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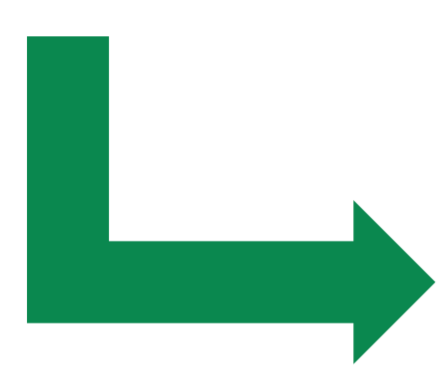
## How was done?

The oncohematology pharmacy team created a **visual guide** aimed to pharmacy personnel who do not routinely work with intravenous mixture preparations.

This guide includes instructions about parenteral **cytotoxic drug preparation** for chemotherapy regimens that should be **immediately initiated**.

## Why was it done?

Cytostatics are hazardous drugs that must be prepared under safe and sterile conditions. In some life-threatening situations, there is an urgent need to initiate chemotherapy immediately. However, not all hospitals have experienced personnel in safe-handling cytotoxic drugs for 24 hours and 7 days per week.



**OBJECTIVE:** to create a consensual protocol to be used when immediate start of chemotherapy is required and preparation must be done out of working hours of specialized pharmacy staff.  
A **secondary objective** is to confirm that **non-experienced staff** can **prepare cytostatics safely** and to **guarantee their quality** by following this protocol.

## How was it done?

### CIRCUIT AND STAGES

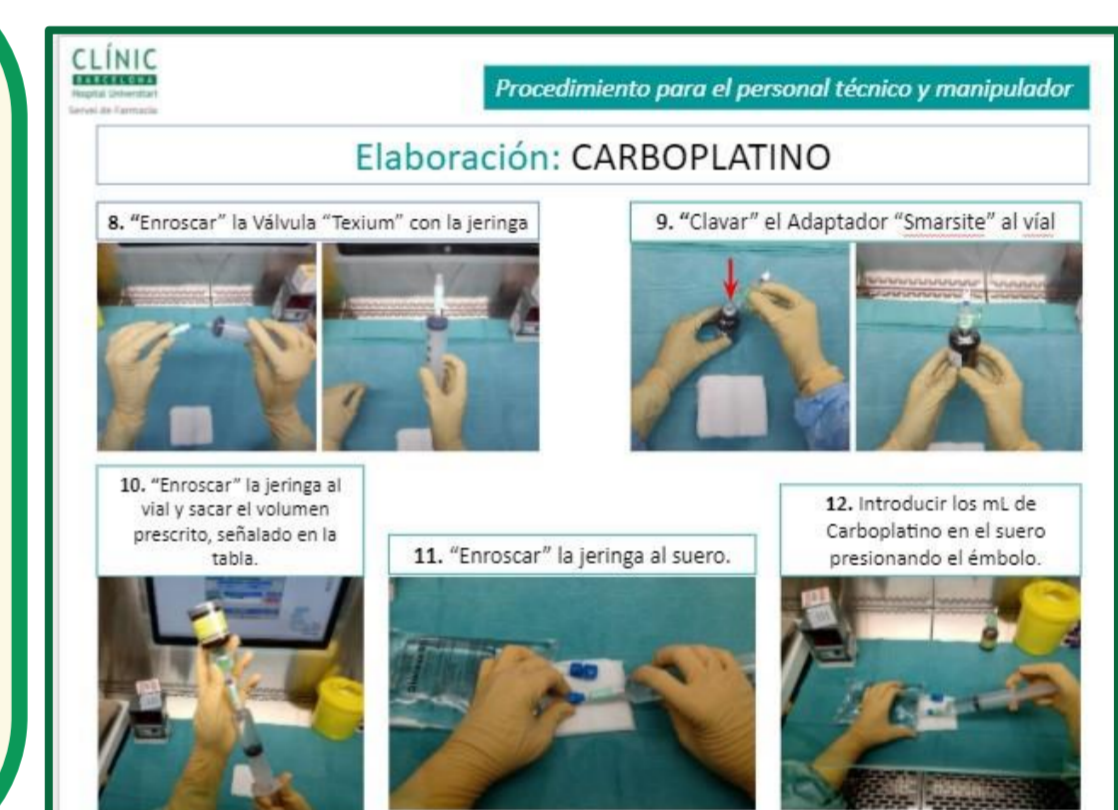
#### 1. Urgent regimens were agreed with clinicians:

- Fixed-dose intrapericardial cisplatin
- Intravenous carboplatin and etoposide
- Intravenous cisplatin and etoposide
- Intravenous cyclophosphamide
- Fixed-dose intravenous daunorubicin

2. For schemes with different possible doses, **fixed banding doses** were agreed.

3. The fixed doses were specified in a **predefined prescription form**.

4. A **visual guide** with images of all the material and preparation steps (including labelling, packaging and protection measures), **for each scheme**, was developed and **attached to a prescription form** to be completed by the physician.



5. The visual was associated with a **material kit** that contained personal protective equipment, expendable material, cytostatic vials and serum bags.

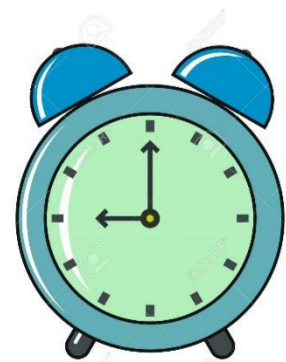


### SIMULATED-BASE PATIENT SCENARIO

The guide was distributed to pharmacy personnel external to preparation area accompanied by a training session. Selected trained workers were supervised while preparing the mentioned cytostatic drugs in a simulated-base patient scenario.

## What has been achieved?

- ✓ All the **cytostatic drugs** were **prepared correctly**.
- ✓ The **personnel** involved **maintained** all the specified **protection** measures and reported feeling confident while cytostatic manipulation.
- ✓ The **guide** proved to be **useful to cover a possible urgent chemotherapy** treatment outside the stipulated work schedule.



The maximum preparation time was of **45 minutes** since physician's prescription.

## What next?

**Re-training** in safe-handling of cytotoxic drugs should be ongoing with regular updates to ensure a proper follow-up of this guide. This work methodology could be **extrapolated to other pharmacy areas** with similar needs.