National Cancer Control Programme

National Cancer Information System

NCIS GUIDE

Pharmacist Verification

Background

All medications that are to be prepared or dispensed in NCIS.Med require pharmacist verification.

Pharmacist verification can be seen as analogous to the clinical check of a SACT prescription by a pharmacist. As NCIS is an end-to-end system that includes prescribing, preparation/dispensing and administration there is no requirement to generate a separate worksheet and labels in a separate pharmacy system. For this reason Pharmacist Verification may also be seen as analogous to the worksheet generation step as the appropriate product is chosen and dose rounded as required.

This guide explains the Pharmacist verification process as well as indicating where recommended information for screening is visible.

Pharmacist Verifying a Medication

Main medications (indicated by the yellow bar and bold text) require pharmacist verification before they can be prepared or dispensed. Medications must be physician verified before they can be pharmacist verified. The Cisplatin in figure 1 below is ready to be pharmacist verified.

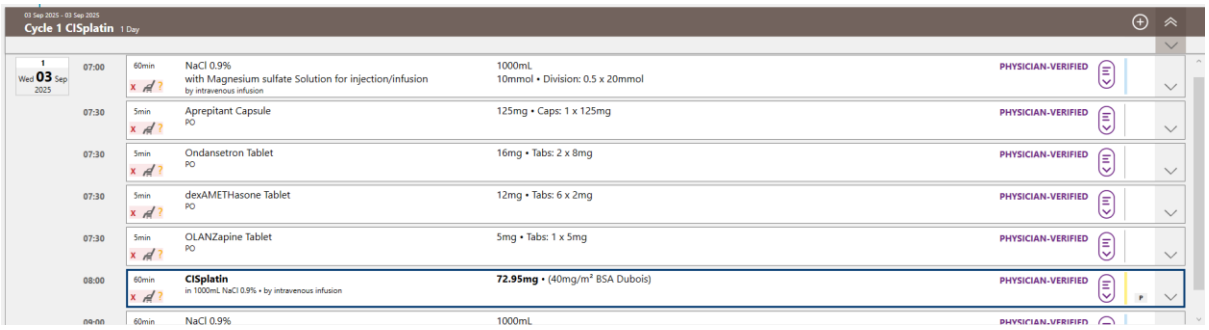

Figure 1: Medication for Pharmacist Verification

Click on the Status Arrow of the medication and select PHARMACIST-VERIFIED (figure 2)

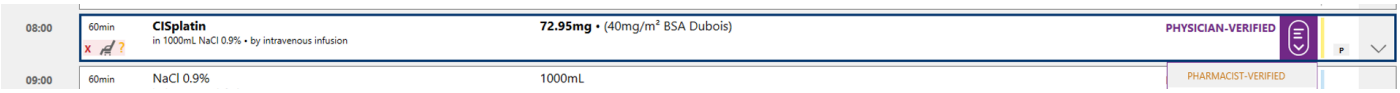

Figure 2: Click PHARMACIST-VERIFIED

You will be asked to define the product you wish to use (this can be changed later if required). Where there is a preferred product for the Preparation Site (pharmacy) this will appear first in the list as shown in figure 3. If there is no preferred product or if you wish to change the product, select the desired product from the drop down list (figure 4). Note that for dose banded products that are to be dispensed (i.e. not prepared in an aseptic unit) it is necessary to choose a product at this point and change to the dose banded product in the pharmacist verification screen.

