

ALGORITHM OF SAFE AND CORRECT PREPARATION OF CHEMOTHERAPY

M. Fortuna Lužar, P. Tavčar, J. Dolenc, M. Sonc
Institute of Oncology Ljubljana, Slovenia



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What was done?

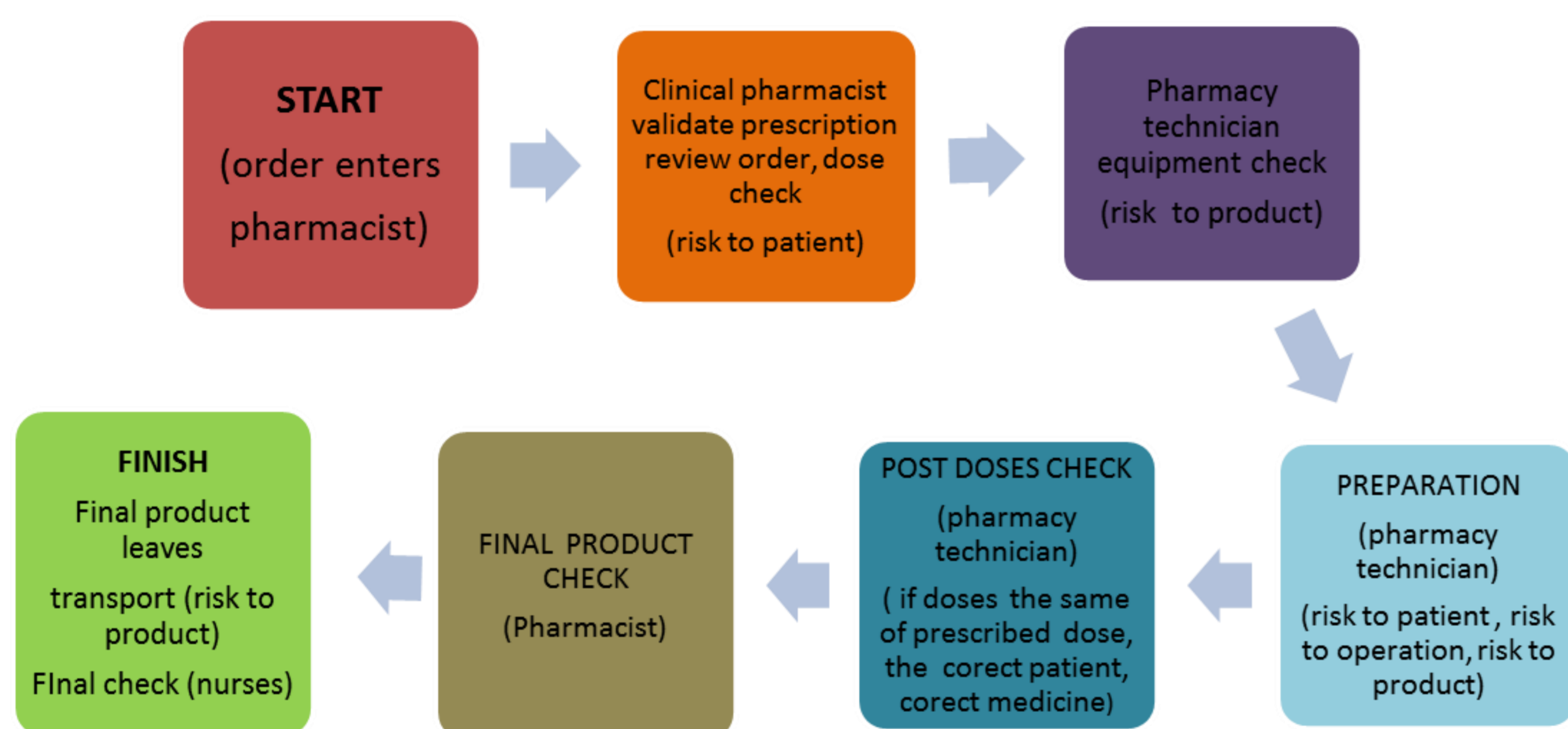
Cytostatics are carcinogenic, mutagenic and teratogenic drugs. Handling requires a number of organisational and technical systems. All products should be safely and accurately prepared with special care to ensure the highest possible product quality, correct dose, the right patient, the right medicine, the right carrier solutions and right administration, without microbiological and particle contamination. The prescription and preparation of cytostatic drugs must be closely monitored. The most important factor in achieving this is the constant training of pharmacists in pharmaceutical techniques.

