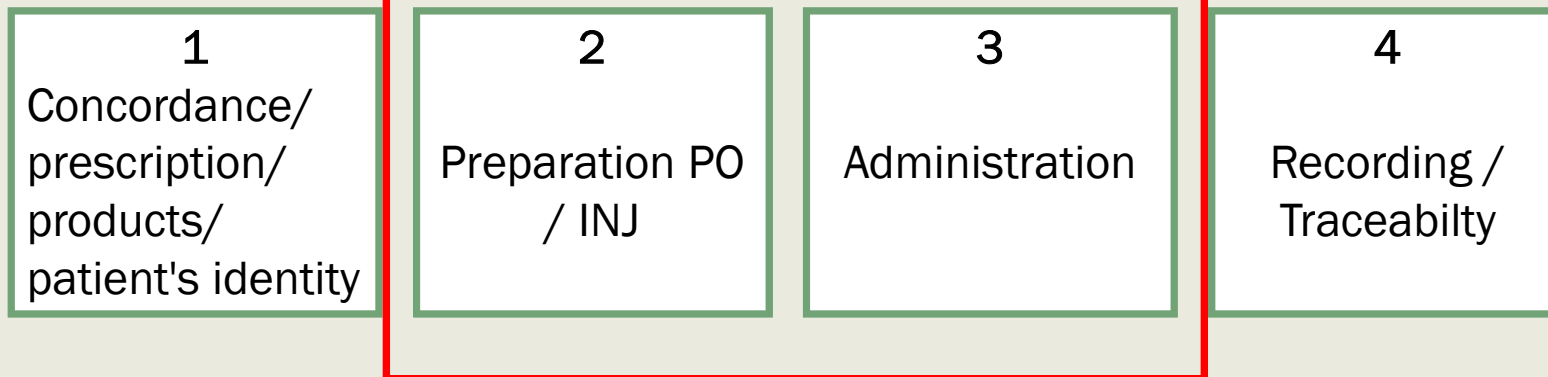




Prevention of administration-related medication errors

ADMINISTRATION

- Nursing act
- Bringing the drug to the patient



Errors related to the preparation step

Solvent choice → pH

Precipitation :

- Acid - base: drug / solvent

Solvent	pH	Incompatibility
NaCl 0.9%	6 - 7	Amphotericine B
G5%, G10%	4 - 5	Aciclovir (high cct)

Pay attention to the pH of the solvents !!

Stability : light → photo degradation

- Attack of fragile bonds by light
- Rate of degradation depends on the intensity of the light and the duration of the exposure

Loss of activity

Changing the appearance of the drug

Toxic photo-degradation products

E.g:

- **Amiodarone**

→ Administration with a syringe pump exposed to light.

Administration errors

Injection speed

Administration

Fast IV, slow IV, Intermittent infusion, Continuous infusion ??...



The right choice
=
Efficiency and Security

Very Fast

- **Vancomycine** : Erythematous rashes
- **Rituximab** : Allergic reaction → Anaphylactic shock
- **Aciclovir** : Crystallization → Renal toxicity



Incompatibilities

Precipitation :

