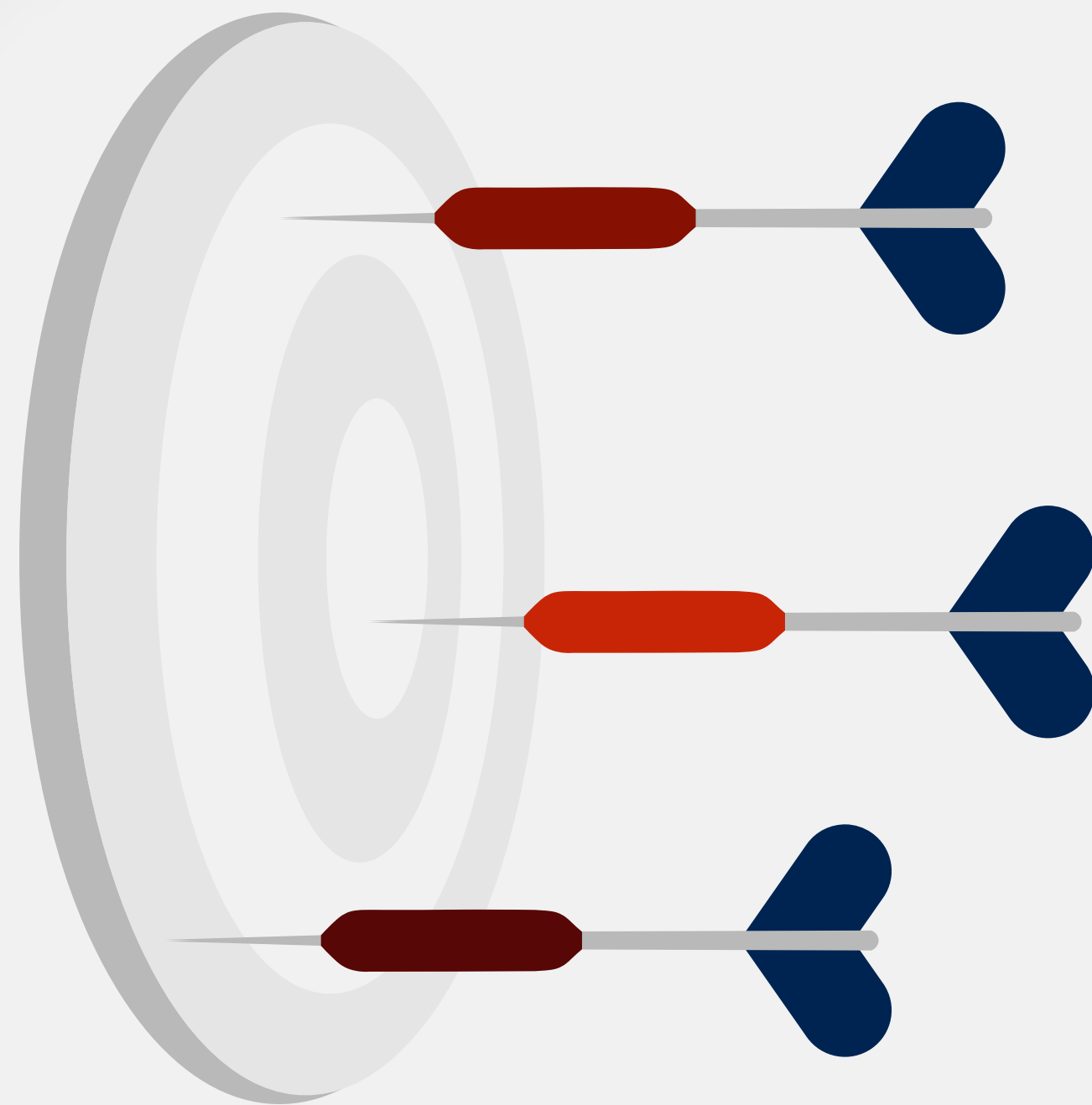




Come formare un Team
Multidisciplinare...

INTERNATIONAL RENAL RESEARCH INSTITUTE OF VICENZA
ANESTHESIA AND INTENSIVE CARE
REGIONAL COUNCIL REPRESENTATIVE (VENETO) OF THE ITALIAN SOCIETY OF INTENSIVE CARE MEDICINE
AND ANESTHESIOLOGY (SIAARTI)
NEXT COMMITTEE MEMBER OF THE EUROPEAN SOCIETY OF INTENSIVE CARE MEDICINE (ESICM)





1

To discuss why teamwork is important

2

To provide basic conceptual understanding of teamwork

3

To understand the impact of teamwork approach

**GOALS &
OBJECTIVES**



THE HUMAN FACTOR



START

2

3

FINISH

Ensure continuity of treatment
Reassessment of the therapy provided
Care vascular access
Prevention of clinical-technical complications

Knowledge of the critical ill patient
Knowledge of AKI assessment & strategy
Knowledge of indications and timing for RRT
Knowledge of principles and modalities
Knowledge the correct use of the necessary devices
Knowledge drugs, nutritional and fluid adjustment

Renal Recovery
Assessment for discontinuation of CRRT
Assessment for transition to other RRT modalities
Ethical issues
Comprehensive clinical strategy after ICU discharge.