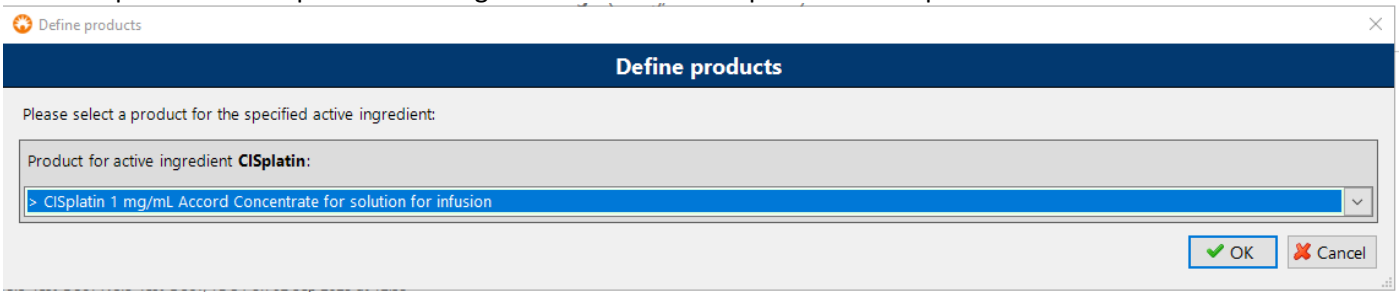

Figure 3: Define products with preferred product visible

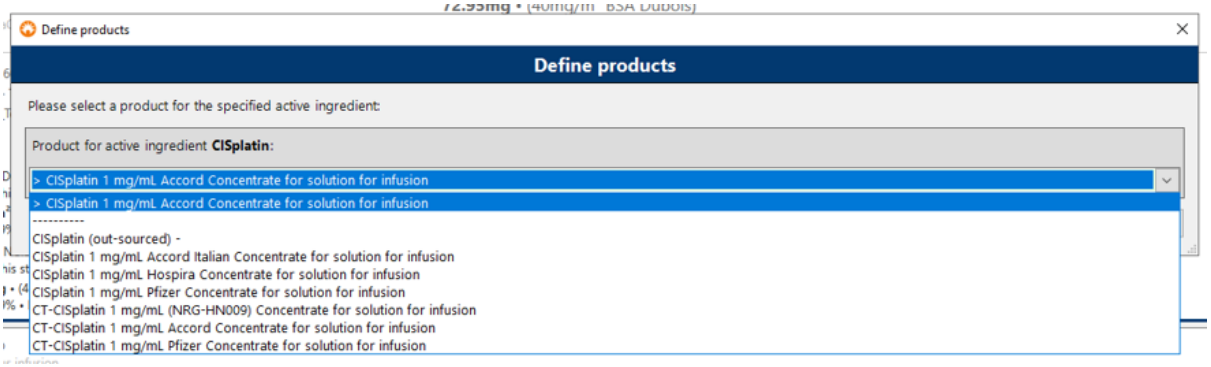

Figure 4: Define products with all available products visible; note the preferred product is preceded by > symbol

If the medical result used to calculate the dose (e.g. Weight, Creatinine) at physician verification has changed between physician and pharmacist verification, an alert will be displayed offering the pharmacist the option of changing the dose. Note the percentage change refers to the change in the variable used to calculate the dose (e.g. BSA or Calvert Formula).

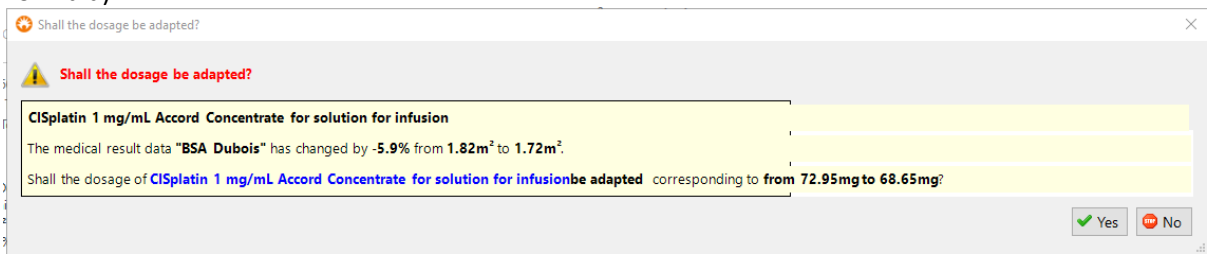

Figure 5: Dosage change warning

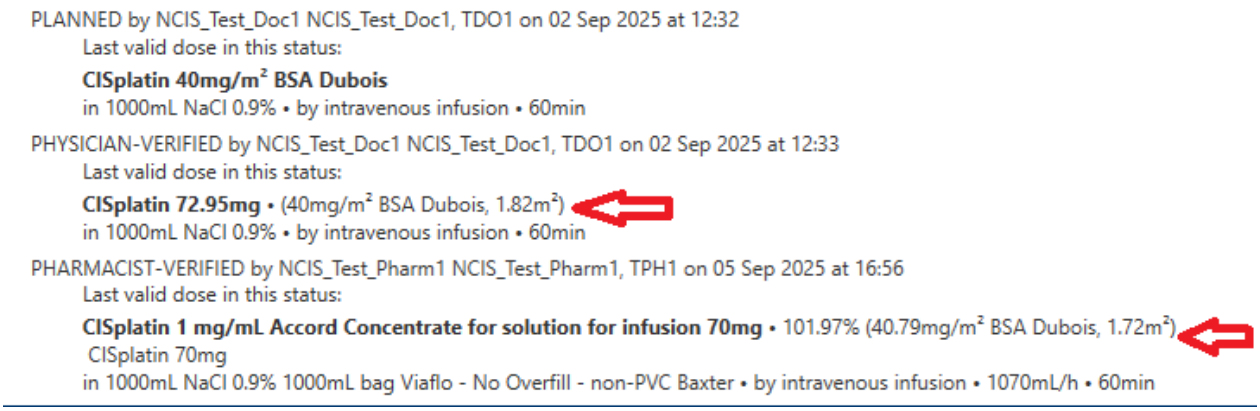

Figure 6: Medication log showing change in BSA (red arrows)

The "Long-form" Pharmacist verification window appears (figure 7). It is now possible to choose a more appropriate dose for preparation or dispensing (if that is the agreed local workflow), adjust the fluid volume or type to another compatible fluid and deviate the stability (refer to the NCIS Guide how NCIS Manages Stabilities for more information).

