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Organization of OPAT International literature put into practice in Belgium

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UNIVERSITY HOSPITALS LEUVEN

OPAT

3 models

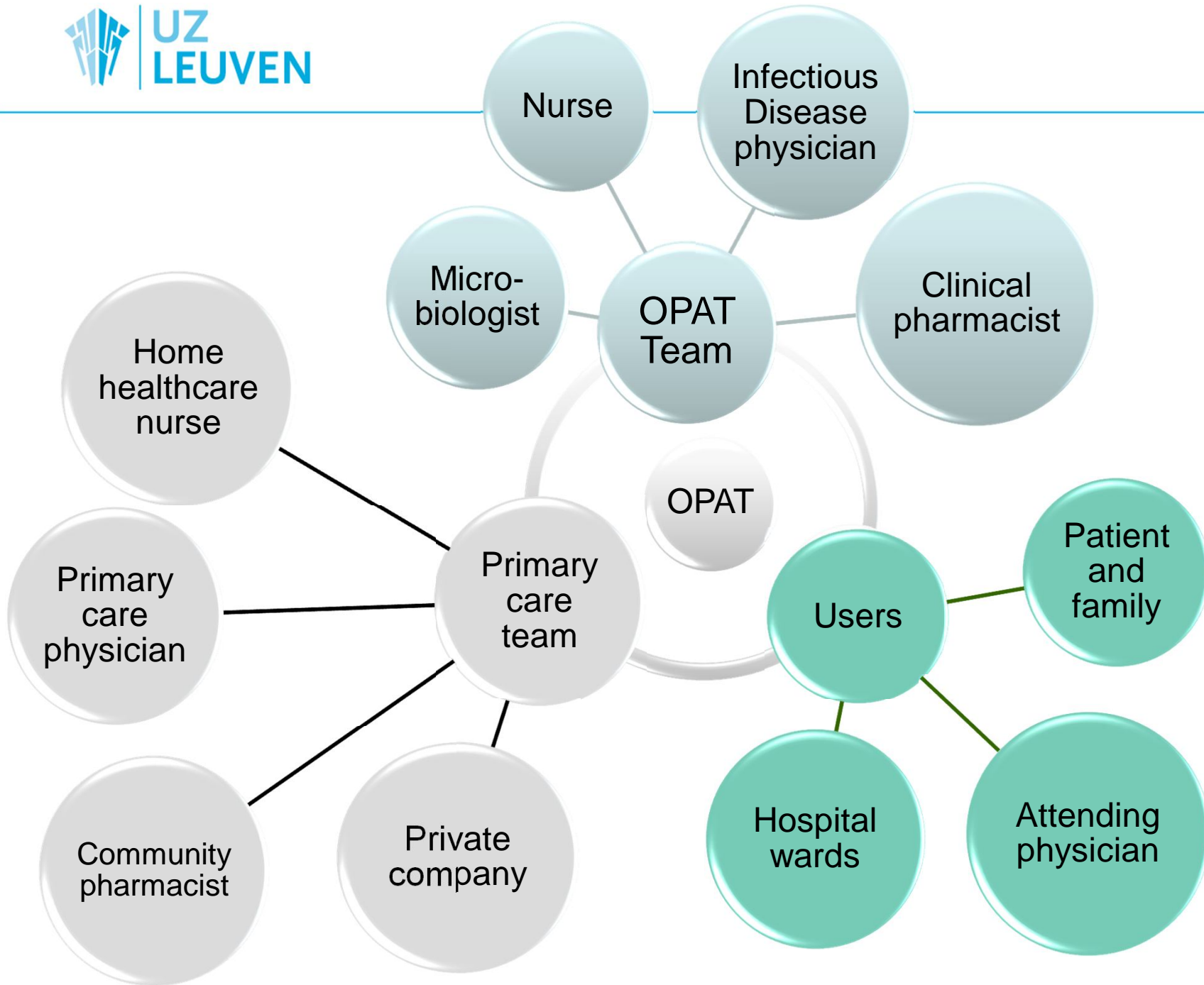
- Ambulatory care centre - hospital nurse
- Patient's home - patient or informal caregiver (S-OPAT: self-administration)
- Patient's home or ambulatory centre - home healthcare nurse

Key elements of a high quality OPAT service

1. OPAT team
2. Target group for OPAT
3. Written procedures and protocols
4. Information leaflets and education material for patients and caregivers
5. Communication system and registration tool
6. System for monitoring quality of care

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Target group

Which infections?

Which antimicrobials?

Which patients?

