

Electronic Supplementary

Performance and risks of ChatGPT used in drug information – An exploratory real world analysis

Benedict Morath, Ute Chiriac, Elena Jaszowski, Carolin Deiß, Hannah Nürnberg, Katrin Hoerth, Torsten Hoppe-Tichy, Kim Green

Tab. S1: Questions entered in ChatGPT, associated answers and references

Answer Category	Question to ChatGPT	Answer of ChatGPT	C	M	R
I	What is the labelled standard dose of apixaban in atrial fibrillation?	The labeled standard dose of apixaban in a patient with CrCl of 20 mL/min and atrial fibrillation is 2.5 mg twice daily. In patients with moderate renal impairment, a lower dose of apixaban is recommended to reduce the risk of bleeding. It's important to note that this dose should be used with caution and under close monitoring, as the safety and efficacy of apixaban have not been established in patients with CrCl below 15 mL/min. It's always important to consult with a healthcare provider to determine the appropriate dose for an individual patient.	●	●	●
	Answer: The recommended and labelled dose is 5 mg twice daily. [1]				
I	Which antibiotic can be administered in a patient with reported penicillin allergy and nosocomial pneumonia? The allergy occurred 7 years ago and showed a rash on the whole body 7 days after amoxicillin intake.	In a patient with a reported penicillin allergy and nosocomial pneumonia, an antibiotic that can be administered is vancomycin. This antibiotic is not a beta-lactam antibiotic, which includes penicillins and cephalosporins, and is therefore not likely to cause a reaction in a patient with a reported penicillin allergy. However, it is important to note that before any antibiotic is administered, the patient's medical history should be thoroughly reviewed to	●	●	●

		confirm the diagnosis of pneumonia and determine the most appropriate treatment. Additionally, the treating clinician should be made aware of the patient's reported allergy			
	Answer: Ceftazidime can be prescribed. The possibility of penicillin allergy delabeling should be evaluated [2-4].				
I	What is the labelled standard dose of apixaban in a patient with CrCl 20 mL/min and atrial fibrillation?	The labeled standard dose of apixaban for the treatment of atrial fibrillation is 5 mg twice daily. However, in certain patient populations (such as those over the age of 80 or with a body weight of less than 60 kg), a lower dose of 2.5 mg twice daily may be recommended. It's always important to consult with a healthcare provider to determine the appropriate dose for an individual patient.	●	●	●
	Answer: The recommended and labelled dose is 2.5 mg twice daily [1].				
I	Can a patient who reacted with rash to penicillin in the past be treated with cephalosporins?	Patients who have had a rash reaction to penicillins in the past may be at risk of cross-reactivity with cephalosporins. Cephalosporins are a class of antibiotics that are structurally related to penicillins and share some of the same side chains. This structural similarity may cause an allergic reaction in some patients who are allergic to penicillins. However, most patients who are allergic to penicillins will tolerate cephalosporins with no problems. The risk of cross-reactivity between penicillins and cephalosporins is estimated to be about 10 % and varies depending on the type of cephalosporin. The risk of cross-reactivity is lower with the later generation cephalosporins such as cefepime, cefotaxime and ceftriaxone. It is always recommended to consult with the patient's physician or the pharmacist for further guidance. The physician may consider performing a skin test or a desensitization protocol before administering cephalosporins to a patient with a history of penicillin allergy. Also, they may consider alternative antibiotics that don't have cross-reactivity with penicillins.	●	●	●
	Answer: A thorough allergy history should be taken. Delabeling should be checked according to PEN-FAST. Cephalosporins can be administered depending on allergy history [2-5].				
I	What is the common starting dose valsartan/sacubitril?	The common starting dose of valsartan/sacubitril is 49/51 mg once daily. It can be increased to 97/103 mg once daily if necessary. It is important to note that the starting dose and dosing schedule should be determined by a healthcare professional based on the patient's specific medical needs and condition.	●	●	●
	Answer: Patients who took low doses of ACE or ARB-inhibitors should start with 24/26 mg. Patients with moderate to high doses of ACE or ARB-inhibitors should start with 49/51mg [6, 7].				

