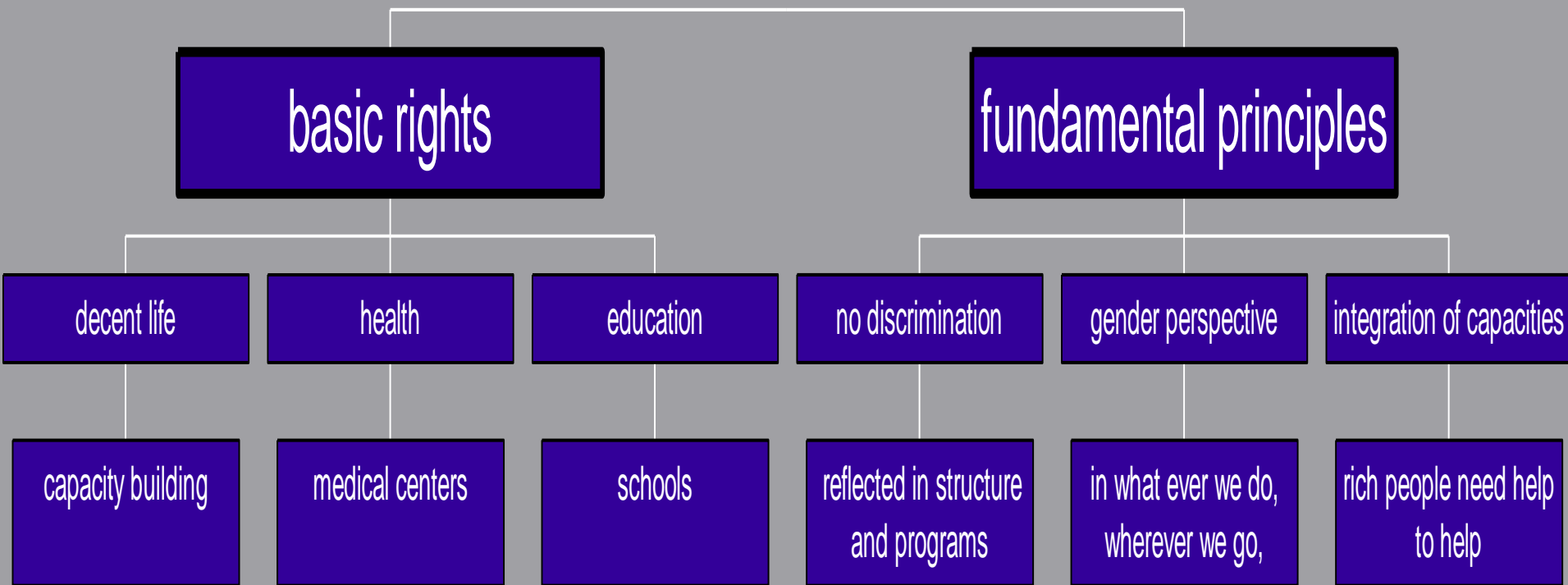
# Why We Are Here?

- To know and understand the concept of NorSCI and its conformity with IsCOS Guidelines;
- Build networks of partnership and expertise;
- Agree on eligibility criteria for referring SCI;
- Share the “knowing how?” between multidisciplinary national & international teams;
- Develop “Research & Development” on the field...



# NorSCI is an NGO Initiative: Imam Sadr Foundation (ISF) & NORWAC

global vision





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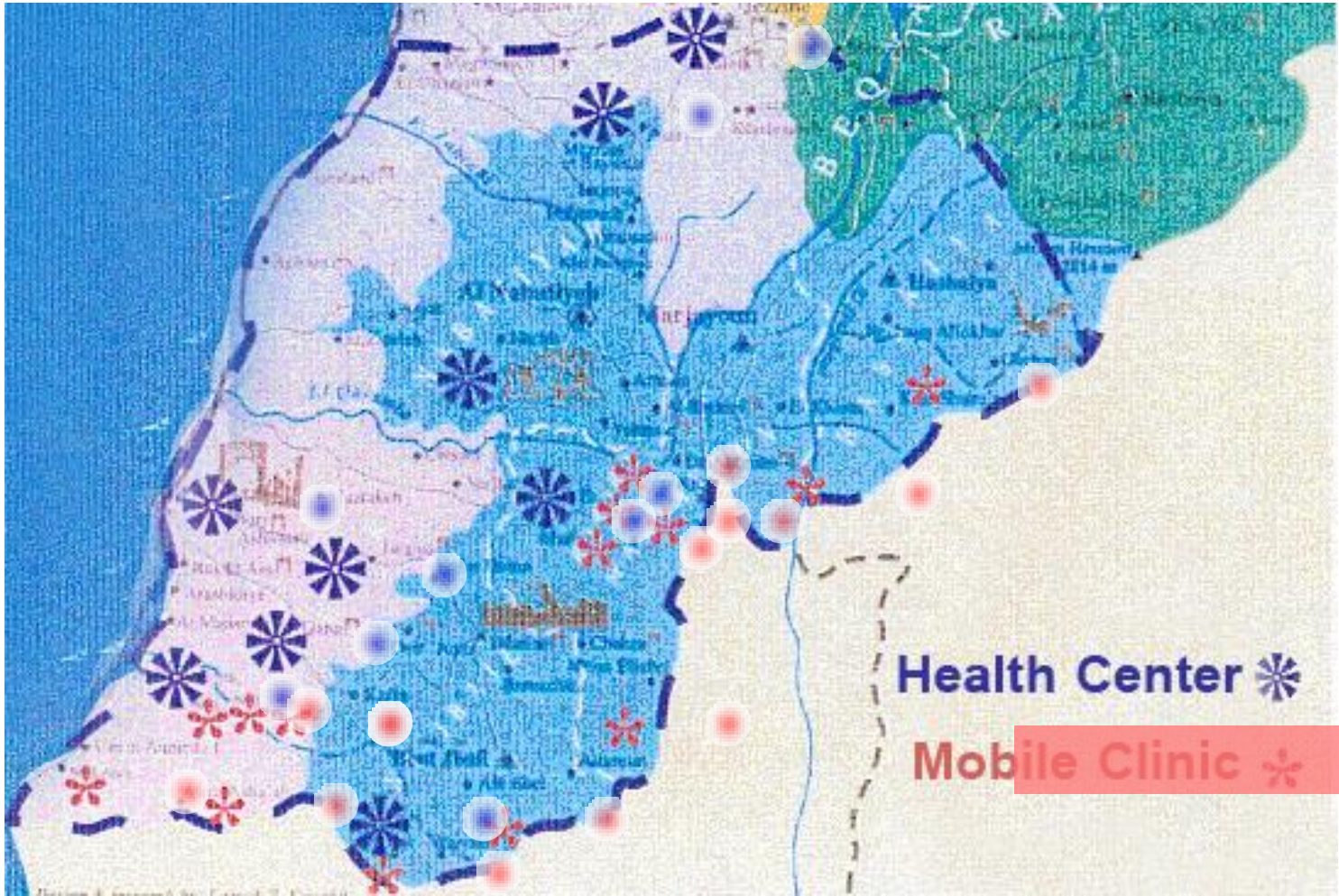
# Why Imam Sadr Foundation?

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- Trustful capacity to interact with local communities, and to mobilize their resources;
- Reputable track in nursing, supplemented by an alumni of graduates;
- Well-established chain of Primary Health Care & Medico-Social Centers;
- Credibility to mobilize stakeholders: Experts, Trainers, as well as Funders.