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Written procedures and protocols

OPAT: Opstart procedure

Deze procedure beschrijft de opstartprocedure voor de OPAT (Outpatient Ambulatory Patient Treatment) voor patiënten met een infectieziekte die behandeld kan worden met een langdurige intraveneuze antibioticatherapie.

Documentnr.	Revisie	Titel	Uitgever	Goedgekeurd door	Datum
17681	1	OPAT - Opstart procedure

Inhoudstafel

- 1. Doelgroep
- 2. Doel van de procedure
- 3. Toesluitingscriteria
- 4. Inhoud van de procedure
- 5. Inhoud van de behandeling
- 6. Inhoud van de opstartprocedure
- 7. Inhoud van de opstartprocedure
- 8. Inhoud van de opstartprocedure
- 9. Inhoud van de opstartprocedure
- 10. Inhoud van de opstartprocedure

OPAT - Doelgroep

Onderstaande procedure is eigendom van UZ Leuven en mag niet zonder toestemming van de directie verspreid worden buiten UZ Leuven. Dit opsprint document is enkel geldig indien de inhoud overeenkomt met de definitieve geldige elektronische versie.

Mutatie acties	Soort wijziging
Profoloelgenaar	...
Esther Steffens	...

andere metadata	Toepassingdatum	Revisiedatum	Vervaldatum	documentnr	uzversienr
...	2017-01-16	2019-07-16	2020-01-16	17681	1

Inhoudstafel

- Inhoudstafel
- Explanatie
- Inhoudstafel
- Inhoudstafel

Patiëntengroep

Dit zalped richt zich op volwassen patiënten (18 jaar of ouder) die een behandeling ondergaan met een (langdurige) intraveneuze antibiotica therapie. Dit zalped richt zich niet op pediatrische patiënten en patiënten met mucoviscidose die een langdurige behandeling met intraveneuze antibiotica ondergaan.

De voornaamste indicaties zijn:

- Borst- en gewrichtsinfecties
- Huid- en weke delen infecties
- Gecompliceerde urineweginfecties
- Lyme neuroborreliose
- Andere...

Basic steps of OPAT procedures and protocols

1. Selection of patients
 - A. Informed consent
 - B. Multidisciplinary evaluation
2. Intravascular catheter
3. Prescription and delivery of antimicrobials, materials
4. Prescription for care by the home healthcare nurse
5. Patient education
6. Transition of care
7. Clinical and laboratory monitoring
8. Trouble shooting

1. SELECTION OF PATIENTS

A. INFORMED CONSENT

Patient perceptions about OPAT

Generally positive perceptions

- Improves quality of life
- Comfort of the home environment
- Work or home care
- Sense of ownership over their illness
- Increased involvement in their treatment

Patient perceptions about OPAT

Also concerns and anxiety about

- Safety
- Competence of nursing staff
- Night-time emergencies
- Lack of domestic support

OPAT @ home ↔ hospitalization

Temocilline 2x2g during 10 days

Co-payment	Medication	Materials	Honorarium physician	Honorarium nurse	Total co-payment
OPAT @ home	€201,7	€68,7	€12	€0 or €131,7	€282,4 or €414,1
Hospitalization	€6,2	€150	€49	-----	€205,2

⇒ reimbursement by private hospitalization insurance?

1. SELECTION OF PATIENTS

B. MULTIDISCIPLINARY EVALUATION

Infection – specific selection criteria

- No oral antibiotics with adequate bioavailability and adequate activity available
- Positive clinical and biochemical evolution of the infection

Other medical factors

- No severe co-morbidities
- No surgical or medical interventions which require hospitalization
- Psychiatric or cognitive disorders

Patient – related selection criteria

- Ability to understand OPAT
- Independent in activities of daily living (eg. walking)
- No alcohol or drug abuse
- (Social) support from family, informal caregivers or professional assistance
- Suitable and safe home environment
- Access to a telephone

2. Intravascular catheter

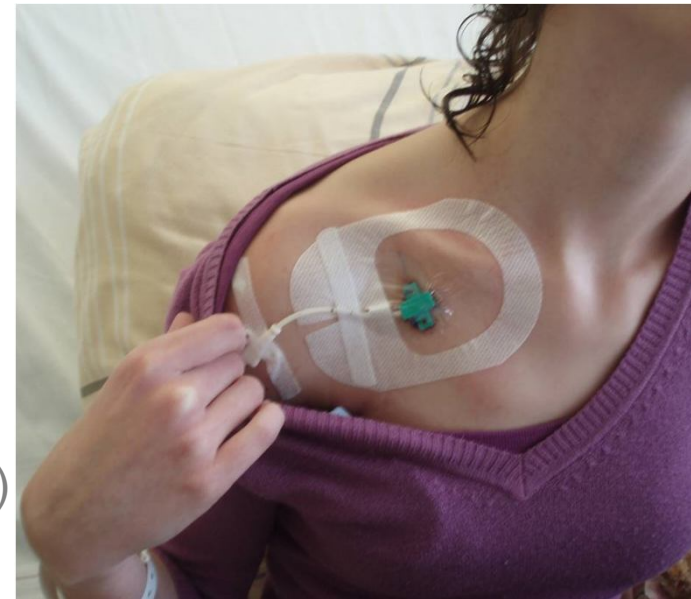
**Timely placement of intravascular device
promotes early discharge**