I	How should ciprofloxacin be dosed in a patient with eGFR 27 mL/min and <i>Enterobacter cloacae</i> in the sternal wound?	The recommended dosage of ciprofloxacin in patients with a creatinine clearance (CrCl) of 27 mL/min is 250-500 mg every 12-24 hours. However, it is important to note that ciprofloxacin is not recommended for patients with a CrCl <30 mL/min and use of ciprofloxacin in patients with a CrCl of 27 mL/min is not a FDA approved indication. Additionally, the choice of antibiotic should be made based on the specific species of the infecting organism and the results of antibiotic susceptibility testing. Therefore, it is essential to consult with a qualified healthcare professional to determine the most appropriate dosage and treatment plan for the patient in question.	●	●	●
Answer: Dosage need to be adjusted to 500 mg once daily [8, 9].					
I	What is the recommended initial dose of vancomycin for an 80 kg patient?	The recommended initial dose of vancomycin for an 80 kg patient is 1,200 mg. The dosage of vancomycin is based on weight and is typically given as 15-20 mg/kg, with a usual range of 1,000-2,000 mg per dose. For an 80 kg patient, the initial dose would be calculated as follows: 80 kg x 15 mg/kg = 1,200 mg. It is important to note that the initial dose and subsequent doses may be adjusted based on the patient's kidney function and trough serum levels, as vancomycin is eliminated primarily by the kidneys. It's also important to monitor for signs of toxicity. It's always recommended to consult with the patient's physician or the pharmacist for further guidance.	●	●	●
Answer: The recommended initial dose is 1500 mg [10, 11].					
I	Should the caspofungin dose be adjusted in a patient with bilirubin of 17 mg/dL, AST of 400 U/L and ALT of 100 U/L?	It is not recommended to adjust the dose of caspofungin in a patient with bilirubin of 17 mg/dL, AST of 400 U/L, and ALT of 100 U/L based on these laboratory values alone. These values may indicate liver dysfunction, but more information is needed to determine if the patient's liver function is impaired to a level that would require dose adjustment. Additionally, caspofungin is primarily metabolized by the liver and kidney, and it is not known if the patient's liver dysfunction is severe enough to affect the metabolism of the drug. It is recommended to consult with the patient's physician or the pharmacist for further guidance	●	●	●
Answer: No dosage adjustment is necessary or recommended [12].					
I	What is the imipenem dose for a 6-year old patient with meningitis and multiple brain abscesses?	The recommended dose of imipenem for a 6-year-old patient with meningitis and multiple brain abscesses is not well established. In fact, Imipenem is not recommended for the treatment of meningitis or brain abscesses. Meningitis and brain abscesses are serious	●	●	●

		conditions that require prompt diagnosis and treatment. The treatment typically involves a combination of antibiotics and surgical intervention, and should be directed by an expert in infectious disease and neurosurgery. The choice of antibiotics and the dosage should be based on the susceptibility patterns of the causative organism, the patient's age, weight and renal function. It is important to work closely with a healthcare provider to determine the appropriate treatment plan for a child with meningitis and brain abscesses.			
	Answer: The recommended dose is 100 mg/kg per day in 4 doses [13, 14].				
I	Can rilpivirine be taken with a proton pump inhibitor in a HIV patient on Dolutegravir and rilpivirine with concomitant gastro intestinal bleeding?	Rilpivirine is an antiretroviral medication used to treat HIV-1 infection. It is often used in combination with other medications. Proton pump inhibitors (PPIs) are commonly used to reduce stomach acid and treat conditions such as acid reflux and ulcers. In general, it is safe to take rilpivirine with a PPI. However, there may be an increased risk of gastrointestinal bleeding in patients taking both medications, especially in patients who have a history of gastrointestinal bleeding or are taking other medications that increase the risk of bleeding. It is important to consult with a healthcare provider to determine the most appropriate treatment plan for a specific patient. They will take into account the patient's medical history, current medications, and potential risks and benefits of taking rilpivirine and a PPI together.	●	●	●
	Answer: Concomitant use is contraindicated [15].				
I	When should empagliflozin be paused before surgery?	Empagliflozin is a medication that belongs to a class of drugs called sodium-glucose cotransporter 2 inhibitors (SGLT2 inhibitors) and it is used to improve glycemic control in patients with type 2 diabetes. It is recommended to pause the use of empagliflozin prior to any major surgery or in case of an upcoming hospitalization, at least 48 hours before the procedure. This is because empagliflozin can increase the risk of ketoacidosis, a potentially life-threatening condition in which the body produces high levels of blood acids called ketones, and it can also increase the risk of dehydration and kidney failure in patients who are dehydrated or have poor kidney function. It is important to have a conversation with the patient's healthcare professional and the surgeon to discuss the management of blood sugar before, during and after the surgery. They will take into consideration the patient's specific medical history and the type of surgery being performed, and will determine the best course of action. It is also important to mention that after the surgery, patients should have their	●	●	●