Renal replacement treatment requires skills, adequately trained teamwork and knowledge of the devices with which renal replacement treatment must be provided

“Unique human functions that differentiate man from machines”



- How we think and relate to
 - People
 - Equipment
 - Environment
- How we perform in our roles
- How we can optimise our performances to improve safety and efficiency

By "human factors" we mean the interactions with material and devices with the aim of improving safety, efficiency and satisfaction on the part of the operators

Cognitive

**Knowledge
Comprehension
Application
Analysis
Synthesis
Evaluation**

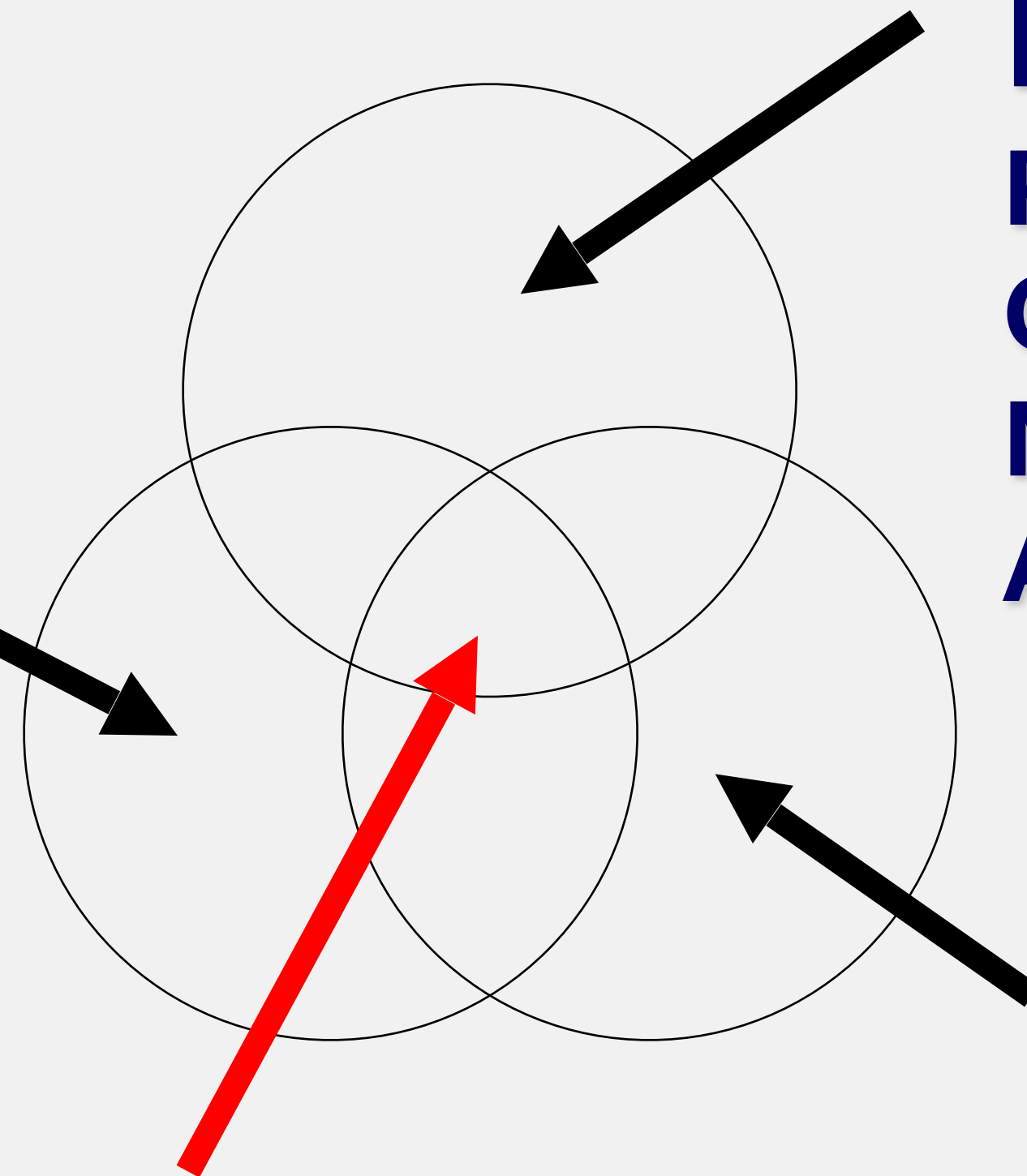
Psychomotor

**Perception
Guided Response
Mastery
Autonomy**

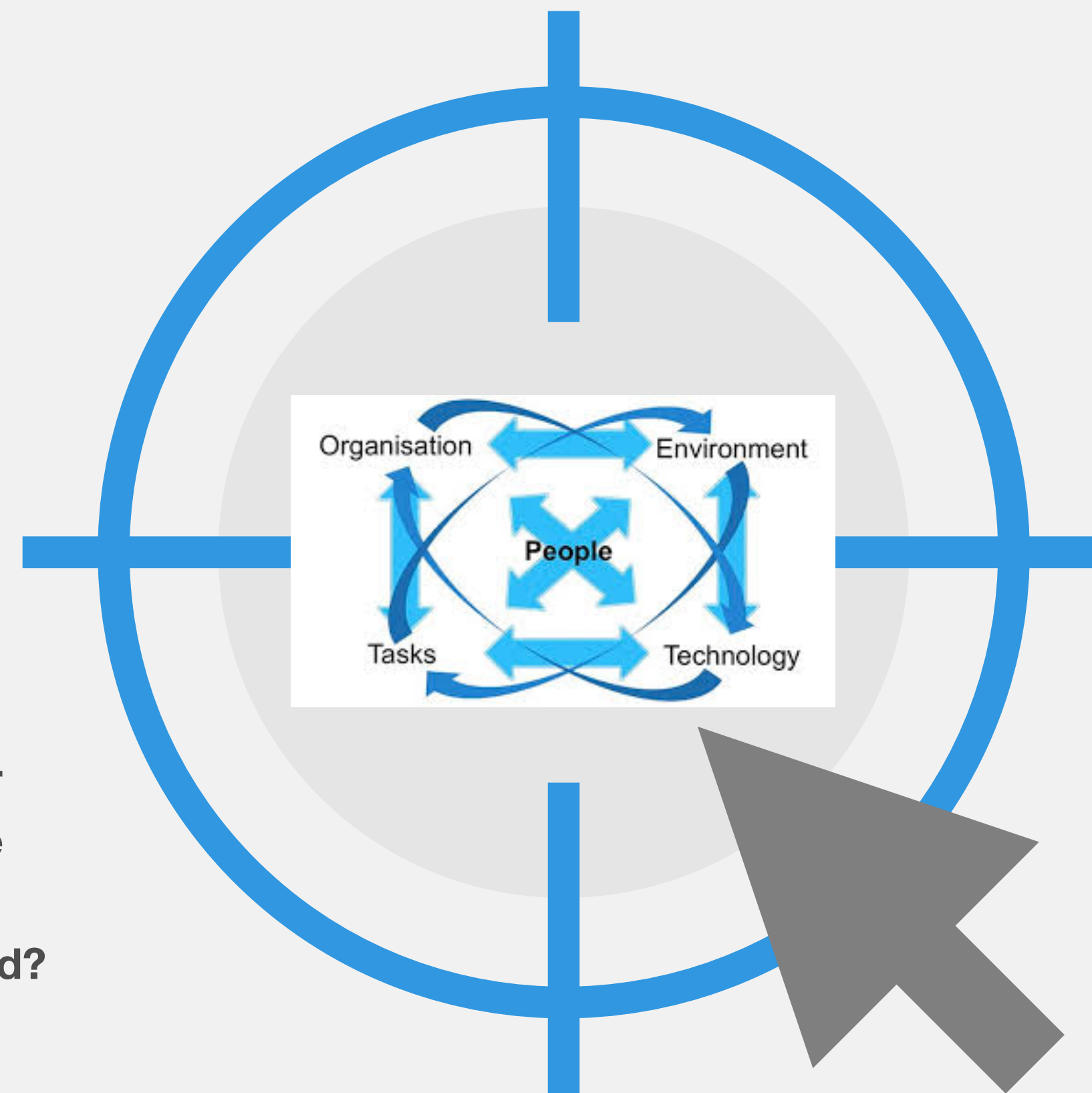
Affective

**Perception
Compliance
Acceptance
Internalisation**

**Human
factors**



A worker monitors a treatment and takes an action if the value shown on the dial exceeds a certain limit. What are some of the human factors concerns here?



Cognitive concerns

Is the worker distracted by other tasks? Is the worker alert? Is the worker bored (and inattentive)? Alternatively, is the worker stressed?