# ISF - Fair Geographic Expansion





# DERGHAYYA REHABILITATION CENTER





3 July 2007

# FUNCTIONING HEALTH FACILITIES IN SOUTHERN LEBANON



Participation Aid

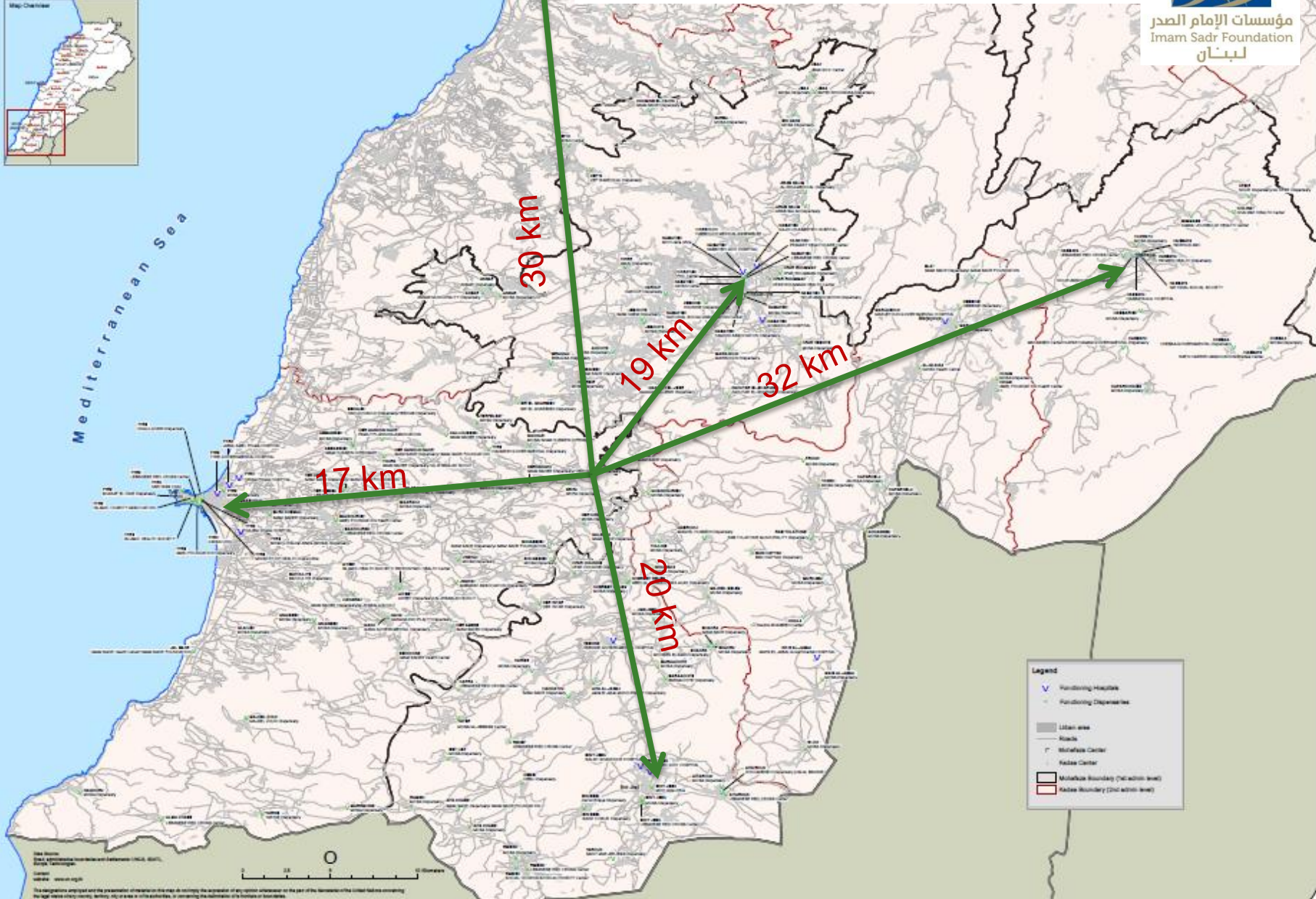
# Why Derdghayya?



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Mediterranean Sea



**Legend**

- Functioning Hospital (Blue 'V')
- Functioning Dispensary (Green dot)
- Urban area (Grey shaded)
- Roads (Black line)
- Municipal Center (Square with 'M')
- Kalsh Center (Square with 'K')
- Municipal Boundary (1st order level) (Black outline)
- Kalsh Boundary (2nd order level) (Red outline)

Map Source: UNEP, Environmental Monitoring System (EMS), 2001. Scale: 1:50,000. Legend: www.un.org. The navigators employed and the presentation of information on this map do not imply the agreement of any system whatsoever on the part of the Government of the United Kingdom concerning the legal status of any territory, territory, city or state or of its authorities, or concerning the delimitation of its frontiers or boundaries.

# Medico -Social Center (since 1986)

**Charity Dispensary - nb 5045 /92**

**REHABILITATION SERVICES:**  
PHYSIOTHERAPY,  
OCCUPATIONAL THERAPY, SPINAL CORD INJURIES PROGRAM.

NURSING SERVICES,  
MIDWIFERY, NUTRITION,  
COMMUNITY MENTAL HEALTH, ESSENTIAL DRUGS, LABORATORY TESTS... **DIAGNOSTIC SERVICES:** EKG, ECHOGRAPHY, URODYNAMIC UNIT.



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**Gen. & Specialized Medicine:**  
Pediatrics, Endocrinology,  
Cardiovascular Diseases,  
Ophtalmology, Urology Andrology,  
Orthopedics, Neurology, Pneumology,  
Psychiatry.





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# Physiotherapy Unit (since 1989) collaboration with NORWAC (1997)



Spinal Cord Injury Rehabilitation Program -  
Open House (2/11/2016)



# Strategic Partnership :ISF-NORWAC

- **30 years** of working together ;
- **Aim:** supporting disadvantaged people;
- **Projects:** Jal-el Bahr dispensary, Derdghayya Center, Nursing, Special Education, Mental Health Programs...
- **Types of support:** Human, Technical and Financial;
- **Wealthy Record:** Joint task forces survived together several instances of danger while intervening during military clashes in the area.



# Why NORwegian Aid Committee (NORWAC)?

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- Expertise in the domain;
- Willingness to get involved;
- Funder, Mediator, Catalyst ;
- Remarkable record of partnership with ISF;
- Umbrella of some Lebanese and Palestinian NGOs.



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# Main NorSCI GOALS & relationship with Sustainable Development Goals 2030

## HEALTH IN THE SDG ERA





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# Goal 1 (SDGs 3 & 10): HEALTH

10 Healthcare Units (4 Primary Healthcare Centers, 3 Medico-Social Centers, 2 Medical Mobile Units and 1 School Dispensary):

Targeting all *strata* in the southern communities,

- Providing general and specialized consultations, oral dental services, laboratory services, essential drugs, mother and child care, mental health etc...
- Functioning as community health centers aiming to implement “health for all” by disserving quality services.



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## Goal 2 (SDGs 3, 8 & 10): **HUMAN DEVELOPMENT**

Provide people with **Spinal Cord Injury** the ability to lead a long and healthy life, to acquire knowledge and socio-economic growth, and to have access to the resources needed for a decent quality of life.



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## Goal 3 (SDGs 16 & 17):