- Acid - base: drug / drug

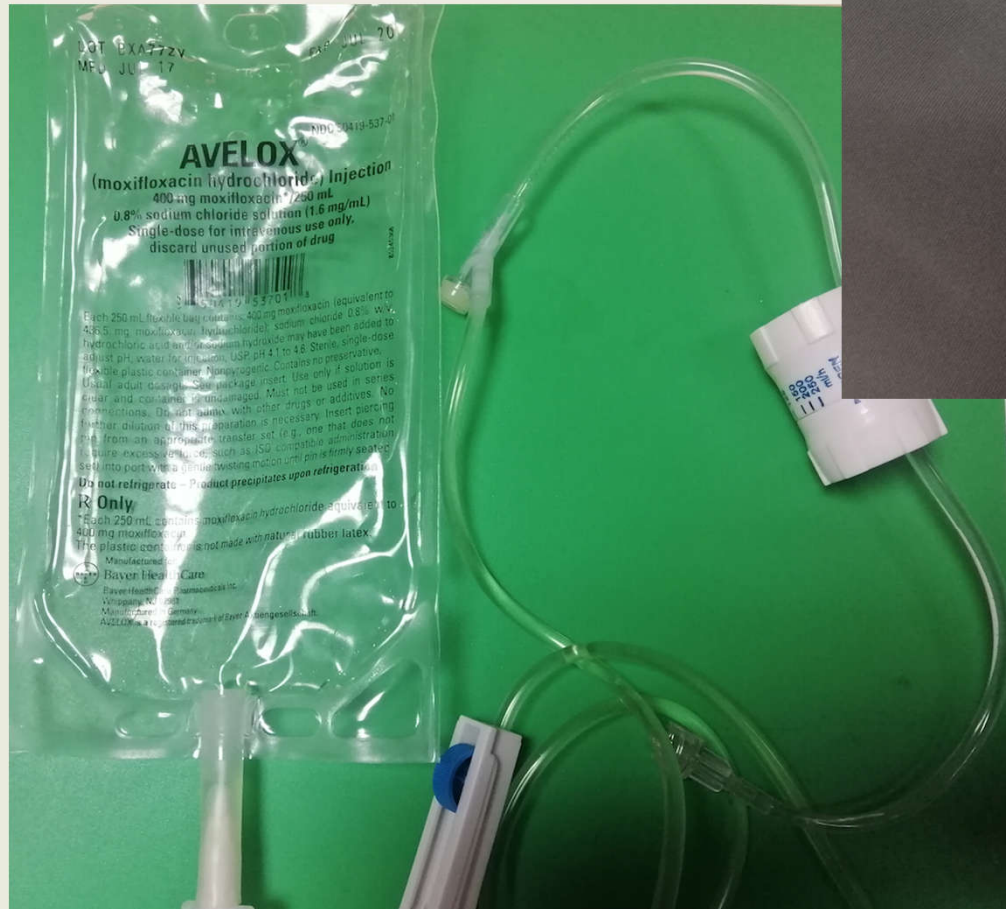
Drugs with acidic pH	Drugs with basic pH
Amiodarone	Aciclovir
Adrenaline	Furosemide
Dobutamine	Omeprazole
Midazolam	Ganciclovir
Morphine	Meropenem
Vancomycin	Ampicillin

Never mix an acidic drug with a basic drug

E.g.:

- Ceftazidim + Aciclovir
- Colistine+ Aciclovir
- Vancomycine + Cefotaxime
- Amiodarone +Furosemide

Incompatibility: Moxifloxacin / FUROSEMIDE



Clinical consequences : Amoxicillin / Midazolam

- Superficial thrombophlebitis






Precipitation :

- After dilution

E. g : Diazepam



Solutions to reduce these errors?

- To protocolize 
- To form 
- To assess 

Examples : UHC Ibn Sina

- Resuscitation department
- Internal Medicine
- Hospital medical emergencies
- National Institute of Oncology - hospitalization

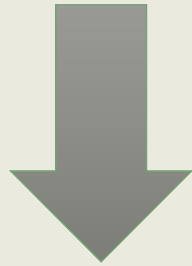
Antibiotics + Emergency drugs (adre, noradre, dobutamine, nicardipine...)

Training of the
paramedical team

Preparation and Administration Sheet

- Interest :

- *Knowledge of the specificities of the molecule*
- *Improvement of our practices*



- *Limit the number of medication errors*
- *Allow a secure circuit of the drug*

ABX Preparation and Administration Worksheet

■ Each sheet :

- ✓ *Name of the antibiotic*
- ✓ *Product Reconstitution Mode: Solvent to Use*
- ✓ *Dilution to perform for infusions: choice of solvent and its volume for better stability*
- ✓ *Stability over time as a function of temperature and Concentration after dilution*
- ✓ *Different modes of administration*
- ✓ *Incompatibilities in mixture or in Y*



Hôpital IBN SINA

Médecine interne

Fiche d'administration des anti-infectieux injectables:

AMIKACINE

Voies d'administration possibles : **IV, IM, S/C, Intrathecale.**

Reconstitution	Solvant et volume de perfusion	Modalités d'administration	Stabilité physico-chimique
250mg dans 2ml d'EPPI 500mg dans 4ml d'EPPI 1g dans 5 ml d'EPPI	Dilution dans : NaCl 0,9%, G 5% ou G 10% 2 g/100 à 500 ml C_{max}=20mg/ml	IV : Pas d'IVD Perfusion de 30min au minimum (à 60min)	Après reconstitution: 12 h à t°C < 25°C ou 24 h au réfrigérateur (+2° C à +8° C) Après dilution : 24 h à t°C < 25°C A l'abri de la lumière

Incompatibilités en Y :

