

# JOINT MANAGEMENT OF ACUTE URINARY RETENTION IN EMERGENCY WARD OF PRINCE OF WALES HOSPITAL

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# Introduction

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- Acute urinary retention - a very common diagnosis in Urology admission
- Increasing incidence rate in our aging population
- Significant financial impact on health care system

# Introduction

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- Joint management between the Urology Team and the Accident and Emergency Team of Prince of Wales Hospital
- Decrease admission of this group of patients
- Improve the cost-effectiveness of management

# Objective

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- To report the result of joint management of acute urinary retention in Emergency Ward of Prince of Wales Hospital

# Method

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- Program started from October, 2007
- An integrated management pathway for acute urinary retention
- Standard treatment for all cases via the well-structured protocol

# Integrated Care Pathway for Acute Urinary Retention

**Patient's Gum Label**

## **ADMISSION TO EMERGENCY WARD**

### **Inclusion criteria**

- Retention of urine
- Normal vital signs
- Male aged over 60, provisional diagnosis of benign prostate hyperplasia
- Catheterization was performed

### **Exclusion criteria**

- Unstable vitals
- Sepsis
- Gross haematuria
- Tumor felt on PR exam
- Neurological cause of retention (e.g. co-existing lower limb weakness)
- Bladder volume > 1 L
- Significant co-morbidities
- Difficult catheterization
- Suprapubic catheterization

## **INITIAL ASSESSMENT**

### **Vitals**

Time	Pulse	BP	RR	Temp.	SaO2(%)
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**Volume of urine on first catheterization: \_\_\_\_\_ ml.**

## **Investigations**

- CBC
- RLFT
- Glucose
- urine stix + CSU x C/ST
- KUB
  
- U/S (optional)

## **Treatment**

- Monitor urine output Q4H, I/O chart
- Analgesia e.g. **Paracetamol** 1g QID
- Eliminate precipitating element e.g. cough mixture, constipation
- Treat underlying UTI if necessary
- Start **Xatral XL** 10 mg daily for male over 60
- Recheck blood x RFT if necessary e.g. significant diuresis
- Plan discharge + EMW follow-up
- Pyridium and Paracetamol prn can be prescribed on discharge

## **Progress**

**Admission to urology should be arranged if any of the following occurs:**

- Urine output > 800 ml in first 4 hours (discard the urine on first catheterization)
- Sepsis - Any two of:
  - Heart rate > 100
  - Resp rate > 20/min
  - Temp > 38°C
- Unstable co-morbidity
- Raised creatinine with suspected obstructive uropathy as the cause or in the absence of pre-existing renal failure.

## **Criteria for discharge (period of observation ~24 hrs)**

- Clinically improved
- Afebrile
- Pulse and blood pressure within normal limits
- Social circumstances permit discharge
- Appropriate follow-up for Trial without catheter (TWOC)
- Patient advised of diagnosis, care of Foley catheter (pamphlet) and treatment plan
- Patient informed that they should return to A&E if symptoms persist or worsen

**Discharge instructions for patients *(to be constructed by nursing team)***

General information & advice

Come back if.....