		glucose levels closely monitored, and if needed, the healthcare professional will adjust the diabetes treatment.			
Answer: Empagliflozin should be paused at least 48 h prior to surgery [16, 17].					
I	When should cotrimoxazole/trimethoprim be adjusted to the renal function?	Cotrimoxazole (also known as trimethoprim-sulfamethoxazole) is a combination antibiotic that is used to treat a variety of bacterial infections. It is commonly used to treat urinary tract infections, respiratory tract infections, and skin infections. The dose of cotrimoxazole should be adjusted based on a patient's renal function, as the medication is primarily eliminated through the kidneys. A patient with decreased renal function may not be able to clear the medication as effectively, which can lead to a buildup of the drug in the bloodstream and an increased risk of side effects. Patients with a creatinine clearance of 30-60 mL/min, a dose reduction of 50% should be applied. Creatinine clearance lower than 30 mL/min the use of cotrimoxazole is contraindicated. It is important to note that creatinine clearance is not the only factor that should be considered when adjusting the dose of cotrimoxazole. Other factors such as age, weight, underlying medical conditions, and concomitant medications should also be taken into account. A healthcare professional should be consulted for specific dosing recommendations and adjustments based on renal function.	●	●	●
Answer: The dose should be adjusted under an eGFR < 30 mL/min [9, 18].					
I	How can olmesartan 20 mg be converted to irbesartan?	Olmesartan and irbesartan are both medications that belong to a class of drugs called angiotensin II receptor blockers (ARBs), which are used to lower blood pressure and improve kidney function. They work by blocking the action of a hormone called angiotensin II, which causes blood vessels to constrict and blood pressure to rise. The equivalent dose of irbesartan to olmesartan can vary depending on the individual patient and their response to the medication. However, in general, a dose of irbesartan 150-300 mg is considered equivalent to a dose of olmesartan 20 mg. It's important to note that the appropriate dose of a medication should be determined by a healthcare professional and may be adjusted based on the patient's response and tolerance to the medication. Also, the conversion of one ARB to another should be done under the guidance of a healthcare professional as it may have potential adverse effect and interactions. It's worth to mention that the conversion ratio is	●	●	●