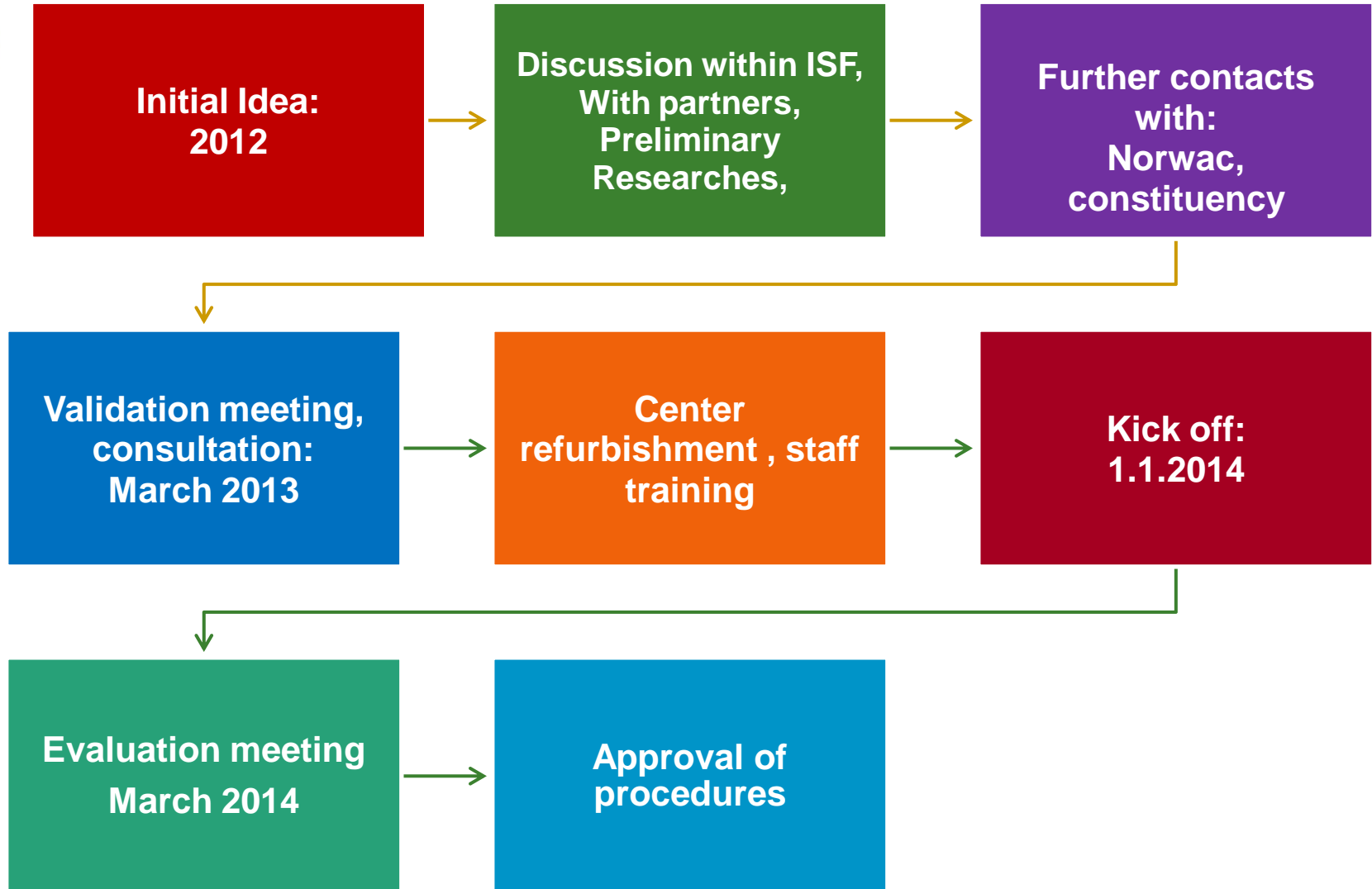
# SYNERGY OF CAPACITIES

- Involvement of local communities (multi-religious, cultural and political affiliations);
- Alliances with other NGOs (Al-Mousawat, Islamic Health Society...)
- Coordination with governmental departments (MOSA, MOPH / YMCA Program);
- Partnership with international organizations (NORWAC & Sunnaas Rehab., LFCT)

# NorSCI Process of Progress



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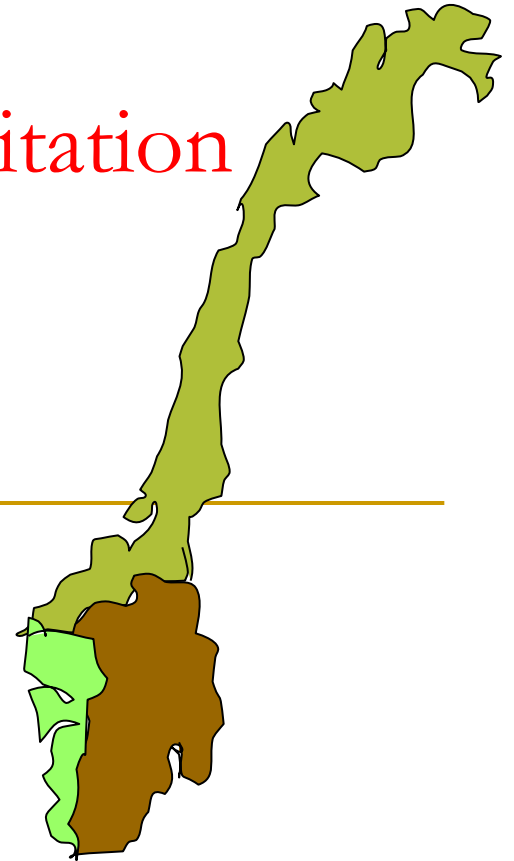




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# Spinal Cord Injuries Rehabilitation Program in Norway

**SUNNAAS Rehabilitation Hospital**





# Spinal Cord Injury Rehabilitation in Norway

- **South-eastern part: Oslo University Hospital – Sunnaas rehabilitation Hospital**
- **Western part: Haukeland University Hospital, Bergen**
- **Middle- and northern part: St Olav's Hospital, Trondheim**

**Life long follow-up – including regular urological assessment**

## **Epidemiology:**

- **Incidence إصابة – approx 60 traumatic and 40 non traumatic**
- **Prevalence إنتشار – approx 360 pr mill ⇒ 1800 (Hagen 2009)**
- **Mean age at injury approx 40 years معدّل العمر عند الإصابة**
- **$\frac{3}{4}$  male**

# Sunnaas hospital HF

## مستشفى سوناز



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•The largest Nordic rehabilitation hospital أكبر مستشفى تأهيلي في شمال أوروبا

•159 beds سرير

•750 employees in 3 clinical departments أقسام عيادية

•Approx 2500 in patients مرضى داخلي

•1500 out patients مرضى خارجي

•Average length of stay: ~ 30 days  
معدل مدة الإقامة في المستشفى 30 يوم

•CARF Accreditation from 2006 برنامج الإعتاد منذ العام 2006



# The Hospital Services الخدمات

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- **Sub -acute rehabilitation and follow up**  
إعادة تأهيل (للحالات ما قبل الإصابة الحادة) ومتابعة.
- **Routine follow up** متابعة روتينية
- **Outpatient services** خدمات للمرضى الخارجى
- **Outreach team** فريق تدخل خارجي (في المجتمع)
- **Long term follow up** متابعة طويلة الأمد
- **Assessment of Dysphagia, drivers license, work etc**  
تقييم لحالات عسر البلع... تأمين رخص قيادة، عمل...
- **Research activities** أنشطة أبحاث
- **Education and supervision of health professionals, local communities, patients and relatives...**  
تعليم وإشراف من قبل مهنيين صحيين، السلطات المحلية، المرضى والأقارب...



# Multidisciplinary team around the patient

## الفريق المتعدّد الإختصاصات الذي يُحيط المريض



### Additional specialist services available at the hospital:

خدمات لمختصّين مساندين في المستشفى

- Urologist أخصائي مسالك بولية
- Neurologist أخصائي جهاز عصبي
- Orthopedic Engineer مهندس تقويم
- Hand Surgeon جراح يد
- Psychiatrist طبيب نفسي
- Plastic Surgeon جراح تجميل
- Sexual Adviser مستشار للصحة الجنسية
- Pediatrician طبيب أطفال
- Driving School مكتب تعليم القيادة
- Activity Consultant مستشار للأنشطة
- User Consultant مستشار المستخدمين
- Hospital Priest رهبنة المستشفى
- Leisure Consultant مستشار رفاهيّة



# The User Consultants

## مستشارو المُستخدمين



- Knowledge sharing based on own experience الشراكة بالمعلومات المبنية على الخبرة الشخصية
- Motivators المُحفّزون
- Guide الدليل / المرشد
- Consultants المُستشارون
- Role models الدور المِثال
- Exercise assistants المُساعدون في التمارين



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# Spinal Cord Injuries Rehabilitation Program (NorSCI)

Overview for the Whole Team

Team-based care - roles & responsibilities - Overview



## COMPREHENSIVE MANAGEMENT OF SCI



Roles and responsibilities

Screen 1 of 1

COMMENT



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# NorSCI Multidisciplinary Team

- Our Team is composed of Physicians (Urology, Andrology, Neurology...), three Specialized Female Nurses (Norway “Spinal Cord Nursing Specialty”; in addition to two holders of “Mental Health Nursing Diploma”), one Emergency Male Nurse, and one Peer Consultant.





Doctors Team: **Dr Jaafar Atwi**  
(Head), **Dr Ziad Diab & Dr Khalil  
Nassar & other Dispensary Drs)**

Specialized SCI  
Nurses: **Mona Tiba,**  
**Rima Husseiny &  
Rima Darwiche**

Team  
Leader

**Mona Tiba**

Emergency Nurse:  
**Rida Jezzini**

Peer  
Consultant:  
**Hassan Balhas**

Dispensary Team:  
**Nawal Twabeh (Head Nurse),  
Layla Serhane..**

PT: **Fatima Soueidane, Ali  
Kandil;**



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# RESEARCHER DOCTORS



Spinal Cord Injuries Rehabilitation Program -  
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# The Only Specialized Nurses in SCI

(Diploma in Spinal Cord Injuries from Norway)





# PEER CONSULTANT

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# OUR SERVICES

- Specialized consultations: urology and andrology, screening and imagery (Urodynamic), Electro-Mechanical Stimulation, Mental Health support, peer consultancy, home visits, follow-up by phone, health education, in addition to the distribution of relevant medical devices (Foley and Clean Intermittent Catheters / CIC), physiotherapy and occupational therapy, external referral to other services.