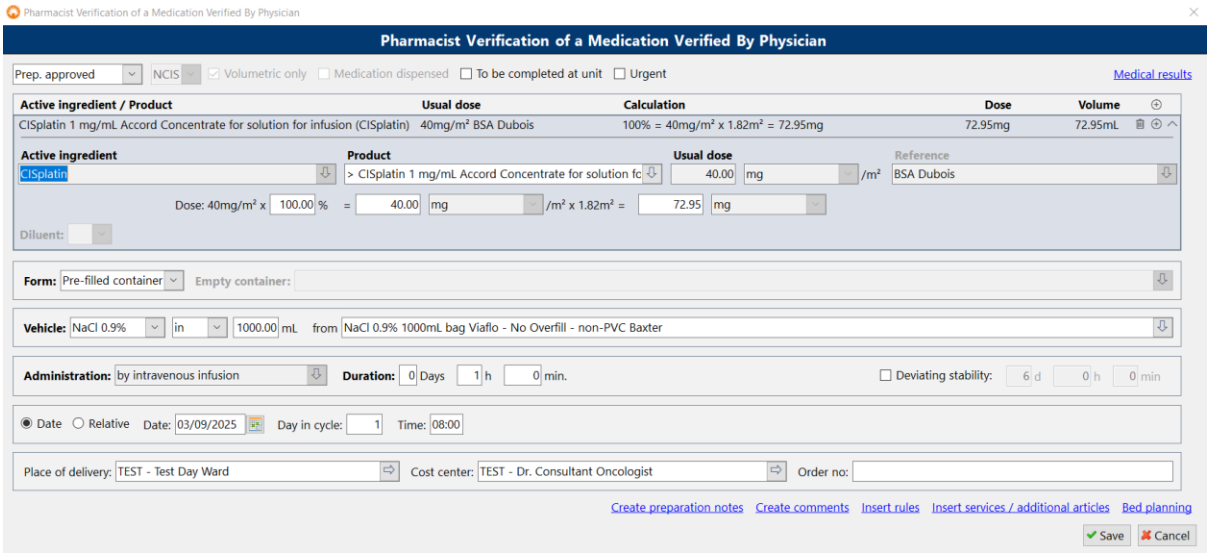

Figure 7: "Long-form" Pharmacist Verification

Figure 8 below shows a cisplatin medication example with the dose rounded to 84mg and the volume of the infusion fluid changed to 500mL.

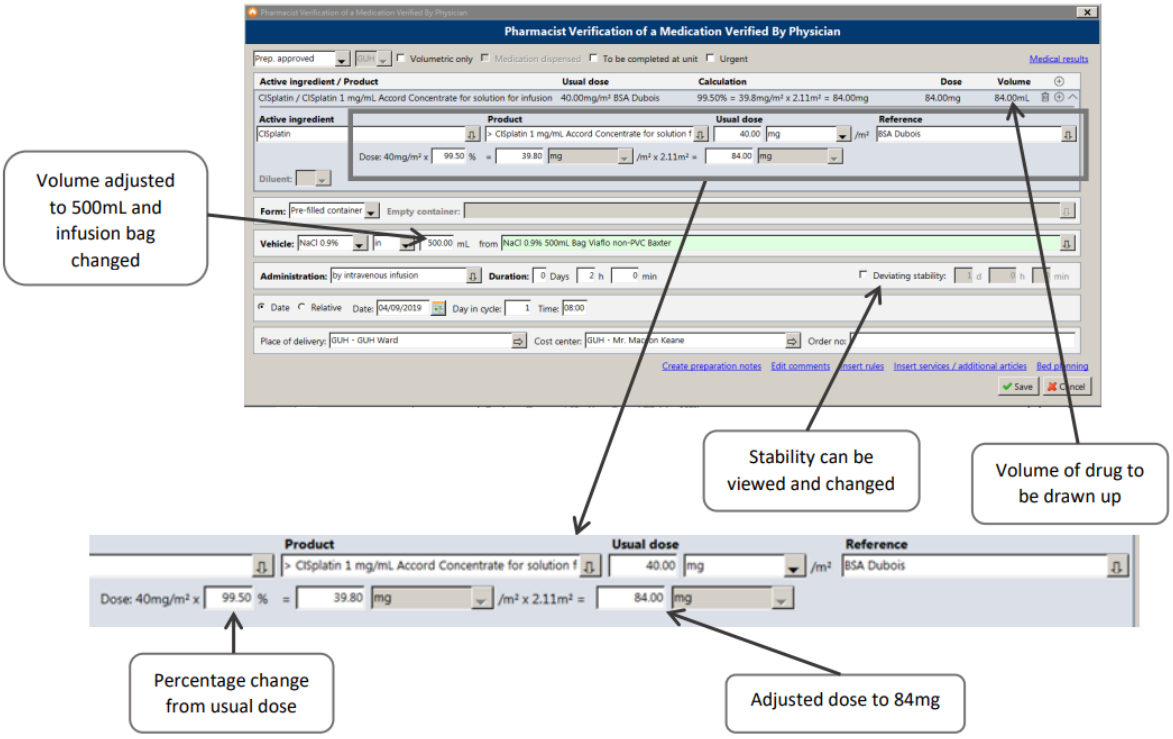

Figure 8: Long form verification window with adjustments

Depending on the type of medication it is also possible to select which process the medication is approved for (note the medication is approved in the user's assigned Prep Site):

- Not approved: The medication is only pharmacist verified, it is not possible to create a parts list in Set up preparation. **IT IS ADVISABLE NOT TO USE THIS OPTION AS THE MEDICATION WILL NOT BE ASSIGNED A PREPARATION SITE.** If this option is chosen, the medication will be visible on the setup screen in ordered preparations for all users with rights to the patient once the 'Approved' filter is set to 'All'.