		not fixed and may vary depending on the patient's individual response and other factors such as age, underlying medical conditions, and concomitant medications.			
I	Answer: Olmesartan 20 mg is equivalent to 150 mg irbesartan [19].				
I	When can dabigatran be restarted after rifampicin therapy?	Dabigatran, a direct thrombin inhibitor, should not be restarted until at least 5 half-lives (or 24 hours) after the last dose of rifampin, a potent inducer of liver enzymes, has been administered. This is because rifampin can significantly decrease the plasma concentrations of dabigatran and reduce its therapeutic effect. It is important to consult with a healthcare provider for specific recommendations regarding the restarting of dabigatran in a particular patient, as the timing may vary depending on the individual's medical history and other factors.	●	●	●
	Answer: Enzyme induction can persist for 14-21 days. However, according to the dabigatran SmPC, dabigatran can be restarted 7 days after the end of rifampicin therapy [20].				
I	What is the dose of atorvastatin that is equivalent to simvastatin 40mg?	The equivalent dose of simvastatin 40 mg in atorvastatin is approximately 10 mg. However, this is just a rough approximation and the appropriate dose may vary depending on the individual patient's needs and response to the medication. It is important to consult a healthcare professional for personalized dosing recommendations.	●	●	●
	Answer: The equivalent dose is Atorvastatin 20 mg. Subsequently, evaluate dosage adjustments to reach target LDL-values [21, 22].				
I	What is the maximum recommended daily dose of diclofenac?	The maximum recommended daily dose of diclofenac varies depending on the formulation and indication. For oral diclofenac, the recommended maximum daily dose is 100-150 mg/day for adults. For diclofenac topical gel, the recommended maximum daily dose is 32 g/day for adults. For diclofenac suppositories, the recommended maximum daily dose is 100-150 mg/day for adults. It is important to note that these doses should not be exceeded and that diclofenac should be used at the lowest effective dose for the shortest duration necessary to control symptoms. It is also important to consult a healthcare professional before taking diclofenac or any other medication.	●	●	●
	Answer: The recommended maximum daily dose for adults is 150 mg [23].				
I	How should vancomycin be dosed in a patient (83 kg) with meningitis and a eGFR 20 mL/min?	Vancomycin should be dosed based on the patient's creatinine clearance (CrCl) and weight. The recommended dosing for a patient with a creatinine clearance of 20 mL/min and a weight of 83 kg is to start with a loading dose of 25-30 mg/kg, followed by a maintenance dose of 15-	●	●	●

		20 mg/kg every 24 hours. It is important to monitor the patient's serum vancomycin levels and adjust the dosing accordingly to maintain therapeutic levels. Additionally, it is recommended to monitor the patient's renal function, electrolyte levels and hearing. Due to the risk of nephrotoxicity and ototoxicity, close monitoring and dose adjustments are necessary in this patient population.			
	Answer: The targeted AUC should be around 600 mg/L*h. Start with a loading dose of 1500 mg and maintenance dosing of 750 mg every 24 h. Adjust the dose to trough levels and evaluate continuous dosing [10, 11].				
I	How should caspofungin be diluted prior to infusion?	Caspofungin should be diluted prior to infusion by adding the appropriate amount of caspofungin to a compatible infusion solution. The recommended diluent is 0.9% Sodium Chloride Injection or 5% Dextrose Injection. The final concentration of caspofungin in the infusion solution should be between 0.5 and 2 mg/mL. The diluted solution should be used within 24 hours when stored at room temperature or within 48 hours if refrigerated. It is important to use aseptic technique when preparing the diluted solution and to avoid freezing the solution.	●	●	●
	Answer: It can be diluted in sodium chloride 0.9 % or 5 % dextrose e.g. 100 mL [12].				
I	How long does it take until hemoglobin targets are reached under darbepoetin therapy?	The time it takes to reach hemoglobin targets under darbepoetin therapy can vary depending on individual factors such as the severity of anemia, the dosage and frequency of darbepoetin administration, and the underlying cause of anemia. However, in general, it may take several weeks to months to reach hemoglobin targets. According to the prescribing information for darbepoetin alfa, the recommended starting dose is 0.45 mcg/kg administered subcutaneously once every 4 weeks. Hemoglobin levels should be monitored regularly, and the dosage adjusted based on the patient's response. The goal of therapy is to achieve and maintain a hemoglobin level between 10 to 12 g/dL. In clinical studies, the time to reach hemoglobin targets varied depending on the starting hemoglobin level, the dose of darbepoetin, and the rate of increase in hemoglobin levels. In some patients, hemoglobin levels increased rapidly within 4 weeks of starting therapy, while in others, it took several months to reach the target range. It is important to note that the use of darbepoetin therapy should be individualized and guided by the treating physician based on the patient's response to treatment and their overall health status.	●	●	●