Organizational concerns

Was the worker properly selected (meaning qualified to perform the job)?
Was the worker properly trained? Was the task properly explained to the worker?

Sensory, motor, and physical concerns

Is the dial legible (within reading distance, well lit, unaffected by glare, etc.)? Is the button clearly labeled, within reach, and easy to push? Is the work environment suitable for the task (worker ergonomics, temperature, etc.).



«The Multidisciplinary Team (MDT) as a central feature of virtually all forms of modern health care»

Multidisciplinary Work....

“the main mechanism to ensure truly holistic care for patients and a seamless service for patients throughout their disease trajectory and across the boundaries of primary, secondary and tertiary care”.

Jefferies & Chan .2004

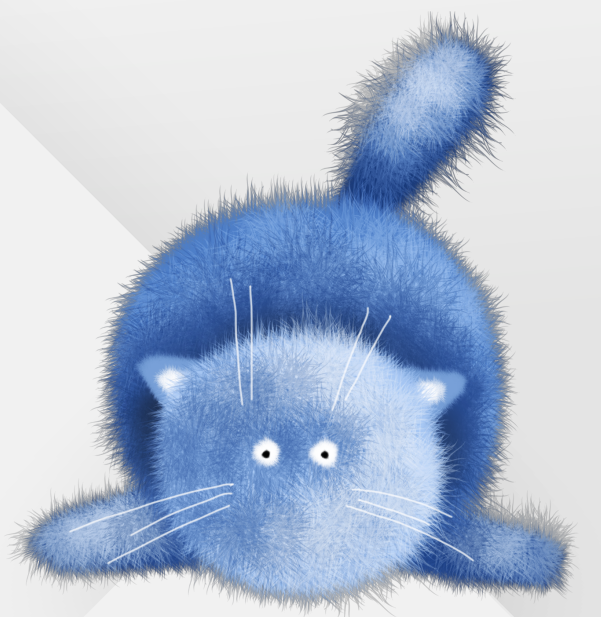
Interdisciplinary Work....

“implying a willingness to share and indeed give up exclusive claims to specialist knowledge and authority, if the needs of clients can be met more effectively by other professional groups”.

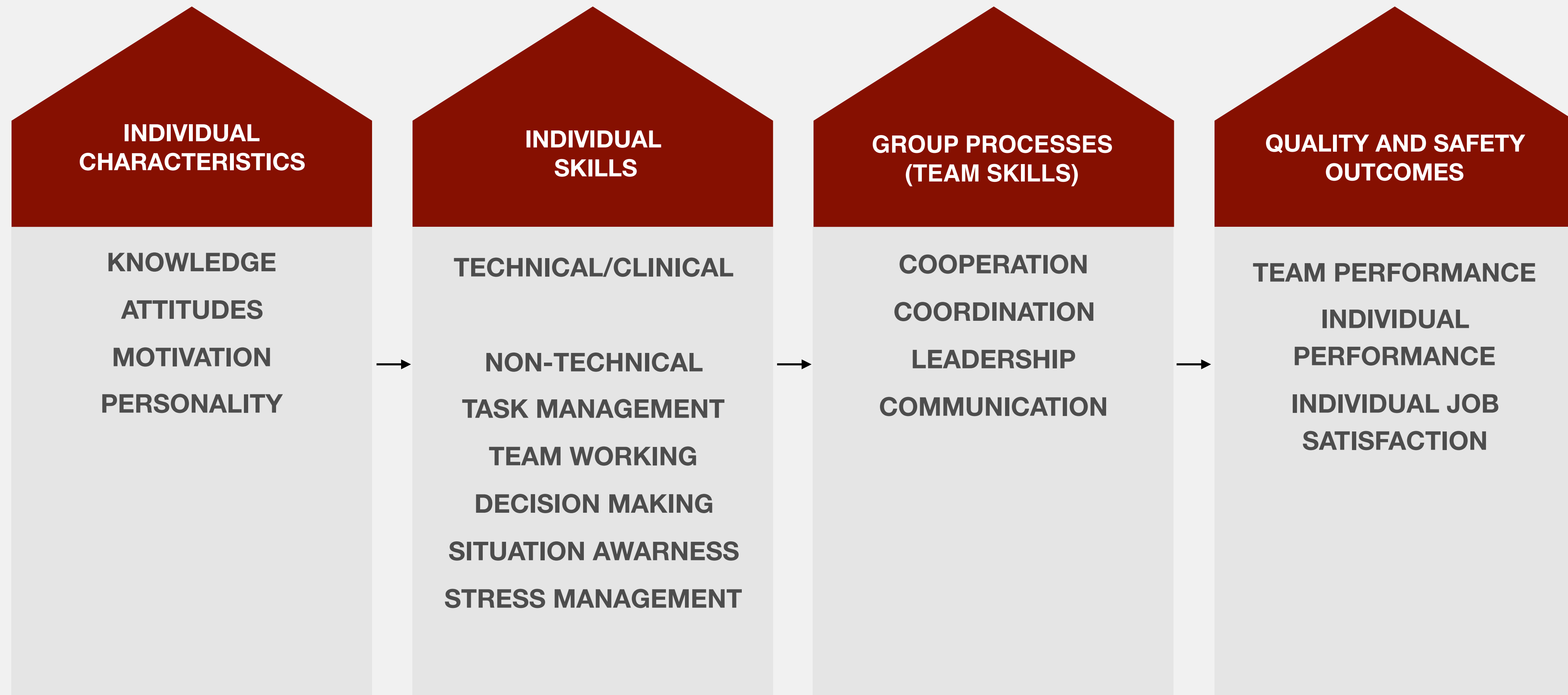
Carrier & Kendall (1995)