- Only set up preparation: The medication is pharmacist verified, and it is possible to create a parts list in Set up preparation. However complete preparation of the medication is prevented.
- Preparation approved: Medication is released for preparation and can be edited further in set up preparation (this is the default setting for medications which are configured to be prepared).
- Dispense approved: Medication is released for dispensing and can be dispensed in the Dispense Products screen (this is the default setting for medications which are configured to be dispensed e.g., oral products, dose banded products)

Figure 9 now shows the medication with the PHARMACIST-VERIFIED status set. It is important to note that the main text in the medication box refers to the medication's current status - in this case Cisplatin 70mg in 500mL NaCl which is 95.95% of the planned dose in PHARMACIST-VERIFIED status. By clicking the arrow at the right of the medication it is possible to see the history of the medication at all statuses – as can be seen the medication was PHYSICIAN-VERIFIED at 72.95mg in 1000mL NaCl and was changed by NCIS_Test_Pharm1 during Pharmacist verification.

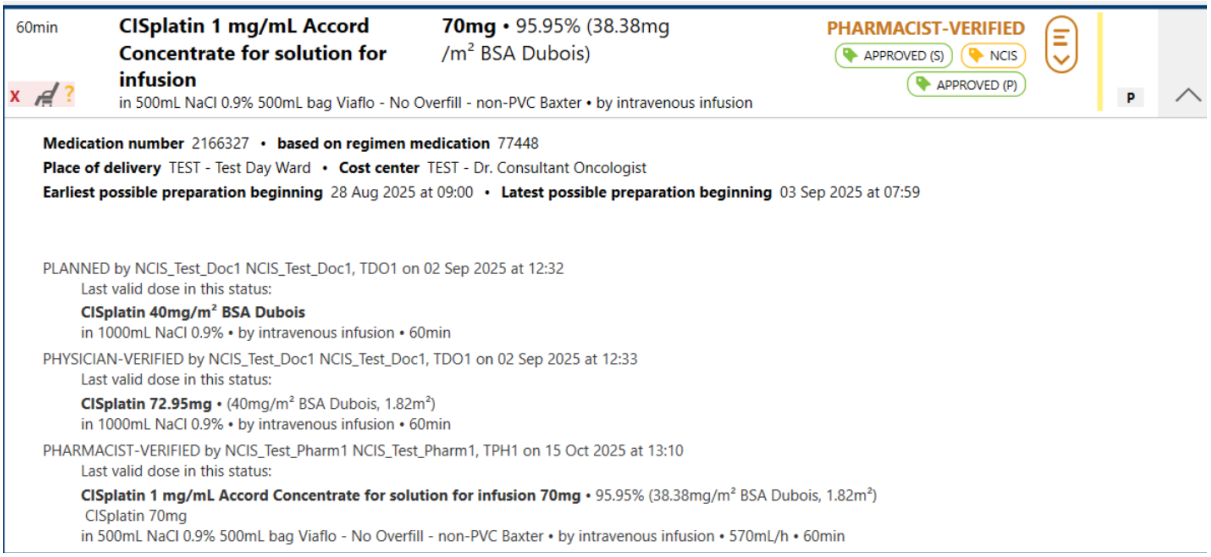

Figure 9: Medication detail view

Pharmacist Clinical Verification of a Medication

Recommendation 59 of the NCCP Oncology Medication Safety Review (2014) is that chemotherapy prescriptions should be checked by a pharmacist, who has demonstrated their appropriate competence and is locally authorised/accredited for the task. The report also lists the recommended minimum pharmacist checks to be undertaken, this section of the guide lists those checks and indicates where the information can be obtained in NCIS.

Note – *this document is intended as a guide only to indicate where pertinent information may be available. Local workflows in conjunction with policies and procedures should be in place to ensure a robust checking process for SACT. As with any electronic system there are multiple ways to achieve this and this document is not intended to be prescriptive.*

Checking Item	Location in NCIS
1. Has the drug or regimen been prescribed in line with legislation and local prescribing policy?	
a. Check the prescriber details and signature are present and confirm they are authorised to prescribe cancer medicines as appropriate	Therapy Plan Detail (fig 10) - Created by (user who planned regimen) - Cost Center (primary consultant) Cycle Details (fig 12) Medication Details (fig 13) - User who Physician Verified each medication
b. Check that the prescription is clear, legible, and unambiguous and includes all details required for dispensing, labelling and administration	Therapy Plan Detail (fig 10) Regimen Overview (fig 11) Cycle Details (fig 12) Medication Details (fig 13)
2. Check the prescription against the protocol and treatment plan:	
a. Ensure that the regimen has local approval e.g. clinical governance and financial approval and/or is included on a list of locally approved regimens	Therapy Plan Detail (fig 10) - Regimen designation at creation time (regimen used to create patients plan)
b. Where there is access to either clinical notes, treatment plan or electronic record, on first cycle check the regimen is the intended treatment and is appropriate for patient's diagnosis, medical history, performance status and chemotherapy history.	Therapy Plan Detail (fig 10) - Diagnoses (diagnosis from Therapy Form in NCIS.Chart) NCIS.Chart - This information may be populated in NCIS.Chart depending on local workflows.
3. Check patient details:	
a. Check patient demographics (age, height and weight) have been correctly recorded on prescription, as appropriate	Patient Data Tab (fig 15) Patient Info Banner (fig 15) Medical Results Tab (fig 16) - Hover over medical results for details