β-lactamines, Tétracycline, Amphotéricine B

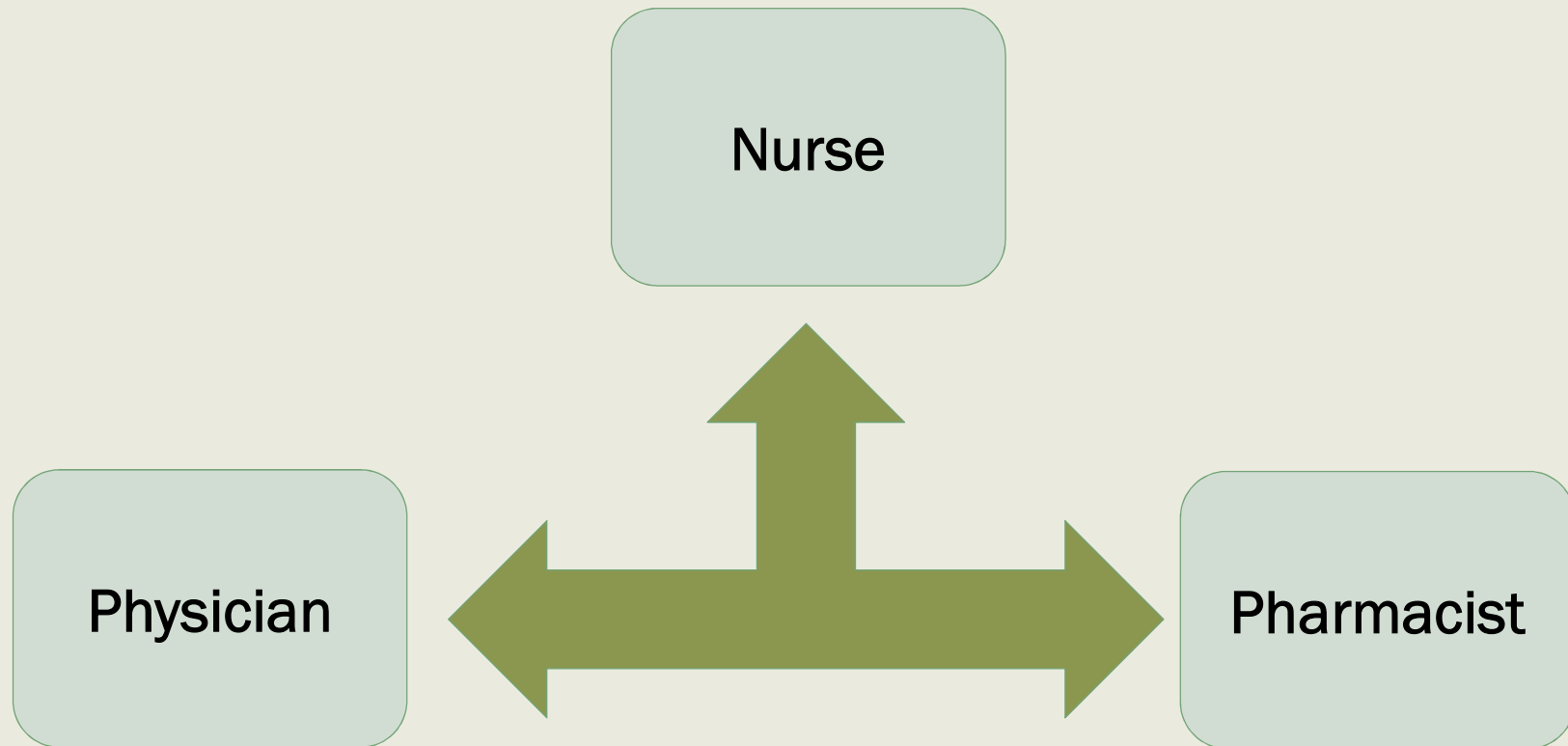
Emergency Drug Preparation and Administration Worksheet

	Hôpital IBN SINA	Urgences médicales hospitalières (UMH)
	Fiche de Stabilité physicochimique des médicaments injectables: Amiodarone : amp 150 mg/ 3ml	
Date de diffusion : 25/09/2017 Version : 1 Nombre de pages : 1/1	Rédigée par : Dr Mrani Alaoui Amal Vérifiée par : Pr Chaïbi Aïcha Approuvée par : Pr Madani, Pr Abouqal	

Voies d'injection	VVC de préférence et si conc. > 2 mg/ml VVP Possible en dilution
--------------------------	--

Conditionnement	Soluté (s)	Posologie	Concentration	T°	Conditions	Durée de conservation
Seringue	G 5%	15 MG / KG 300 mg / 250 ml en bolus puis	1.2 mg/ ml (bolus)	25°C	A l'abri de la lumière	24h
		300 mg/ 50 ml en PSE = 6 ml /h	6 mg/ ml	25°C	A l'abri de la lumière	

- The importance of collaboration :



Thank you!