“A MDT is composed of members from different healthcare professions with complementary backgrounds and skills, **sharing common health goals** and exercising **concerted** physical and mental **effort** in assessing, planning, or evaluating patient care. This is accomplished through **interdependent collaboration, open communication** and **shared decision-making**.

The members collaborate together to make treatment recommendations that facilitate **quality care** in order to **optimize outcomes** and **reduce health care costs**.”



A good MDT is able to respect and understand roles, to have a good communication, and to improve safety and efficiency



- **Critical Care Nephrology**
 - Intensivists
 - Nephrologists

- **Critical Care Nephrology Nursing Team**
 - Critical Care Nurses
 - Nephrology Nurses

- **Clinical Engineers and Technician**

- **Pharmacists and Nutritionists**



**First step:
Create the Team**

Nephrology

has maintained
leadership in the
principles of
extracorporeal
techniques

Intensive care

has deepened
multisystemic
management of AKI
patients

**Critical
nephrology team
leader**

works as a medical
director and also does
clinical follow-up work

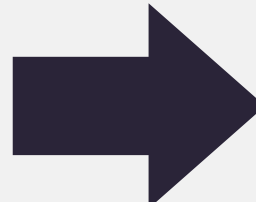
RET leader

manages to engage all
the professionals under
the same established
strategy to overcome
the complications
associated
with AKI

**Renal emergency team (RET):
a rationale for critically ill patients**

Second step: ARTIST model

Alarm systems and risk prediction
Ready to evaluate and act
Timing
Interventions
Systems for quality improvement
Transferring knowledge



It is essential to develop an integrated care model to meet the fundamental aspects for success in a highly complex system

A: Once it is clear how to perform the screening to identify high-risk populations, it is ideal to activate the RET either by healthcare professionals at the bedside, or by electronic alert systems (avoid the high workload in low-risk population)