Choice of intravascular device

- Treatment requirements (duration, blood samples, ...)
- pH, osmolarity, irritating characteristics of the solution
- Risk on complications
 - Phlebitis
 - Central line associated Blood stream infection
 - Thrombosis
 - Occlusion
 - Accidental removal
 - Leakage, extravasation
 - Hemorrhage
 - Hemothorax
 - Pneumothorax
- Medical factors (eg. potential need of hemodialysis in the future)

Non-tunneled central venous catheters

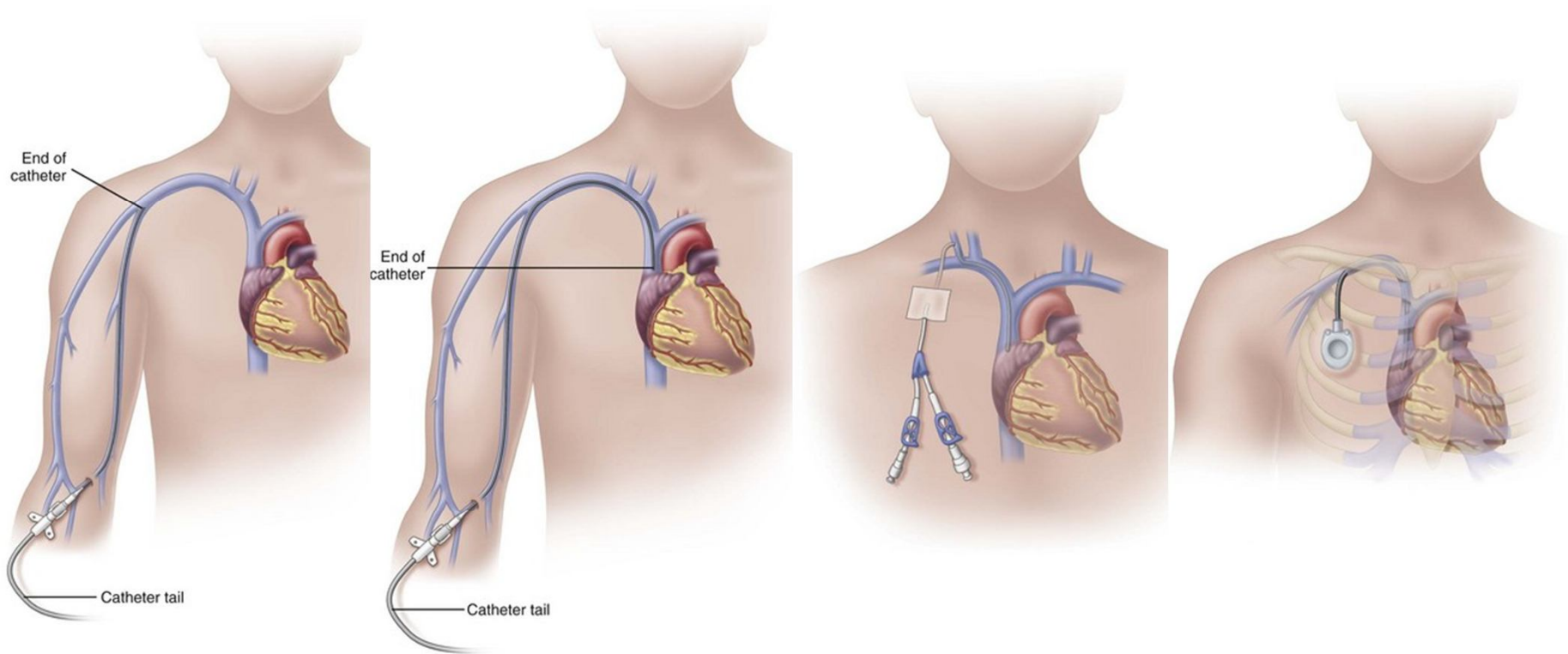
- Intended for continuous use
 - High rates of infection, obstruction, dislocation, accidental removal and venous thrombosis
- ⇒ Should normally be used only in hospitalized patients
- ⇒ Discouraged in Home Parenteral Nutrition (HPN)
- ⇒ OPAT guidelines
- Tice, 2004: non-tunneled central venous catheters are widely used
 - Chapman, 2012: no recommendation