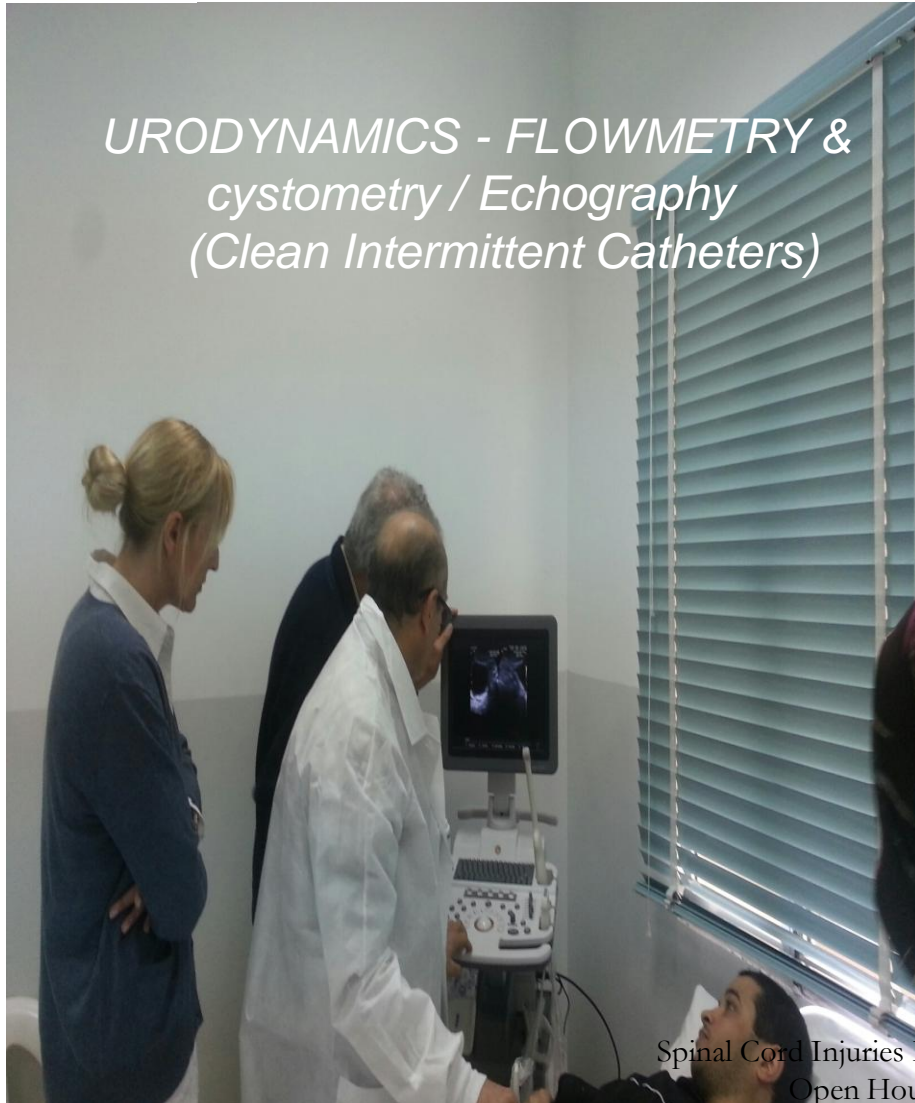


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# DIAGNOSTIC SCREENING

## FOR BLADDER & BOWEL MANAGEMENT

*URODYNAMICS - FLOWMETRY &  
cystometry / Echography  
(Clean Intermittent Catheters)*





# URODYNAMICS / FLOWMETRY

- IT IS A SCREENING TOOL TO ALLOW THE MEDICAL INVESTIGATION OF THE BLADDER,
- IT IS NEEDED (MEDICAL PRESCRIPTION) AT THE BEGINNING OF SCI TRAUMA AND AFTER RECURRENT INFECTIONS,
- IT LEADS TO A CLEAR URINARY DIAGNOSIS PREVENTING FROM FUTURE COMPLICATIONS & INFECTIONS.



# Why Urodynamics?

## Urodynamic investigations

- Urodynamic investigations are mandatory.
- History, level of injury, signs and symptoms alone are not enough to determine if a person is at risk of high intravesical pressures and renal complications
- In lesions above Th6
  - Blood pressure recording essential before filling and during contraction and/or cystometric capacity
  - Silent autonomic dysreflexia in 30-40 %



Flowmetry

Cystometry

Urethra pressure measurement

Videourodynamics

Blood pressure/heart rate

EMG recording





# Specialized Nursing Services





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# Peer Consultancy & Home Visits





# PHYSIOTHERAPY





# OCCUPATIONAL THERAPY

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# SCI NETWORKING

- **After the inauguration of the “Spinal Cord Injuries Rehabilitation Program” on March 2014 and after the preparatory and consultative workshop on “Urinary Tract Problems & Spinal Cord Injury” by the Norwegian Aid committee (NORWAC), we started receiving patients from different associations (Al Mousawat, Islamic Health Society, Empowerment Association for Independent Living/ Chairwoman Ms Nada Ismail), and some other centers & clinics ...**



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# IMAM SADR FOUNDATION

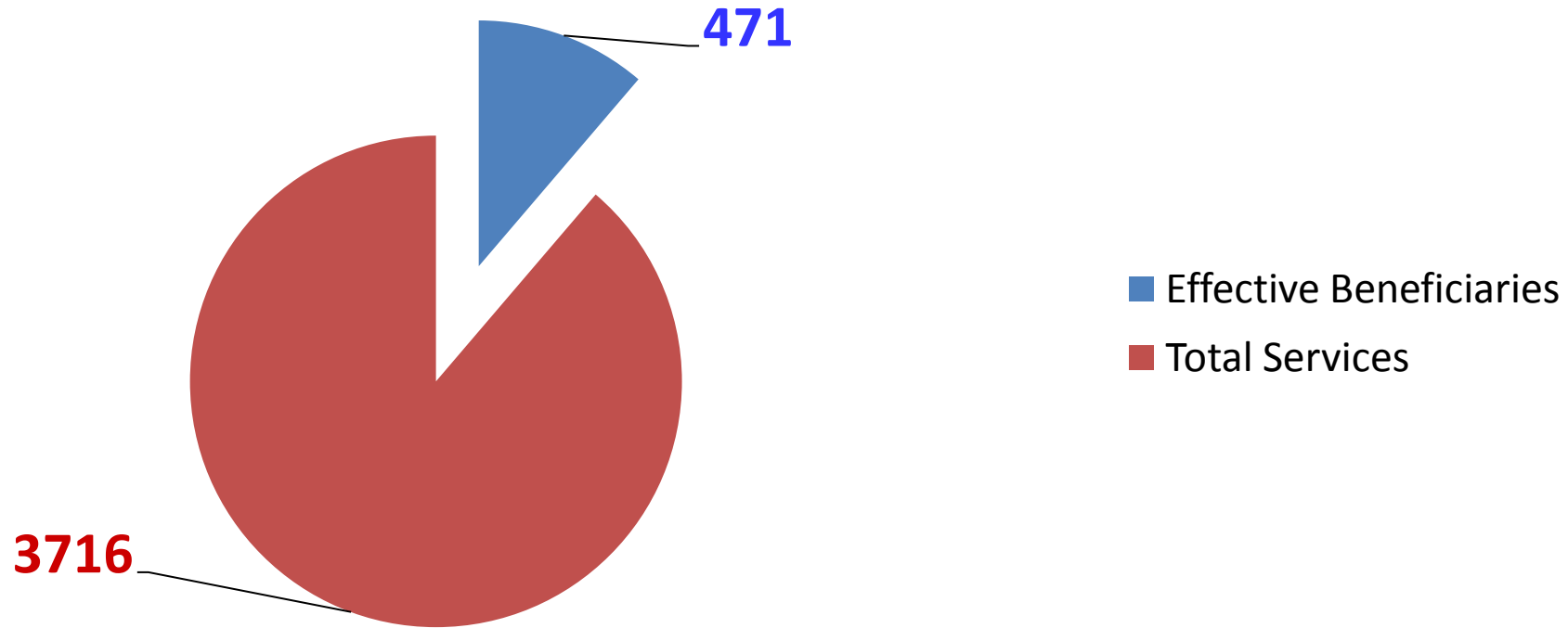
## NorSCI Program

### STATISTICS

### (APRIL 2014 – SEPTEMBER 2016)



**Imam Sadr Foundation / NorSCI Program.**  
**Figure 1: Distribution of Beneficiaries by Services**  
**(01.04.2014 till 30.09.2016)**