Checking Item	Location in NCIS
4. Check administration details. This will include the following as appropriate/ relevant	
a. Checking there are no known drug interactions (including with food) or conflicts with patient allergies and other medication(s), where patient's existing medication history is available	Allergies - Patient Data Tab (fig 15) - Allergies to medications in the NCIS drug file can be recorded in NCIS.Med Interactions - NCIS.Chart - Regular medication may be populated in NCIS.Chart depending on local workflow. Note: There is no interaction checker in NCIS.
b. Checking the timing of administration is appropriate, i.e. interval since last treatment and/or start and stop dates for oral chemotherapy	Regimen Overview (fig 11) Cycle Details (fig 12)
c. Checking appropriate supportive care is prescribed	Cycle Details (fig 12) Medication Details (fig 13)
d. Checking method of administration is appropriate.	Cycle Details (fig 12) Medication Details (fig 13)
5. Check Calculations:	
a. Check all dose calculations and dose units are correct and have been calculated correctly according to the protocol and any other relevant local guidance, e.g. dose rounding / banding as appropriate. There should be a general maximum dose variation agreed locally and ideally this should be less than 5% (in circumstances were a variation of 5% is not a measurable dose, an agreed dose variation of 10% could be considered). If there is an agreed dose variation policy locally, any protocols where dose variation is prohibited must have this information explicitly detailed in that protocol.	Cycle Details (fig 12) Medication Details (fig 13) Pharmacist Verification Screen (fig 14) - Percentage deviation is change from the usual dose.
b. Check prescribed dose is in line with previous dose reductions	Cycle Details View (fig 12) - Easily move between cycles using the arrows in the top right of the screen  - If the dose differs by >5% from previous cycles a warning message will be presented when clicking Save in the Pharmacist Verification Screen
c. Check BSA is correctly calculated if needed for dose calculation. There should be local agreement for frequency of monitoring and checking patient's weight	Medical Results Tab (fig 16) - Hover over medical results for details
d. Check cumulative dose and maximum individual dose as appropriate	Cumulative Dose Tab (fig 17)
6. Check Laboratory Results as appropriate	

Checking Item	Location in NCIS
a. Check laboratory values - FBC, U&E's and LFT's are within accepted limits, if appropriate	Medical Results Tab (fig 16) - Where a laboratory interface has been implemented at your site 8 medical results will populate here (see NCIS Guide for Medical Results) - Hover over medical results for details
b. Check doses are appropriate with respect to renal and hepatic function and any experienced toxicities	Cycle Details View (fig 12) - Post medication comments list relevant dose reductions from NCCP National Regimens
c. Check other essential tests have been undertaken, if appropriate	NCIS.Chart - This information may be populated in NCIS.Chart depending on local workflow Regimen Overview (fig 11) - Pre regimen comments list baseline and regular tests required from NCCP National Regimens
7. For cyclical chemotherapy, no more than one cycle of medication will be issued at a time.	Achievable by Physician Verification of individual cycles
8. Sign and date prescription as a record of verification and/or issue of cancer medicines as appropriate.	Pharmacist Verification Screen (fig 14) - Clicking Save applies the PHARMACIST VERIFIED status to the medication