Peripheral venous catheter

- Risk of thrombophlebitis and accidental removal
- ⇒ Discouraged in HPN
- ⇒ OPAT guidelines
- Tice e.a. 2004: appropriate for
 - patients with **good vein status**
 - **short course of therapy**
 - Agent with low potential for causing phlebitis or soft tissue damage
 - Chapman, e.a. 2012: no recommendation
- ⇒ Epic guidelines: **up to 7–10 days**





Midline

PICC

Tunneled
central venous catheter

Port

3. Prescription & delivery of antibiotics and materials

- **Delivery by hospital pharmacists, community pharmacists, private companies**
- **Belgian legislation (25/03/1964): hospital pharmacist**
 - only for admitted patients
 - for use during hospital admission
 - with the exception of the first 3 days post-discharge
- **Royal Decree (18/12/2016): hospital and community pharmacists**
 - to ambulatory patients
 - for treatments started in the hospital or for ambulatory therapy
 - conditions need to be defined

4. Prescription - home care

Preparation and administration of IV antibiotics
Care and maintenance of intravascular access device



nurses are only allowed to carry out these activities on medical
prescription
Prescription is a condition for reimbursement by the RIZIV/INAMI

Content of a medical prescription for home healthcare

- Specific activities
- Number of activities or duration (begin and end date)
- Frequency (hours of administration)
- Dose
- Infusion rate

5. Patient education

- Written and oral information
- Topics
 - Antibiotic therapy & administration
 - Intravascular catheter care
 - Storage of materials and antimicrobials
 - Complications
 - Self – care
 - (precautions, actions & telephone numbers for emergencies)
 - Financial aspects



6. Care transition transmural communication

- Infection, co-morbidities, ...
- IV catheter & antimicrobial
- Administration procedure
- Potential complications of the therapy
- Agreements about
 - delivery of medication and materials
 - Follow-up at home: What? When? By whom?



OPAT PROJECT: Intraveneuze antibioticatherapie met temocilline

Informatie voor zorgverleners

7. PREPARATION AND ADMINISTRATION AT HOME

CONTINUOUS ADMINISTRATION ELASTOMERIC DEVICES



CONTINUOUS ADMINISTRATION ELECTRONIC PUMPS



INTERMITTENT ADMINISTRATION

Injection



Perfusion



CDC-guidelines prevention of intravascular catheter related infections

- Educate healthcare personnel regarding maintenance of intravascular catheters
- Periodically assess knowledge of and adherence to guidelines
- Designate only trained personnel

Description	Number of activities
Healthcare services carried out by home healthcare nurses in 2015	152 805 022 (100%)
Administration of intravenous medication (incl. flushing the catheter)	128 194 (0,001%)
Daily fee for insertion of and supervision on intravenous or subcutaneous perfusion	243 756 (0,15%)
skin and wound care	19 709 957 (12,8%)
Self-care facilitation: bathing	22 363 901 (14,6%)

Description	Number of activities (%)
Total	366128 (100%)
Self-care facilitation: bathing	26 969 (7,3%)
Skin and wound care	22740 (6,2%)
Intravenous catheter care	729 (0,2%)
<ul style="list-style-type: none"> • Home parenteral nutrition 	211 (0,06%)
<ul style="list-style-type: none"> • Intravenous injections 	14 (0,004%)
<ul style="list-style-type: none"> • Insert / replace iv or sc perfusion 	56 (0,02%)
<ul style="list-style-type: none"> • Replace heparin lock 	32 (0,01%)
<ul style="list-style-type: none"> • Port catheter 	416 (0,1%)

Quality improvement interventions IV catheter care

- Home healthcare companies
- Specialized IV teams / reference nurses
- Educational interventions
 - Leaflets (protocols), e-learning, training, ...
- Surveillance & feedback: care bundles & checklists

OPAT PROJECT
Intraveneuze antibioticatherapie met vancomycine

WEKELIJKS SPOELEN
VERVANGING VAN DE AFSLUITDOPJES
Werkwijze (Info voor thuiszorg):



- Ontsmet uw propere handen met handalcohol.
- Doe zo nodig niet-steriele handschoenen aan.
- Controleer of de klem van de katheter gesloten is.
- Hou een steriel kompres gedrenkt in een alcoholische oplossing onder de connectieplaats.
- Verwijder het oude afsluitdopje.
- Ontsmet en reinig het open uiteinde indien zichtbaar bevuld.
- Bij naaldloze afsluitdopjes: plaats eerst een nieuw naaldloos afsluitdopje.
- Bij conventionele afsluitdopjes: plaats een nieuw afsluitdopje na het spoelen.
- Plaats de spuit met 10 ml^{*} NaCl 0,9% op het open katheteruiteinde of op het nieuwe naaldloze afsluitdopje.
- Open de klem, aspireer niet.
- Spuit de NaCl 0,9% pulserend in.
- Sluit af onder positieve druk; sluit de klem terwijl de laatste 3 ml traag wordt ingespoten.
- Spoel de andere lumens op dezelfde manier.