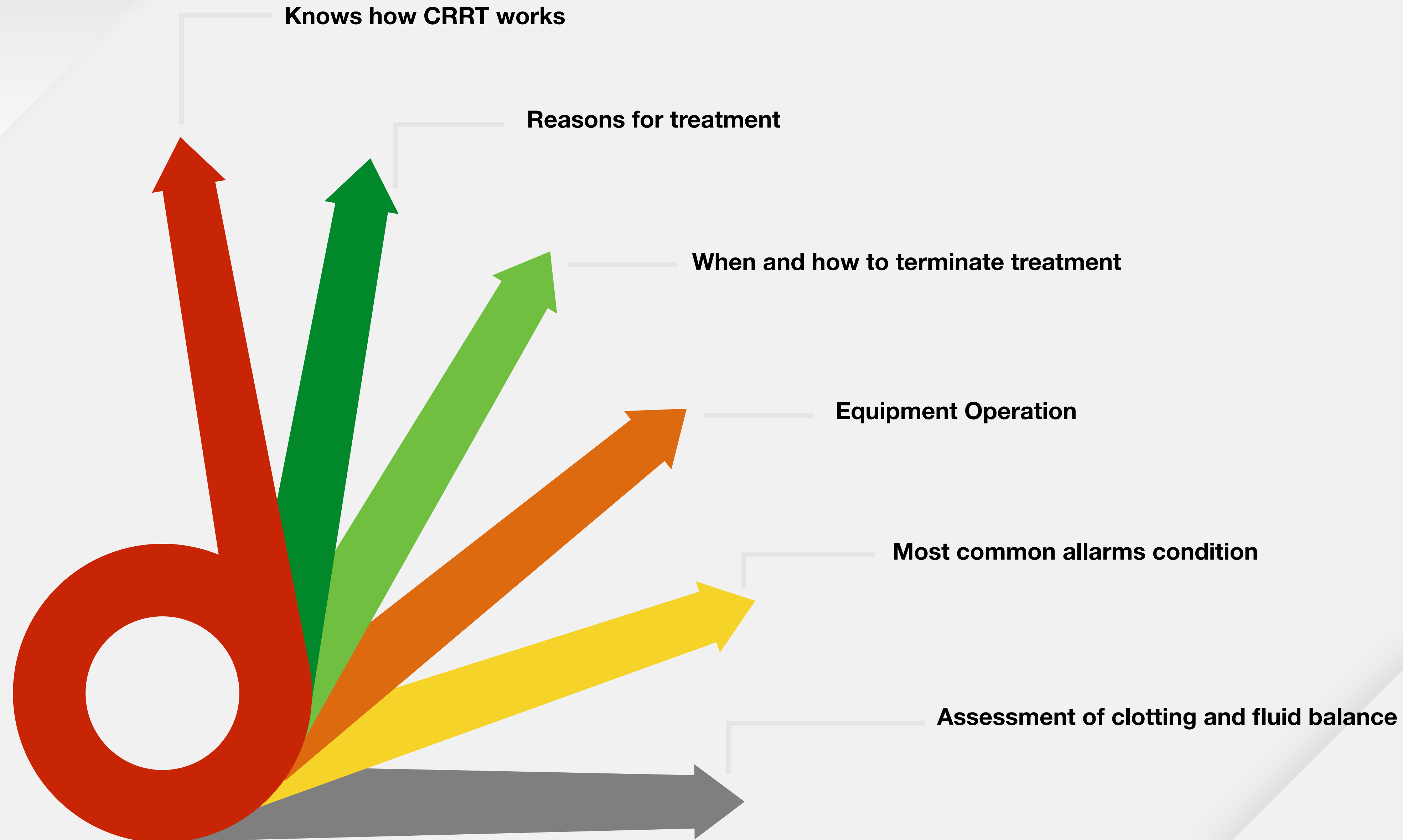
R: The specialist in critical nephrology should perform a multisystemic approach to be able to align the ICU priorities with AKI interventions(interdisciplinary interaction)

T&I: When medical interventions do not control the progression of the disease or when multisystem involvement is severe, it may be necessary to evaluate the need for extracorporeal renal support

S: The quality indicators, the results of the internal audits, and the events presented must be analyzed (duration of the circuit, the therapy dose administered, the time of inactivity, and the episodes of bleeding)

T: All the activities generated within the team to increase the collective knowledge about managing patients with severe AKI and the activities with the intensive care group to close the interdisciplinary knowledge gaps (Discussion of difficult cases, presentations of new Scientific Literature, updates Clinical practice guidelines)

Competencies of Critical Care Nephrology Nurses



RESEARCH ARTICLE

Open Access

The role of the specialized team in the operation of continuous renal replacement therapy: a single-center experience



Harin Rhee^{1,2}, Gum Sook Jang³, Miyeun Han^{1,2}, In Seong Park^{1,2}, Il Young Kim¹, Sang Heon Song^{1,2}, Eun Young Seong^{1,2}, Dong Won Lee¹, Soo Bong Lee¹ and Ihm Soo Kwak^{1,2,4*}

Study: Retrospective single-center study (March 2011- February 2015)

Aim of the study: is to report on the role of specialized CRRT team and to evaluate team's outcome

Inclusion criteria: all patients who received CRRT, included the elective case of CRRT after open cardiac surgery

Outcomes measurement: in-hospital mortality and mortality that occurred during the CRRT operation

The CRRT team was composed of one nephrologist and two specialized nurses who were responsible for the operation and management of the CRRT machine and procedure. The main duty of the CRRT team was to initiate and manage the CRRT