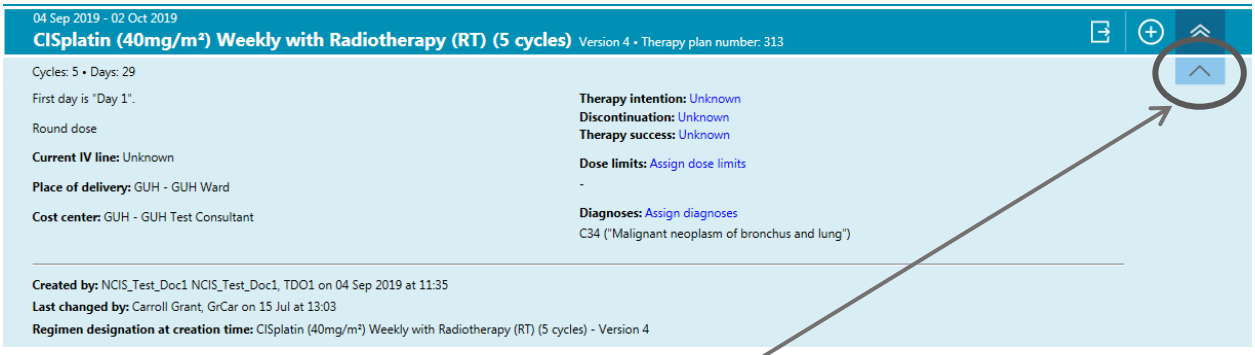

Figure 10: Therapy Plan Details Tab - *Click small blue arrow to display*

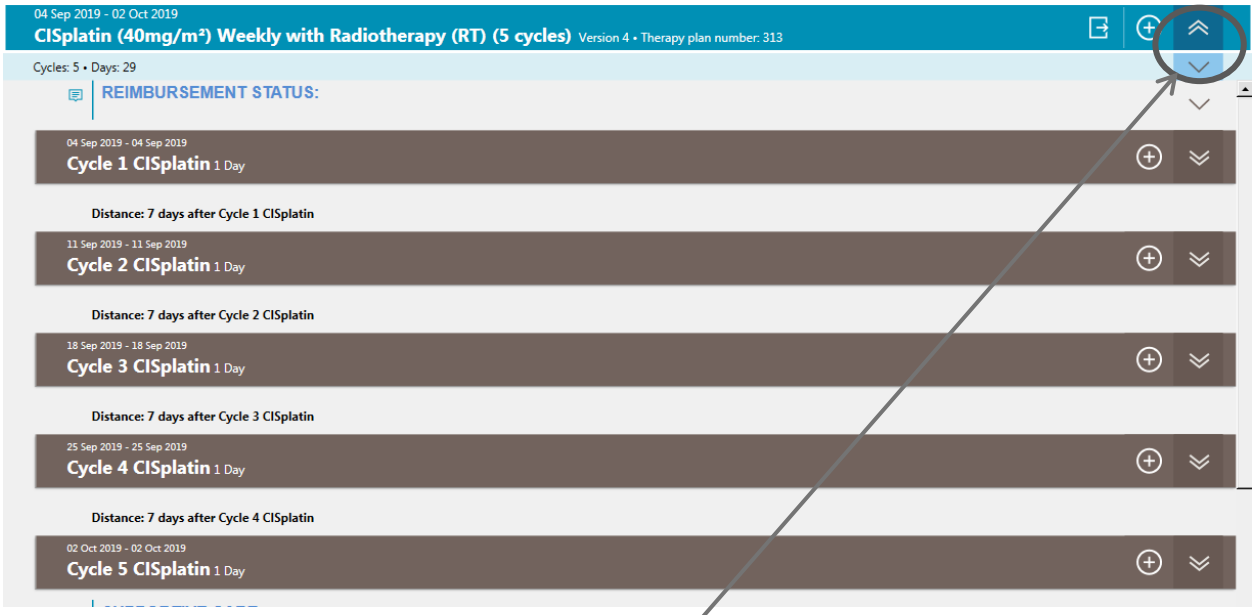

Figure 11: Regimen Overview - *Click blue double arrow to display*

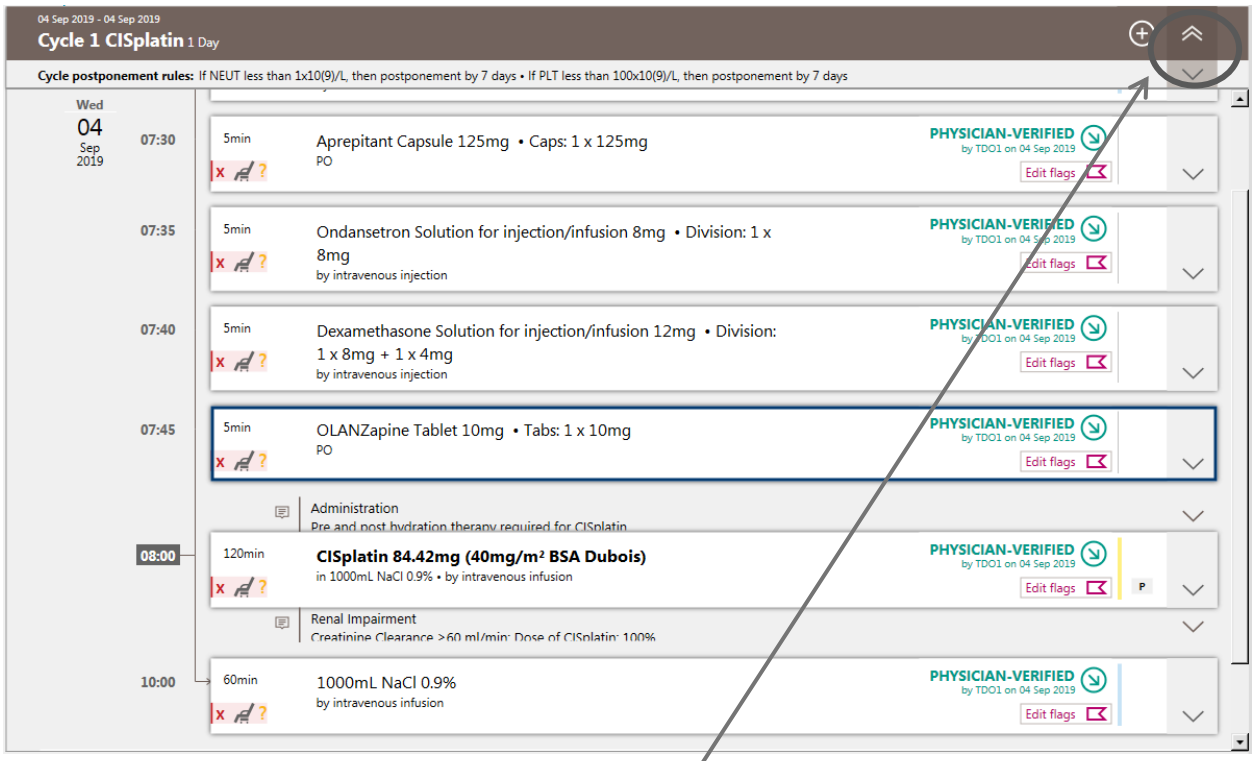