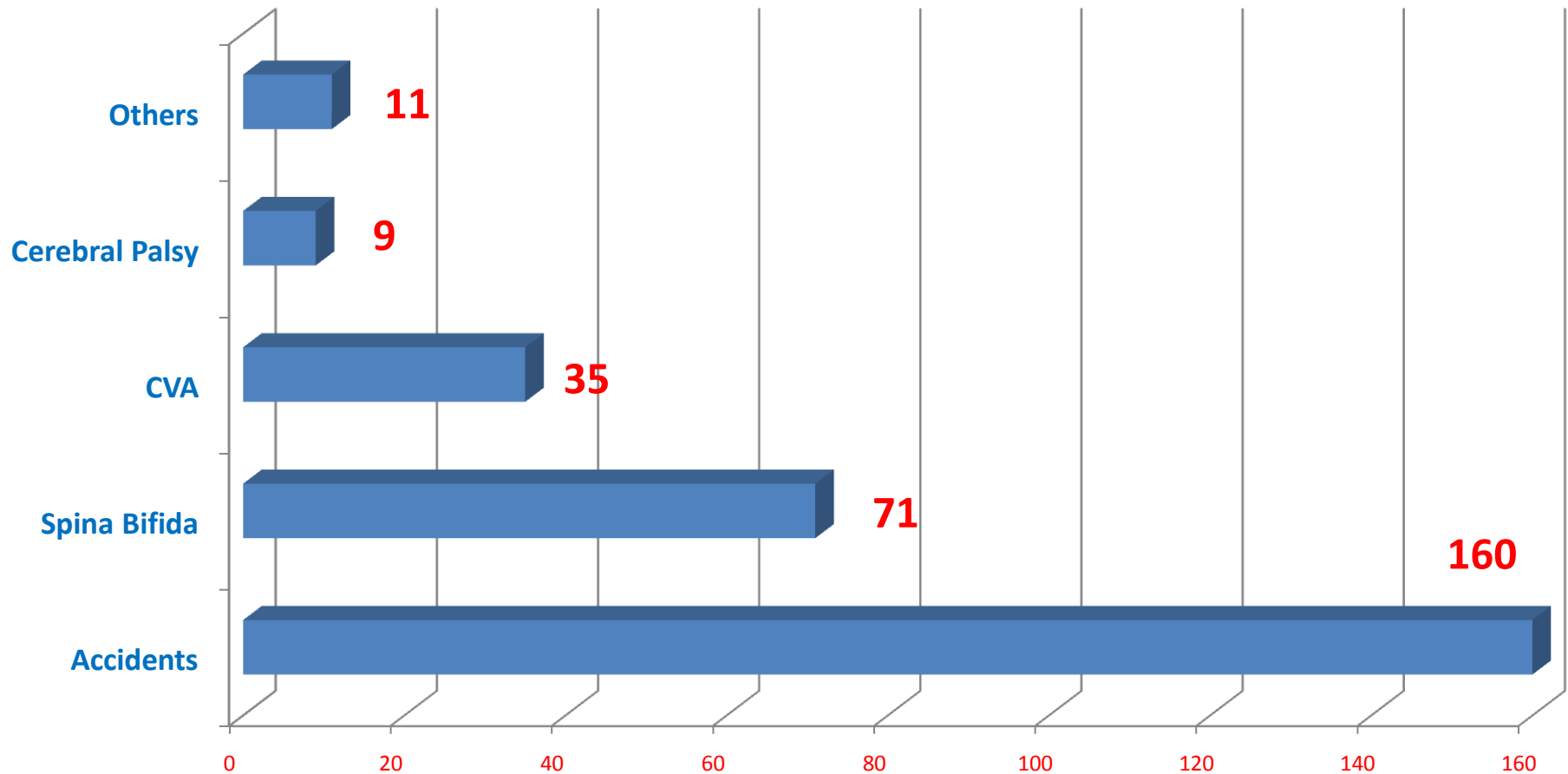


<b>Distribution of Beneficiaries by Age</b>	<b>Elderly &gt; 63 yrs</b>	<b>Adults [ 19 - 63[ yrs</b>	<b>Children [ 0 - 18[ yrs</b>
<b>Period: 01.04.2014 till 30.09.2016</b>	<b>92</b>	<b>358</b>	<b>21</b>



## Imam Sadr Foundation / NorSCI Program.

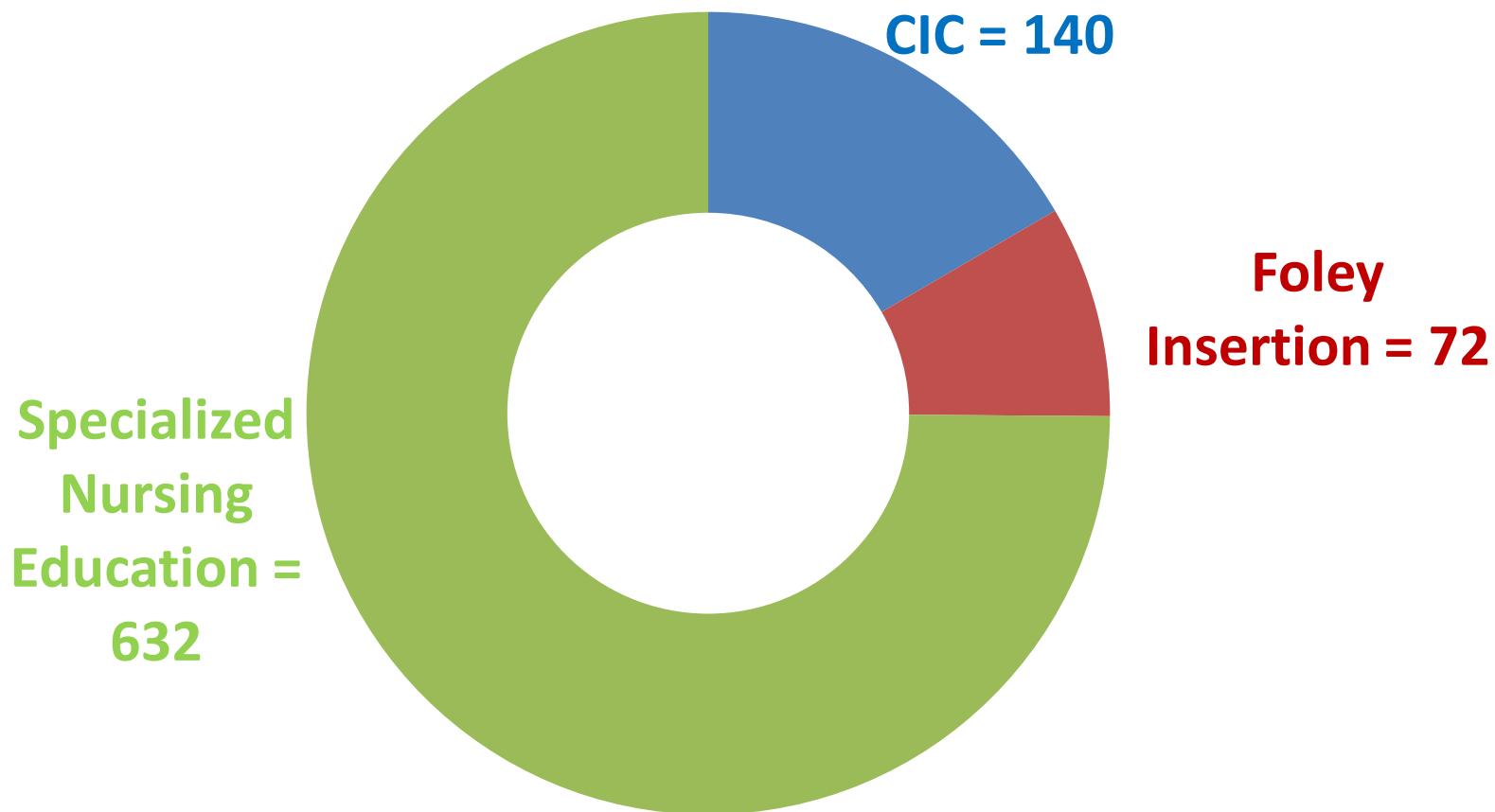
**Figure 2: Distribution of Beneficiaries by Type of Spinal Cord Injury**  
(SCI = 286 cumulative patients vs N-SCI = 185)  
(From 01.04.2014 till 30.09.2016)