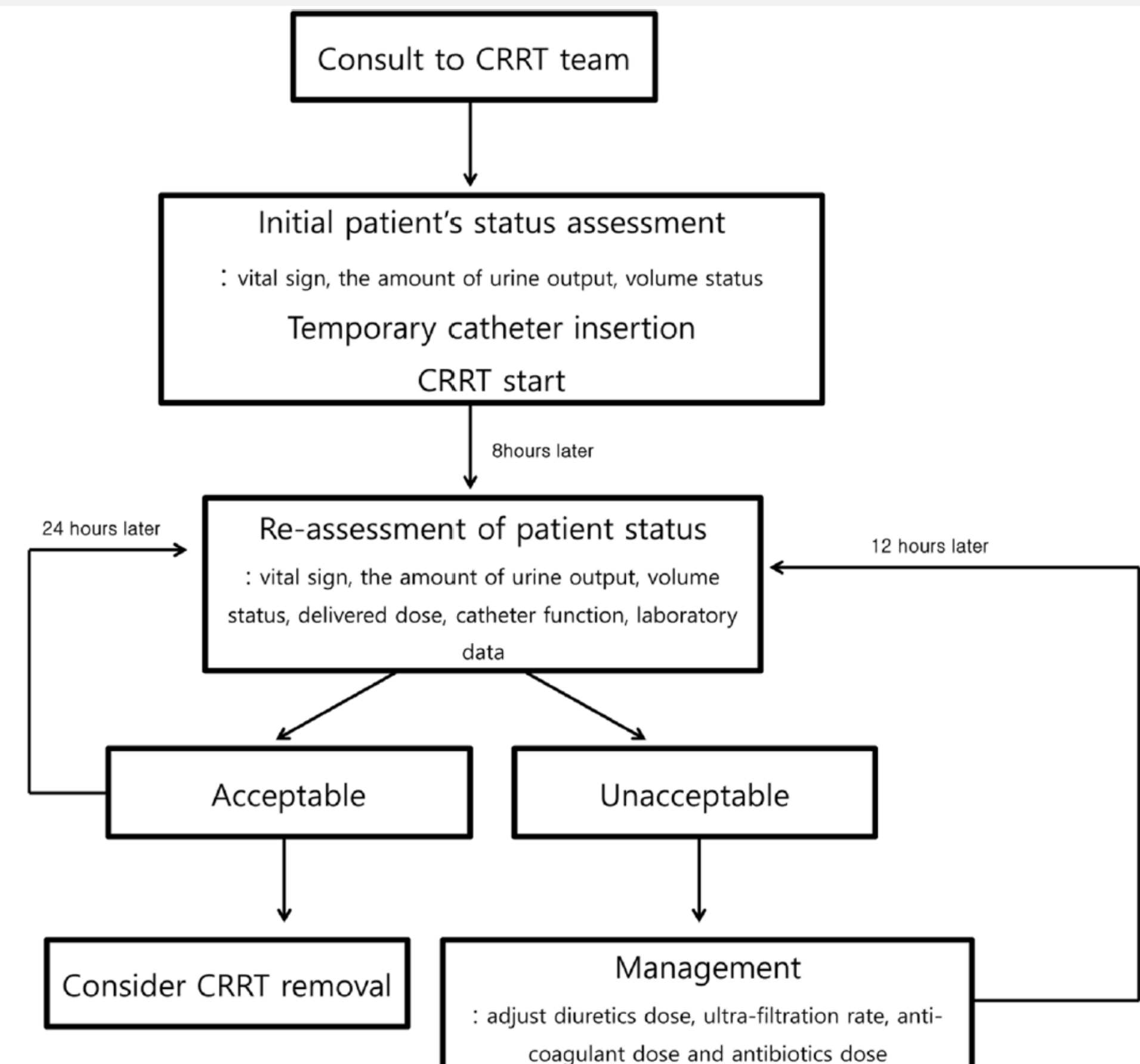


Table 3 Comparisons of CRRT treatment pattern and patient outcomes between before and after the implementation of CRRT team

	Pre- CRRT intervention (N = 515)	Post- CRRT intervention (N = 589)	P-value
CRRT treatment pattern			
Initiation time, day	5.30 ± 13.86	3.60 ± 11.59	0.027
Prescribed dose, mL/hr	Fixed dose 2000/3000(sepsis)	40 ml/kg	NA
Actual dose, mL/kg/hr	35.31 ± 9.75	33.99 ± 7.51	0.011
Number of used filter, n	4.03 ± 8.86	4.55 ± 4.67	0.225
Filter life span, hrs	24.04 ± 18.16	19.59 ± 12.50	<0.001
Premature filter clotting, %	28.3	27.0	0.628
Total CRRT down time, hr	13.06 ± 26.67	8.49 ± 13.61	<0.001
Down time per day, hr	1.78 ± 2.23	1.38 ± 2.06	0.002
CRRT duration, day	5.37 ± 5.84	5.23 ± 5.66	0.696
Patient outcomes			
Total ICU stay, day	16.60 ± 22.15	15.67 ± 39.85	0.625
Total hospital stay, day	31.00 ± 43.67	32.67 ± 51.20	0.558
All-cause mortality rate, %	57.5	49.2	0.007
CRRT mortality rate, %	46.8	41.3	0.068