Why was it done?

To support us in understanding our role in the preparation of chemotherapy products. To prevent the risk of harm to patients. Recognise prescribed error in pre-documented chemotherapy protocols.

How was it done?

This year started with monthly reviews and training in the following subjects by using a written algorithm. Risk to product: drugs reconstitution, negative pressure LAF cabinet, leakage/damage or defects of vials, particles, transport and storage. Risk to patient: incorrect calculations, microbiological contamination, incorrect administration, extravasation, incorrect administration route, incorrect labelling. Risk to operators: contamination, toxicity, equipment, gloves, cleaning, occupational exposure. All checks have been made throughout the whole of preparation process, adhering to standard operating procedures (SOP-s).



What are cytostatics?

Types of cytostatic preparations

RISKS TO PRODUCT

RISKS TO OPERATORS

RISKS TO PATIENT

How was it done?

RISK TO PRODUCT	ACTION AND INFORMATION
PRODUCT RECONSTITUTION	The correct dosage is prepared, followed computer instructions All equipment for safe reconstitution must be available
NEGATIVE PRESSURE LAF CABINET LEAKAGE/DAMAGE OR DEFECTS	Protects the user against aerosols Products should be inspected before and after preparation, and before issue to patient
PARTICLES	Products should be inspected for particles before and after preparation. If particles are visible, this product is not for use and has to be label Reject
STORAGE	Appropriate storage (protection from light and refrigerated) prevent disintegration of a product. Check each product for individual storage requirements.
TRANSPORTATION AND STORAGE	Dedicated transport boxes, be trained to handle an emergency situation.

RISK TO PATIENT	ACTION AND INFORMATION
INCORRECT CALCULATIONS	<ul style="list-style-type: none"> ➤ Dosage: must be checked ➤ BSA (body surface area): checks should be made if the patient has gained or lost weight ➤ Creatinine clearance: if this is needed to calculate the dose, this should be recorded and the calculation checked ➤ Regimens: checks for correct regimen, patient, ward, date of application ➤ Cumulative doses: some cytostatics have a cumulative toxicity, total permitted lifetime dose
MICROBIAL CONTAMINATION	<ul style="list-style-type: none"> ➤ Use LAF cabinet or isolator, change glove immediately when doing something else outside LAF cabinet

RISK TO OPERATORS	ACTION AND INFORMATION
CONTAMINATION	<ul style="list-style-type: none"> ➤ Cytostatic residues on the outside of vials from manufactures: <ul style="list-style-type: none"> • mask should be worn • cleaning and wiping techniques
TOXICITY	<ul style="list-style-type: none"> ➤ Cytostatics are: mutagenic cancerogenic teratogenic <p>safe handling and preparation techniques and regular staff training are required</p>
EQUIPMENT	Appropriate personal protection equipment (PPE mask) should be used.
LAF-cabinet	Negative pressure
CLEANING	Appropriate personal protection equipment must be worn for cleaning areas where cytostatics are handled

What has been achieved?

We concluded that continuing education by using a written algorithm is useful practice. It helps prevent automatic work, remind us to check each step in process and know how to recognise errors in chemotherapy prescriptions and preparation. In 25 cases of prescribed chemotherapy, intervention of a pharmacist was required. In 5 cases of chemotherapy preparation, pharmaceutical techniques have detected a discrepancy in the prescribed therapy.

What next?

Regardless of experience at work, it is necessary to constantly repeat how to work properly, and awareness why we are doing this.



<https://www.eahp.eu/gb18/1801-the-safe-and-correct-preparation-of-chemotherapy>