Figure 12: Cycle Details View - *Click brown double arrow to display*

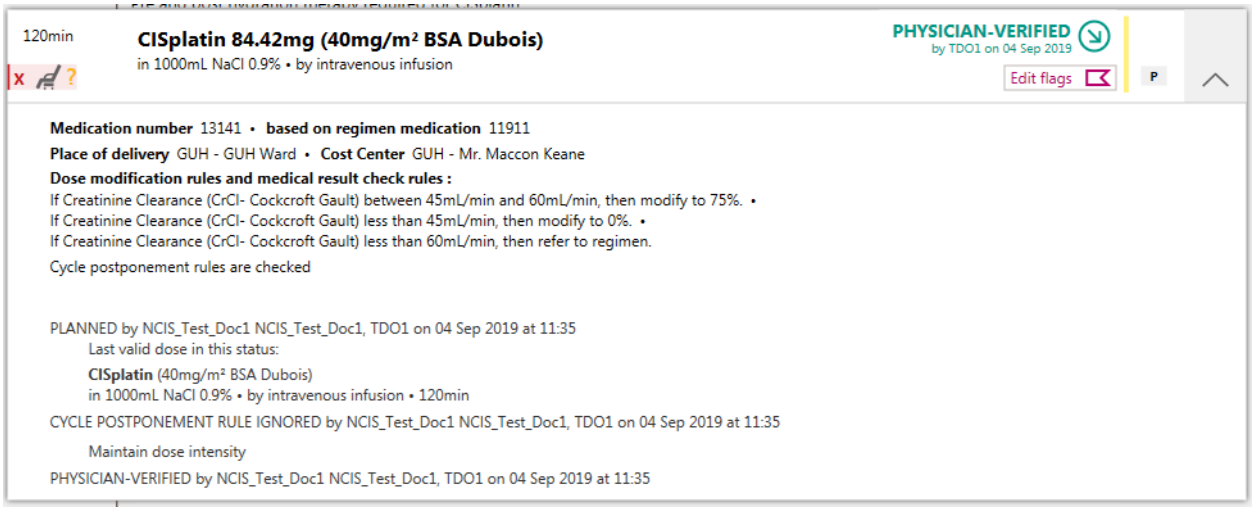

Figure 13: Medication Details View - *Click grey arrow to display*

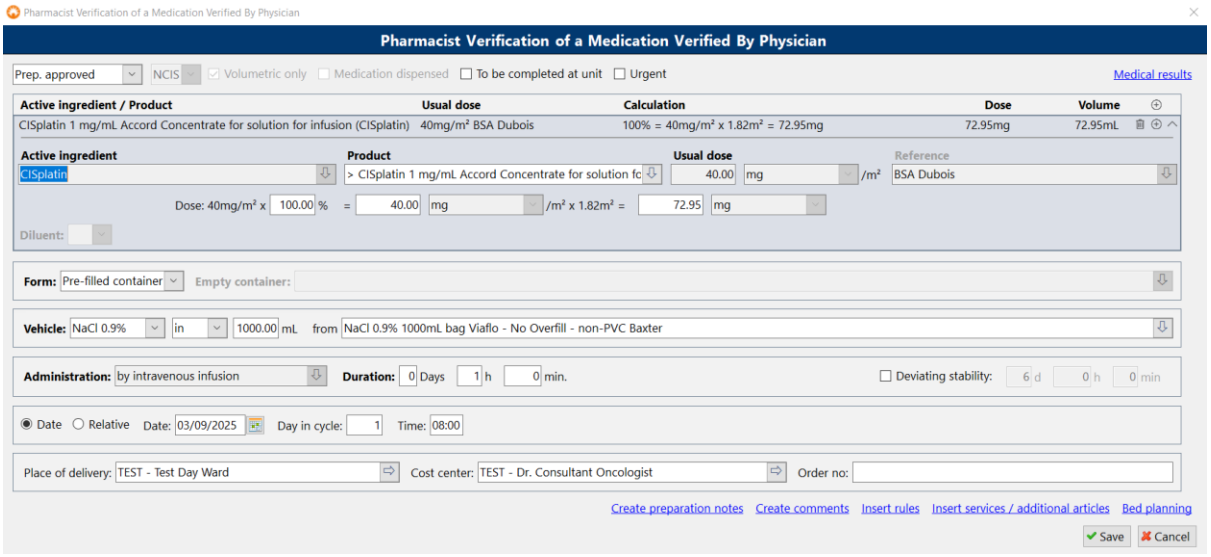

Figure 14: Pharmacist Verification

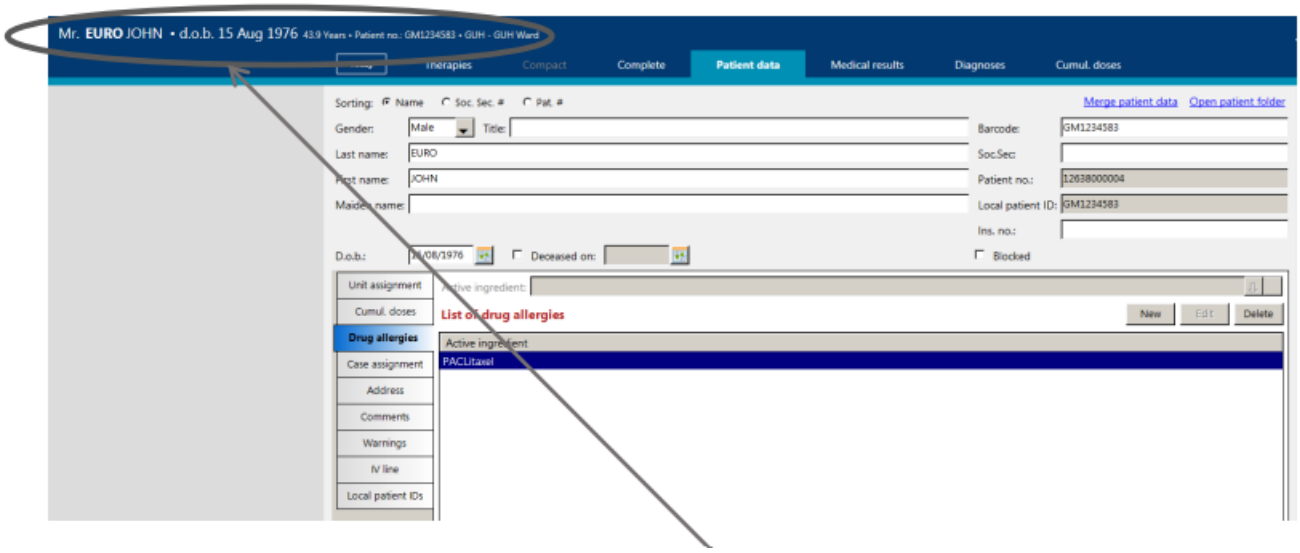