	Answer: The duration to response differs from underlying cause, dose, and from patient to patient. Regularly it might take from 4-6 weeks [24].				
I	Is there an interaction between apixaban and nirmatrelvir/ritonavir [Paxlovid®]?	I couldn't find any evidence of a significant interaction between apixaban and Paxlovid. However, it's always best to consult with your healthcare provider or pharmacist before taking any new medications or combinations of medications to ensure that they are safe and appropriate for you. They will have access to the most up-to-date information and will be able to advise you on any potential interactions or side effects.	●	●	●
	Answer: The concomitant use should be avoided. There is a risk of an apixaban AUC increase of 50 % [1].				
I	What is the maximum daily dose of amlodipine?	The maximum recommended daily dose of amlodipine (Norvasc) is 10 mg per day. However, the specific dosage and duration of treatment will depend on the individual patient and the condition being treated. It is important to follow the instructions provided by a healthcare professional when taking amlodipine, and not to exceed the recommended dosage. It is also important to note that amlodipine should not be abruptly discontinued as it can cause a sudden increase in blood pressure, it should be gradually withdrawn under the direction of a healthcare professional.	●	●	●
	Answer: The maximum daily dose is 10 mg [25].				
I	What is the standard dose of carbamazepine for trigeminal neuralgia?	The standard starting dose of carbamazepine for treating trigeminal neuralgia is 200 mg twice daily, with a gradual increase up to a maintenance dose of 800-1200 mg/day. The dose should be titrated slowly and carefully to minimize the risk of side effects, such as drowsiness and dizziness. The target dose should be reached within 2-4 weeks. However, the dose may vary based on the patient's response to the medication and tolerance for side effects. It is important to note that blood levels of carbamazepine should be monitored regularly to ensure that the patient is receiving a therapeutic dose without toxicity. It's always recommended to consult with the patient's physician or the pharmacist for further guidance.	●	●	●
	Answer: Carbamazepine should be started with 200-400 mg daily [26, 27].				
I	Can 20 mg citalopram tablets [Cipramil®] be crushed and	Citalopram hydrobromide (Cipramil) is an oral medication and should not be crushed or dissolved before administering it via a gastric tube. Crushing or dissolving the tablets may alter the release and absorption of the medication, and could potentially lead to an overdose or	●	●	●

	administered over a gastric feeding tube?	other adverse effects. It is important to follow the instructions provided by the medication's manufacturer and the guidance of a healthcare professional when administering medication via a gastric tube.			
	Answer: Yes, can be crushed and administered over a gastric tube. Potentially there is an increased risk of gastrointestinal adverse events [28].				
I	Can oxycodone 10 mg capsules [Oxygesic®] be administered over a gastric feeding tube?	Oxygesic 10 mg is a tablet form of oxycodone which is an opioid pain medication. It is not indicated for administration via a gastric tube. Oxycodone tablet should be taken by mouth, with or without food, as directed by your doctor. If you have difficulty swallowing the tablet, you can crush it and mix it with water before drinking. However, there are other forms of oxycodone that can be administered via gastric tube such as oral liquid, oral soluble film, oral suspension and rectal suppositories. Therefore it's important to check the drug form before administering it via gastric tube. Also, always follow the instructions of your healthcare provider and the medication guide.	●	●	●
	Answer: Yes, the capsule can be opened and administered over a gastric feeding tube [29, 30].				
I	Is there a need to adjust bismuth quadruple therapy to the renal function?	Bismuth quadruple therapy is a treatment for Helicobacter pylori infection that typically includes a proton pump inhibitor, bismuth subsalicylate, tetracycline, and metronidazole. The dosage of the medications used in bismuth quadruple therapy may need to be adjusted in patients with renal impairment. This is because some of the medications used, such as metronidazole, are eliminated by the kidneys and may build up to toxic levels in patients with decreased renal function. Your healthcare provider may monitor your kidney function and adjust the dosage of the medications accordingly, or may choose alternative medications that are safer for you.	●	●	●
	Answer: There is no need for dosage adjustment, but use is contraindicated in severe renal impairment [9, 31].				
I	How should the vancomycin dose be adjusted in a 56 kg patient with catheter-related blood stream infection with a trough level of 25.6 mg/L? The current dose is 1000 mg q12h and eGFR 55,4 mL/min.	The vancomycin dose should be reduced if the trough level is above 20 mg/L to prevent toxicity. Close monitoring of trough levels should continue and dosing should be adjusted as needed to maintain levels between 10-15 mg/L. It is important to also evaluate the patient's renal function, as this can affect the elimination of vancomycin and may require further adjustments to the dosing regimen. It is always important to consult the prescribing	●	●	●