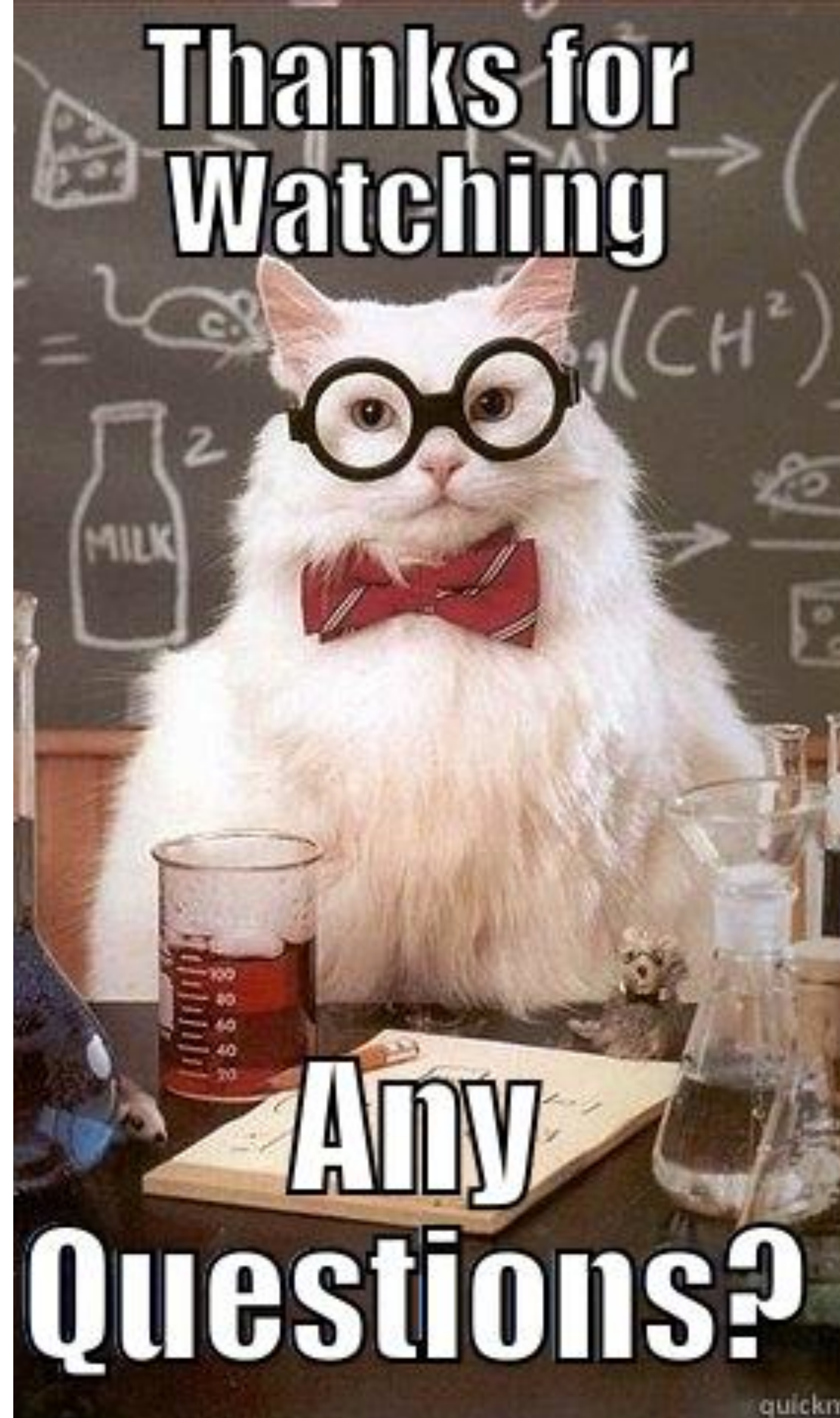
ICU intensive care unit, CRRT continuous renal replacement therapy

- **After CRRT team intervention, there was a significant reduction in both the initiation and down-times for CRRT**
- **Even though the implementation of the CRRT team alone was not a statistically significant factor in predicting in-hospital survival, the all-cause mortality rate was significantly reduced after the CRRT team intervention.**
- **After implementation of the specialized CRRT team, CRRT was initiated 1.7 days faster**
- **It is expected that the filter lifespan would be increased after the implementation of the CRRT team; however, it was decreased in the study because after implementation of the CRRT team, they routinely changed the filter every 24-h**
- **The CRRT team reduced the workload and helped the physicians focus only on their own job, which was treating patients.**

Take home Messages.....

- **Monitoring of knowledge, skills** and attitudes through assessment strategy;
- Being able to have **two-way learning** between ICU and the nephrology team are part of the key aspects for success;
- **Planning** ahead (**protocols, procedures, etc**) helps avoid confusion at bedside;

Providing an adequate renal care system in the hospital aligned with the renal recovery policies should be part of the interest and approach of all the stakeholders in the healthcare system



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