Figure 15: Patient Data Tab showing Drug Allergies and Patient Info Banner (patient info banner visible at all times)

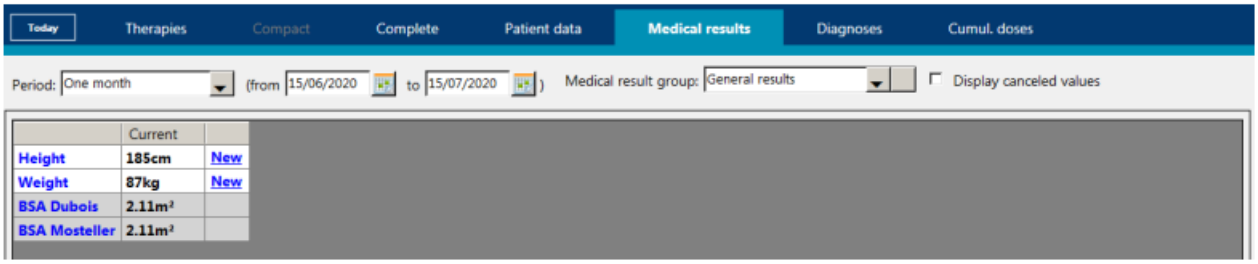

Figure 16: Medical Results Tab

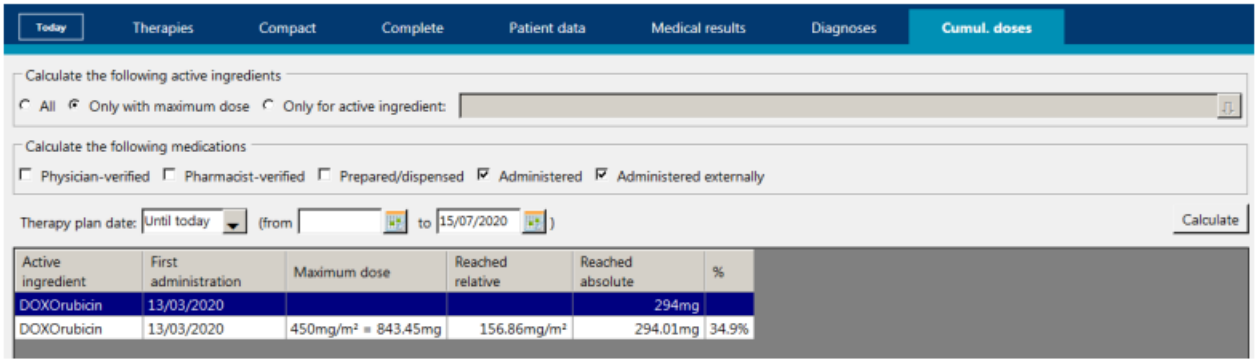

Figure 17: Cumulative Dose Tab