**EMW follow-up for trial without catheter (TWOC)**

**Date:** \_\_\_\_\_

**Time:** 08:00

Every **Monday** and **Thursday**

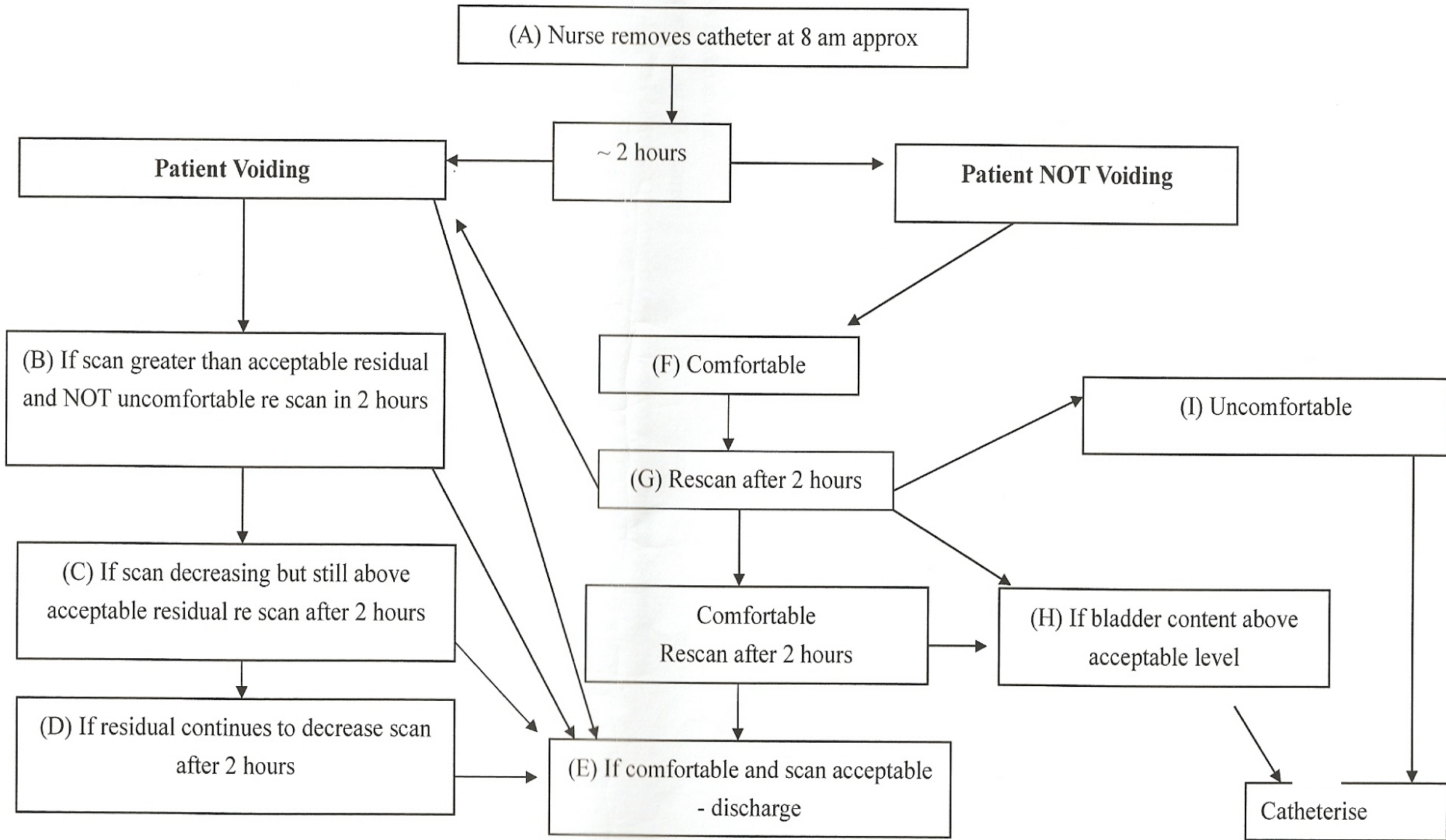
Urologists will come to EMW every Monday and Thursday **after 2 pm.**

In case the date of follow-up falls on public holiday, EMW follow-up will be postponed to the next working Mon/ Thur.