* 5 ml voor een zuigeling of kind dat minder weegt dan 10 kg
Onderhoud van een PICK en midline



Procedure voor de bereiding en de toediening van vancomycine via een Infusor[®]

Informatie voor de thuisverpleegkundige

Gevuldeerd door de OPAT werkgroep op 10/01/2017 | UZ LEUVEN

1. BEREIDING EN TOEDIENING VAN INFUSOR MET VANCOMYCINE

NODIGE MATERIALEN VOOR BEREIDING	
FA154056	Handalcohol 600 ml
FA060805	Chlorhexidine 0,5% in alcohol 70% 250 ml
FA272798	1 steriel veld
FA3066342	Steriele gascompressen 1x 5 stuks
FA375147	2 rose naalden 18G
FA324008	2 spuitjes van 50 ml
FA511824	Water voor injectie glas 300 ml
FA031411	1 infuus NaCl 0,9% 250 ml
FA2161344	Vancomycine 500 mg

Adverse events during OPAT

Adverse reactions: up to 25%

Discontinue therapy: up to 10%

Readmission rates: 4%-12%

Unplanned advice: 6%

Unscheduled home visits: 6%

8. Clinical and laboratory monitoring

- Administration of antimicrobials
- Infection
 - Fever, rubor, calor, tumor, dolor, (specific for each infection)
 - CRP
 - ...
- Adverse events
 - Catheter related
 - Antibiotic-associated

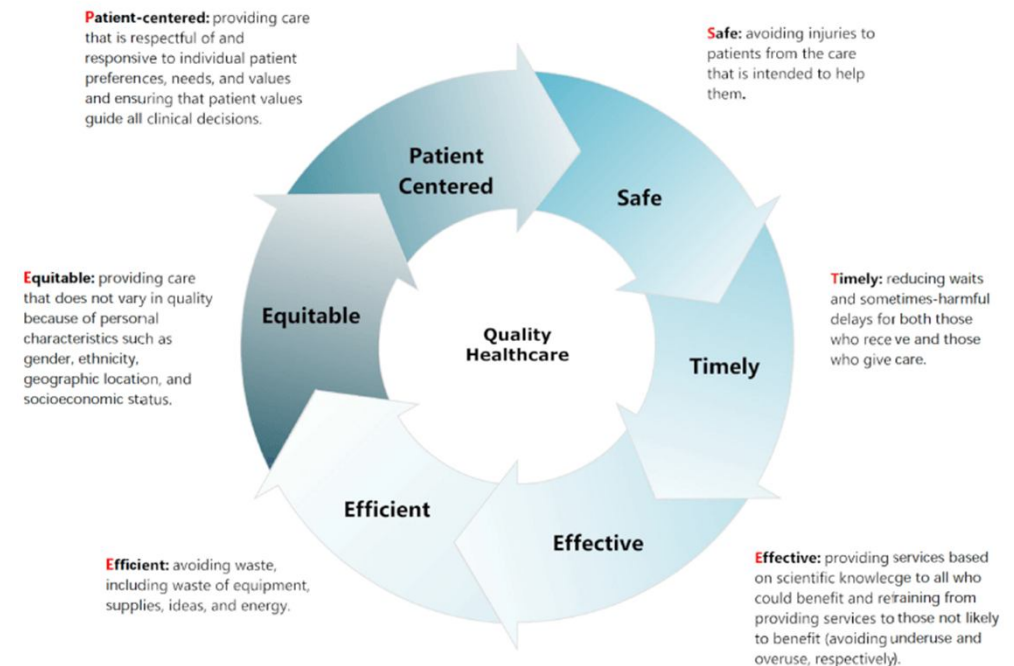
=> Protocol for trouble shooting for each adverse event or problem

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Monitoring quality of care

- Clinical and bacterial infection status
- Antibiotic use
- Vascular access
- Patient perceptions
- ...



THANKS TO THE OPAT-TEAM OF THE UNIVERSITY HOSPITALS LEUVEN



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