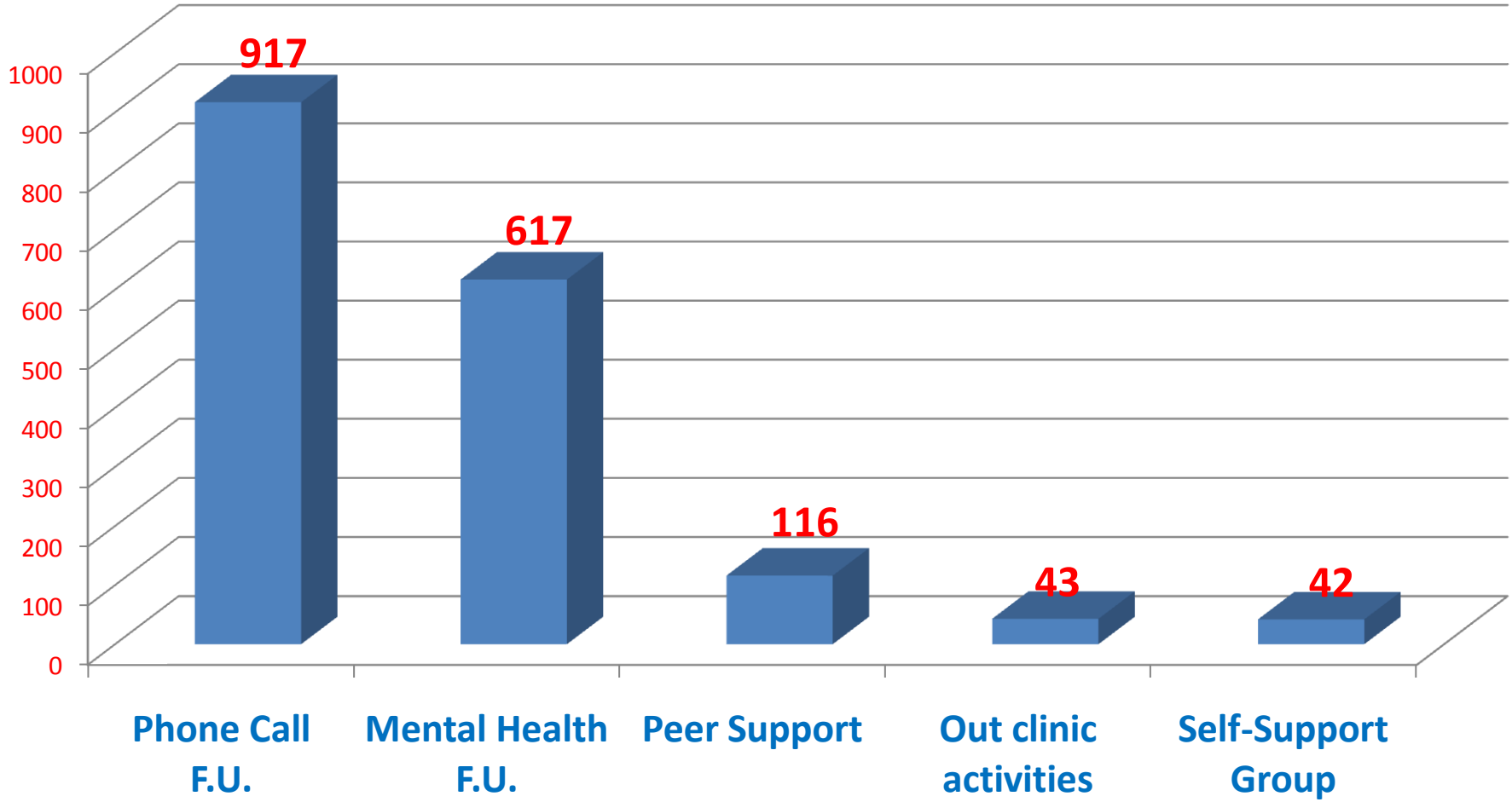


**Imam Sadr Foundation / NorSCI Program.**  
**Figure 3: Distribution of Nursing Services**  
**(Total = 844; From 01.04.2014 till 30.09.2016)**





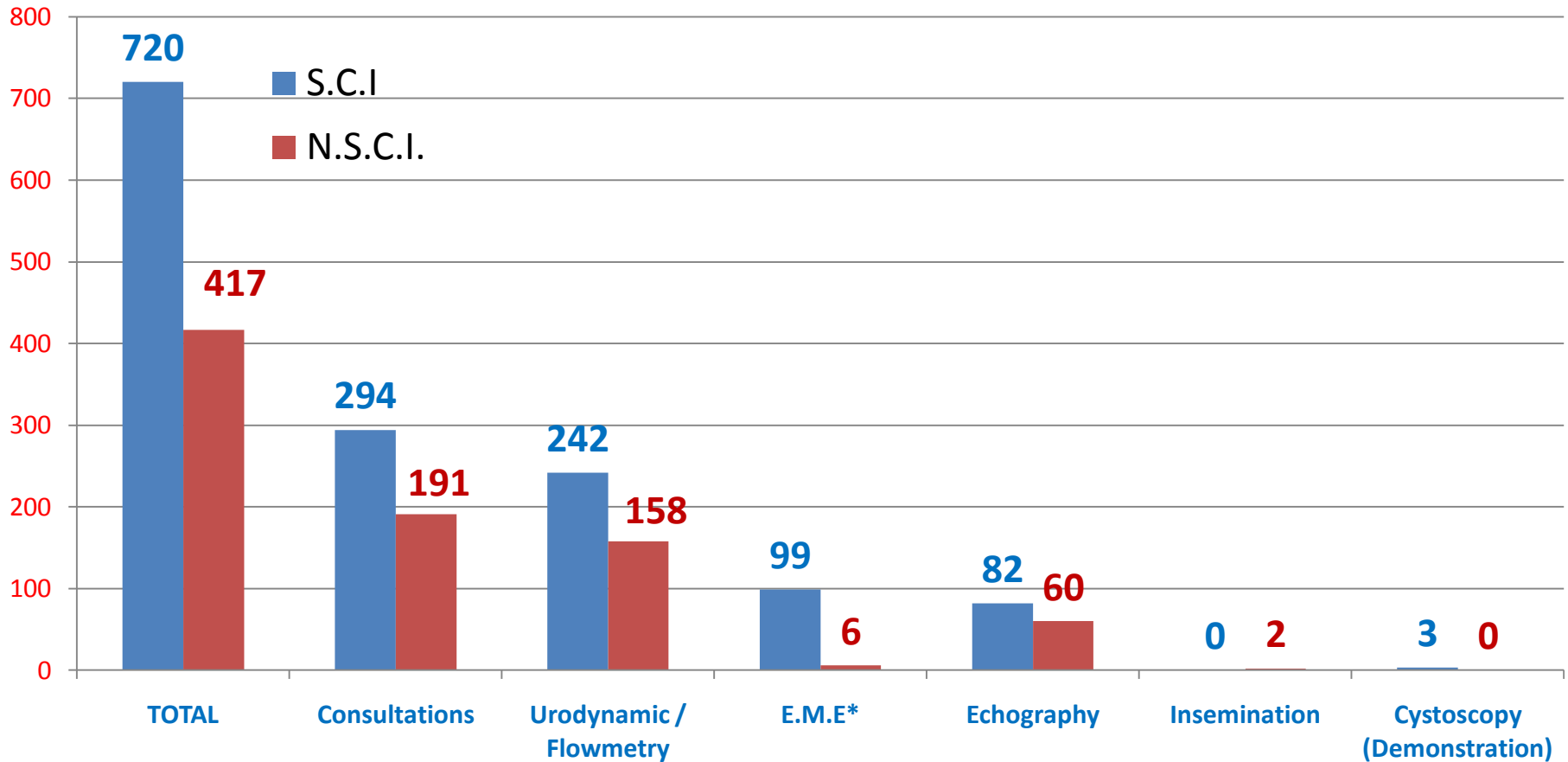
**Imam Sadr Foundation / NorSCI Program.**  
**Figure 4: Distribution of Paramedical Services**  
**(Total = 1735; From 01.04.2014 till 30.09.2016)**





## Imam Sadr Foundation / NorSCI Program.

**Figure 5: Distribution of Medical Services & Screening Imagery**  
(Total = 1137; From 01.04.2014 till 30.09.2016)





**Spinal Cord Injuries  
Rehabilitation Program**

April 2014 to October 2016

**Spinal Cord Injury**

**Spina Bifida**

**Effective Beneficiaries  
(per visit)**

**93**

**12**

**CIC = CLEAN INTERMITTENT CATHETER**

**Patients using CIC**

**36**

**5**

**Patients refusing CIC**

**14**

**3**



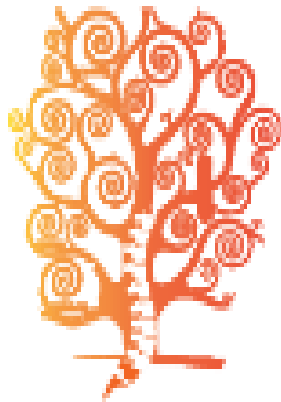
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# *Research: First NorSCI*