Management flowchart – see separate integrated care pathway

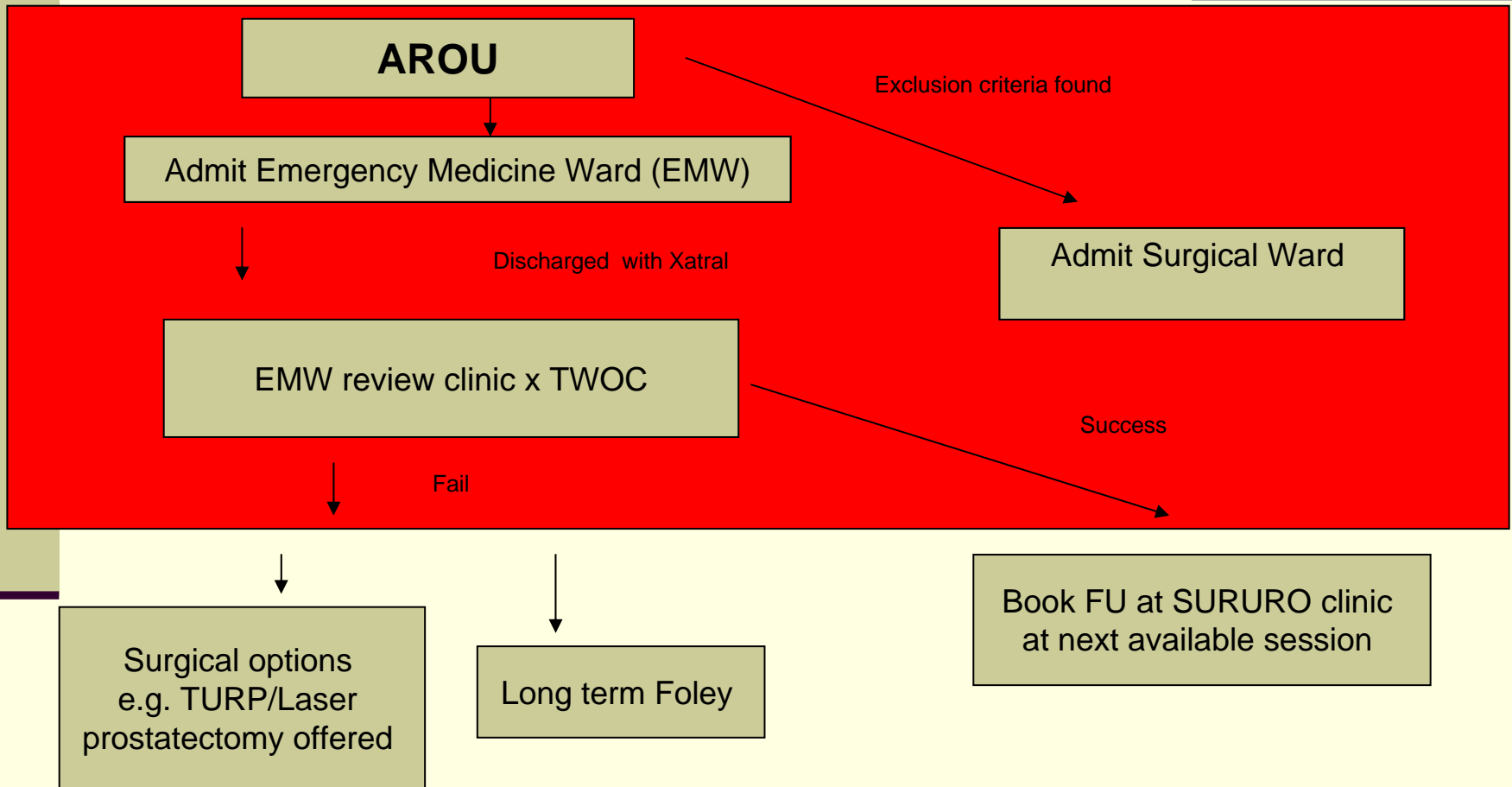


Care pathway for Trial without catheter



**If at ANY point the patient is uncomfortable catheterise**

# Flowchart for Management of Acute Retention of urine



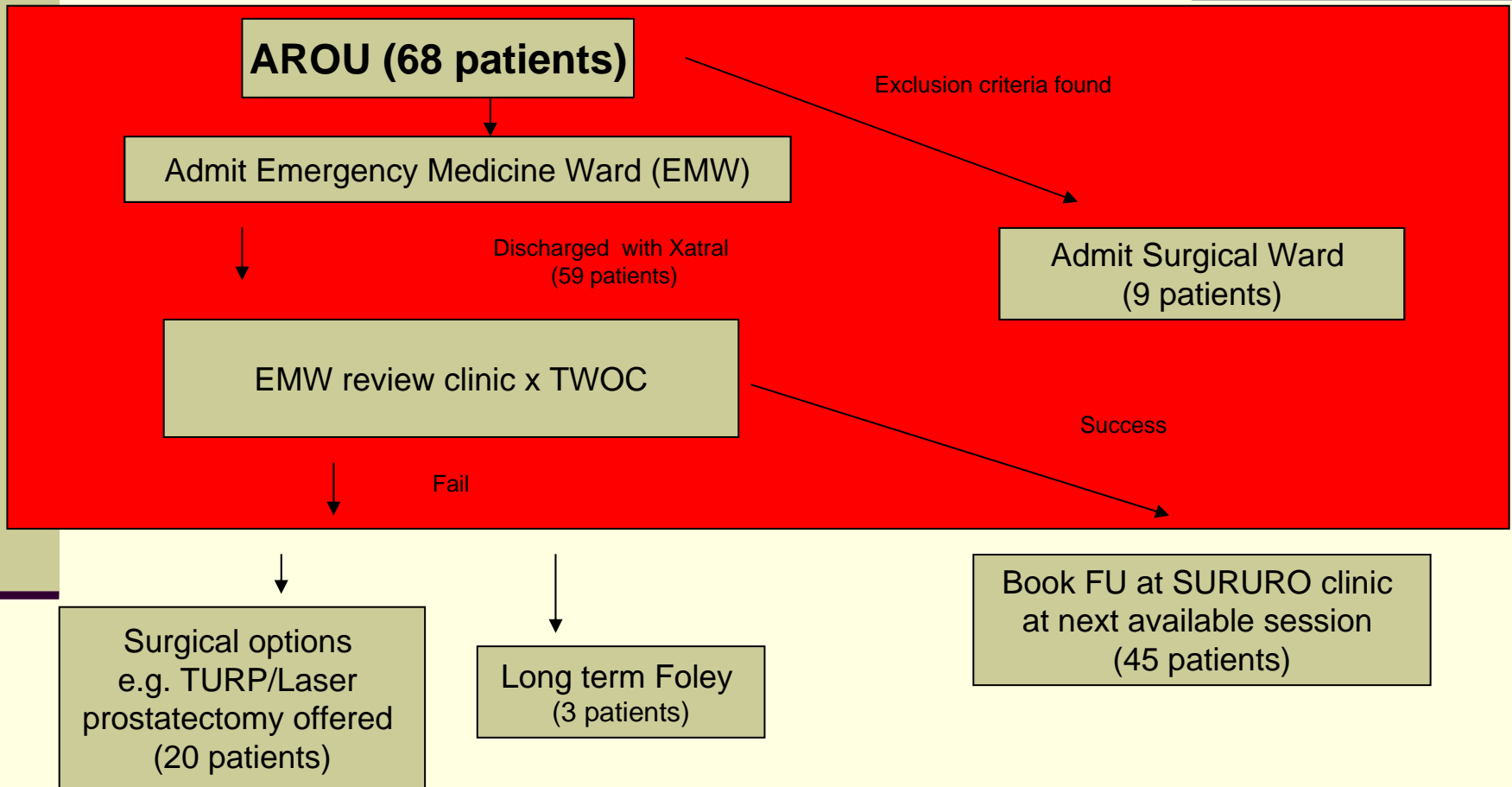
The pathway inside the red box is to be performed at AED/ Emergency Medicine Ward. The pathway outside the red box is to be decided by urologists during follow-up.