# *Abstract Publication*

*(Retrospective Study on CIC efficiency for 37 SCI)*

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The **55<sup>th</sup> ISCoS**  
**Annual Scientific Meeting**  
14-16 September 2016 - Vienna - Austria



# Efficacy, Tolerability and Safety of Clean Intermittent Catheterization in Spinal Cord Injury patients

ATWI, Mohamed Jaafar – MD,

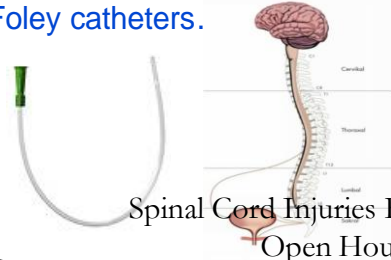
Imam Sadr Foundation, Derdghayyah Spinal Cord Rehabilitation Program – Lebanon

## Background

The Spinal Cord Injuries Rehabilitation Program (NorSCI) is a NORWAC collaborated project, implemented at Imam Sadr Foundation (ISF) Derdghayyah medico-social center (South-Lebanon), targeting SCI, especially vulnerable groups. A multidisciplinary team (regularly coached by Sunnaas & Oslo Hospitals teams) – doctors from different specialties, SCI specialized and mental health nurses, a peer-consultant (war SCI), physio- and occupational therapists, following the International Spinal Cord Society (ISCOS) guidelines, offer different services aiming to improve the quality of life of SCI people. Clean Intermittent Catheterization (CIC), as one main service offered by this program, is still one of the best management therapies in the majority of neurologic bladder disorders of Spinal Cord Injury (SCI) patients, in terms of tolerability, efficiency and effectiveness.

## Methods

37 patients (30 males and 7 females) - 28 paraplegia, 3 quadriplegia and 6 others - with different SCI levels, were followed up comprehensively for at least 12 months at Imam Sadr Foundation - Derdghayyah SCI Rehabilitation Center (in collaboration with NORWAC). 35 patients underwent a complex Cystometry urodynamic test (repeated after 6 months) after performing renal and bladder echography. 31 patients have been trained to use CIC in repeated sessions and 6 patients refused CIC and continued using indwelling Foley catheters.

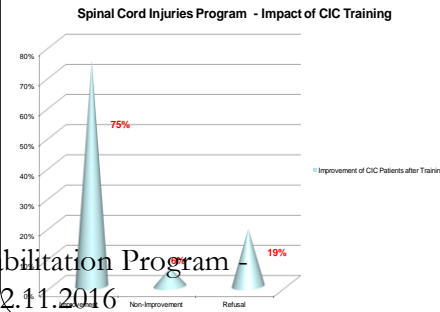


Spinal Cord Injuries Rehabilitation Program -

Open House 02.11.2016

## Results

74% of Patients trained with CIC achieved better preservation of the renal function, a reduced risk of infection and thus less hospitalization, a decreased need to diapers, improving therefore patients' quality of life in a cost effective way. Results from the Cystometry test, providing information about the risk factors, the need for anticholinergics or B3 agonists, oriented the healthcare providers to the most efficient suitable individual-based management therapy.



## Conclusion

Education offered by qualified personnel to SCI patients, with a reliable cystometry test performed for choosing the most suitable management for each individual, helped in improving bladder function and preventing future complications in the kidneys and urinary tracts, thus reducing both morbidity and mortality in these patients.

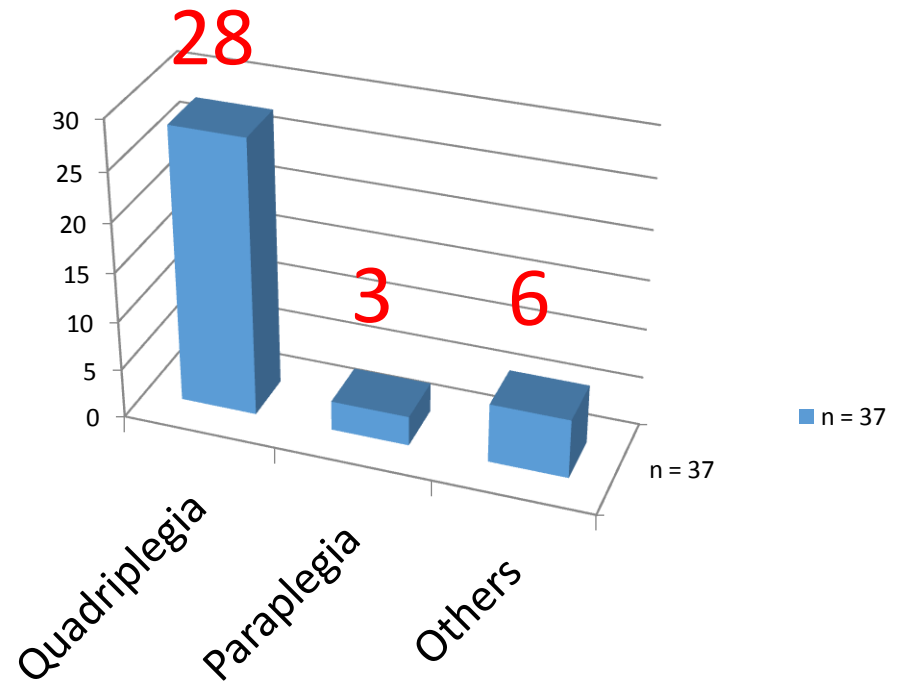
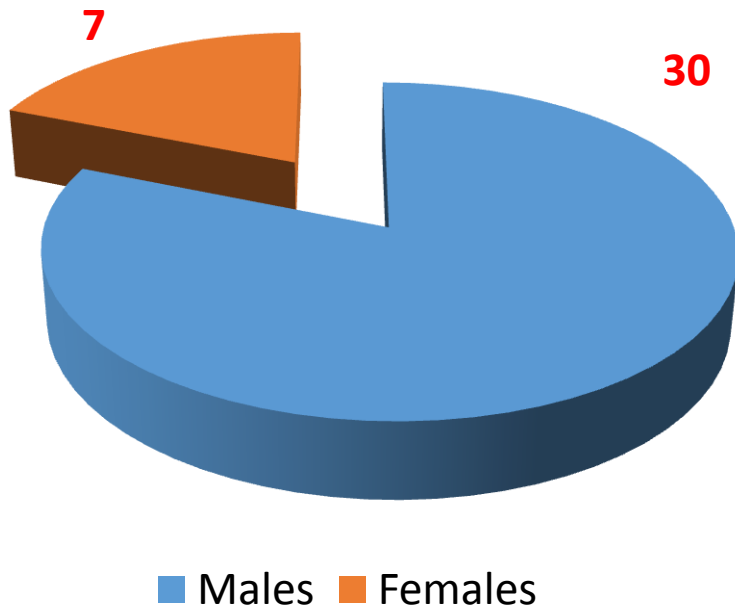