# Results

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- From October, 2007 to January, 2008
- Patients number: 68
- Age range: from 57 to 87 years old
- Average length of stay per each patient was less than one day

# Flowchart for Management of Acute Retention of urine



The pathway inside the red box is to be performed at AED/ Emergency Medicine Ward. The pathway outside the red box is to be decided by urologists during follow-up.

# Discussion

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- Alpha-blocker (Xatral XL 10mg daily po) for male over 60
  - S. Alan McNeill. The role of Alpha-Blocker in the Management of Acute Urinary Retention Caused by Benign Prostatic Obstruction. *European Urology* 45 (2004) 325-332
  - Bowden E, Hall S, Foley SJ, Rundle JSH. Tamsulosin in the treatment of urinary retention: a prospective, placebo-controlled trial, *BJU Int* 2001;88 (Suppl 1):77
  - Debruyne FMJ, Van Der Poel HG. Clinical experience in Europe with uroelective alpha1-antagonists. *Eur Urol* 1999;36(Suppl 1):54-8
  - Chan PSF, Wong WS, Chan LW, Cheng CW. Can terazosin (alpha-blocker) relieve acute urinary retention and obviate the need for indwelling urethra catheter? *Br J Urol* 1996;77(Suppl 1);7

# Discussion

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- Xatral XL was used instead of Prazosin
- Prazosin
  - first-line drugs used in acute urinary retention recommended by Hospital Authority Drug Formulary
- Xatral XI
  - Although more expensive, it is non-titratable, less hypotensive effect, is proven to be clinical and economic benefits
    - Lieven Annemans et al. The economic impact of using alfuzosin 10mg once daily in the management of acute urinary retention in the UK: a 6-month analysis. BJU 2005, 96, 566-571
    - S.A. Mcneill et al. Alfuzosin 10mg once daily in the management of acute urinary retention: Results of A double-blind placebo-controlled study. UROLOGY 65: 83-90, 2005

# Discussion

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- Average length of stay per each patient was less than one day
- Minimal length of stay in the past – at least three days
  - Day 1: assessment of patients and investigation of causes of acute urinary retention
  - Day 2: prescription of alpha-blocker (Prazosin) and monitoring of side-effects, especially hypotension
  - Day 3: trial without catheter

# Cost reduction per each patient

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- Average cost of in-patient management per day  
~\$3,000
- Mean cost of management per each patient in this program
  - ~\$3,000 X 1day = ~\$3,000
- Minimal cost of management per each patient in the past
  - ~\$3,000 X 3 days = ~\$9,000
- Cost reduction per each patient
  - ~\$9,000-\$3,000=~\$6,000



# Approximated cost reduction in this program

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- 59 patients (87%) were discharged with follow-up without admission
- 87% reduction of admission rate
- Approximated cost reduction in 3-month-time (From October, 2007 to January, 2008)
  - 59 patients X ~\$6,000 (Cost reduction per each patient) = ~\$354,000
- Approximated average cost reduction per year
  - ~\$354,000 X 4 = ~\$1,416,000

# Discussion

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- Triage procedure mainly by nursing staff in Emergency Ward
- Decrease involvement and workload of inpatient medical staff
- Further improved cost-effectiveness of management

# Discussion

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- Well structured protocol system
- Easy to follow
- Decision making by urology trainee
- Integrated management pathway
- Good experience of two teams working together
- Improved communication and relationship between our team and Emergency Team

# Conclusion

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- Under this protocol-driven multi-disciplinary treatment approach
- Great reduction of admission and cost of management
- Without compromising the quality of care
- Proved to be cost-effective management
- The impact on the management of these patient groups in our health care system is encouraging



The end