## Spinal Cord Injuries Rehabilitation Program (n = 37) - Nature of Injury

### METHODS

#### Spinal Cord Injuries Program - Gender Distribution

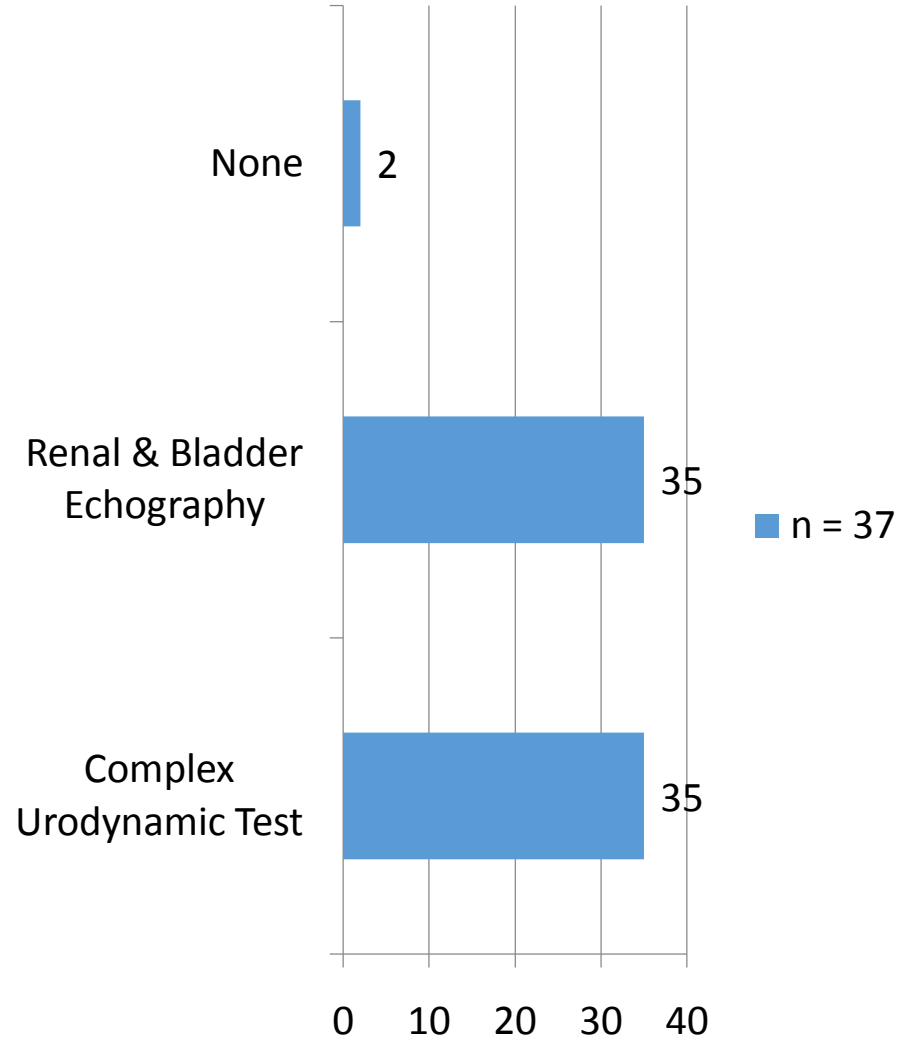
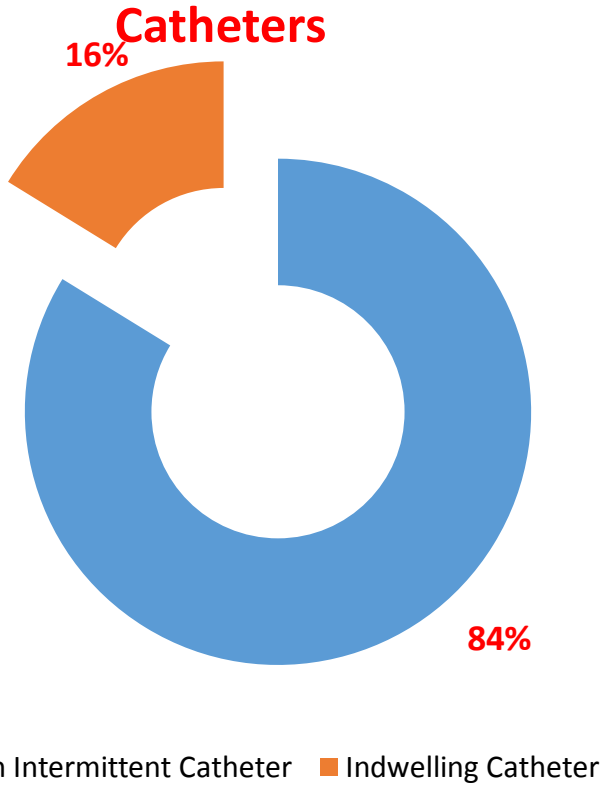




## Spinal Cord Injuries Rehabilitation Program - Diagnosis Tests

### METHODS

#### Spinal Cord Injuries Program - Type of Catheters







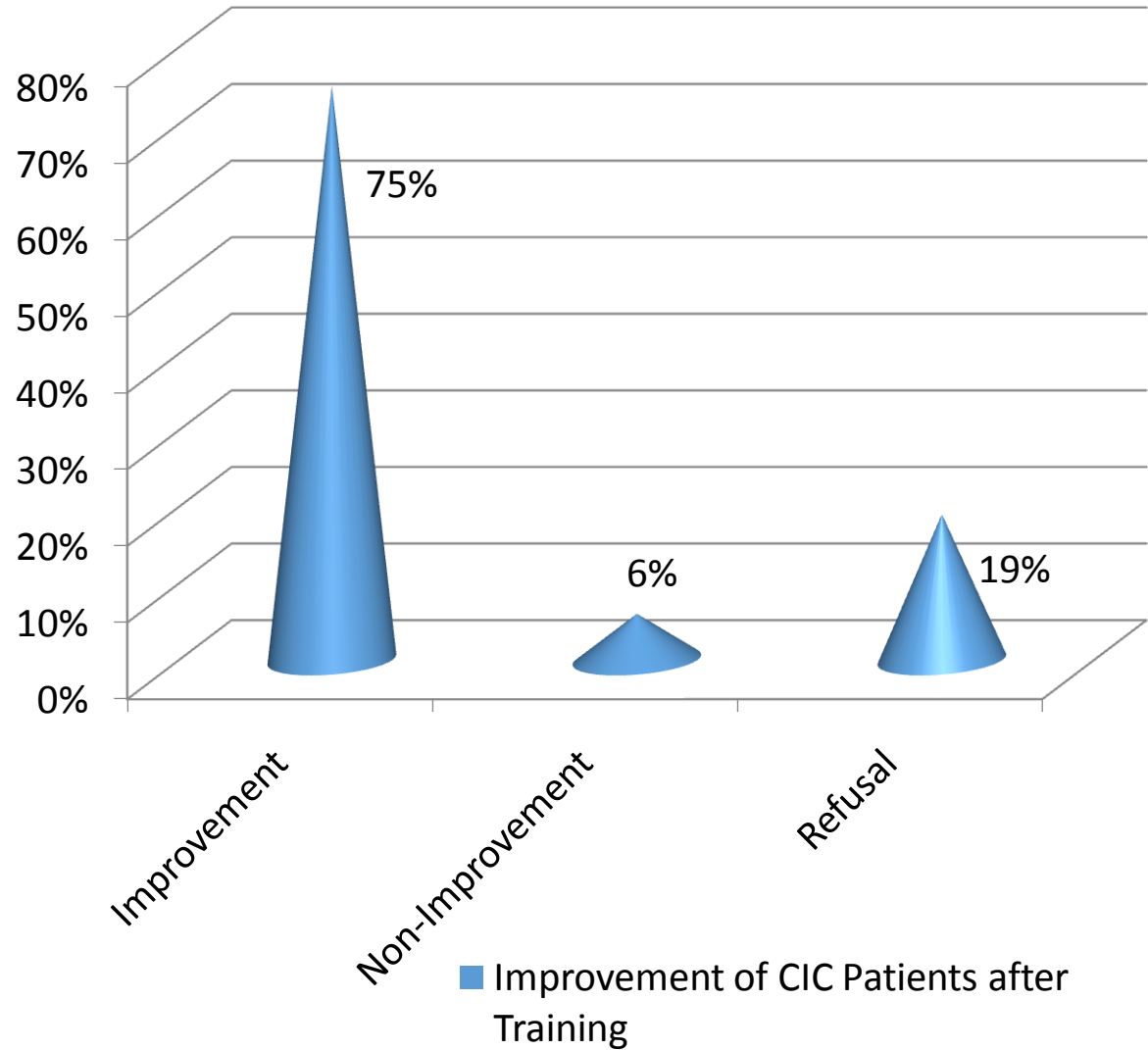
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## Spinal Cord Injuries Program - Impact of CIC Training

RESULTS



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# WHO & HOW TO REFER SPINAL CORD INJURED PERSONS?

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# Cases that require UDS(NSCI)

- Prostatic hypertrophy.
- Cystocele.
- Urinary incontinence.
- Polyuria, dysuria, urgency.
- Recurrent Urinary tract infection.
- Residual volume.
- Nocturia.



# Cases that require UDS

- Spinal cord injury.
- Spina bifida.
- Parkinson.
- Diabetes.
- Multiple sclerosis.
- Spinal and cerebral tumors.

# Conclusion: Purpose of NorSCI Program

## *Optimal care for the SCI patients by:*

- **Screening bladder function in patients with SCI;**
- **Medical history and urinary tract symptoms will be recorded using ISCOS dataset;**
- **Urodynamic evaluation performed and interpreted in accordance with international standards;**
- **Ultrasound to evaluate lower and upper urinary tract (calcifications, dilatation etc);**
- **introduce anticholinergic treatment when needed;**
- **Convert from indwelling catheter to intermittent cathetization when feasible;**
- **Rule out when surgery will be needed or preferred.**



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*Thank you*