		information and consult with a healthcare professional experienced in the use of vancomycin before adjusting the dose.			
	Answer: The recommended dose is 500-750 mg every 12 h depending on subsequent through measurements [10, 11].				
I	What is the recommended dose of linezolid in a 6-year old patient with CNS infection?	The recommended dose of linezolid in a 6-year-old patient with a CNS infection is 10-12 mg/kg/day given orally or intravenously every 12 hours. This dose should be adjusted based on the patient's weight and the severity of the infection. It is important to consult a pediatrician or a pediatric infectious disease specialist for the appropriate dosing and monitoring of linezolid in a pediatric patient.	●	●	●
	Answer: The recommended daily dosage is 10 mg/kg every 8 h [13, 14].				
II	How should tobramycin be dosed in a patient with 190 kg on CVVHD?	The recommended dose of tobramycin in a patient on continuous venovenous hemofiltration (CVVHD) with a flow rate of 4 liters per hour (L/h) and a weight of 190 kg is 3-5 mg/kg/day. This can be administered as a once-daily or divided into two or three doses, depending on the patient's renal function and the presence of any other renal impairment factors. The tobramycin should be added to the replacement solution at a rate of 1-1.5mg/L, depending on the patient's renal function and the presence of any other renal impairment factors. The dose may need to be adjusted based on serum creatinine levels and the patient's response to treatment. It is important to monitor the patient's tobramycin levels and adjust the dosage as needed. It's important to note that, the use of antibiotics such as tobramycin and amikacin in CVVHD should be guided by the results of sensitivity testing of the organisms causing the infection, and it's essential to consult with a specialist and follow the hospital protocol.	●	●	●
	Answer: The adjusted body weight should be used to calculate the dose with 5 mg/kg. A through measurement after 48 h should be performed and tobramycin readministered when through is < 0.5 mg/L. If not, administration should be paused for additional 24 h [32, 33].				
II	In which cases is acyclovir prophylaxis recommended in patients with solid tumors?	Acyclovir prophylaxis, or the use of acyclovir to prevent herpes simplex virus (HSV) infections, is recommended in certain patients with solid tumors. These include: Patients who are undergoing bone marrow transplantation (BMT) or peripheral blood stem cell transplantation (PBSCT). Patients with hematologic malignancies, such as leukemia or lymphoma, who are	●	●	●

		<p>undergoing chemotherapy or radiation therapy. Patients with solid tumors who have undergone allogeneic stem cell transplantation. Patients with solid tumors who have a high risk of developing HSV infections, such as those with severely compromised immune systems due to cancer treatments or underlying disease acyclovir prophylaxis is typically given in the form of a daily oral or intravenous dose, starting at the time of transplantation or the initiation of immunosuppressive therapy and continuing for several weeks or months, depending on the patient's risk factors. It's always recommended to consult with the patient's physician or the pharmacist for further guidance.</p>			
	<p>Answer: Prophylaxis of HSV-1 or HSV-2 infections is not recommended in patients with solid tumors. In some patients with SCCHN that are treated with RCTx, prophylaxis might be considered [34].</p>				
II	<p>Which antibiotic therapy is recommended for endocarditis and penicillin allergy in <i>Staphylococcus aureus</i> endocarditis?</p>	<p>In patients with endocarditis caused by <i>Staphylococcus aureus</i> and a penicillin allergy, vancomycin is the recommended antibiotic therapy. Vancomycin is a glycopeptide antibiotic that is active against methicillin-susceptible and -resistant <i>Staphylococcus aureus</i>. The recommended dosage for vancomycin in the treatment of endocarditis is 15-20 mg/kg every 12 hours, administered intravenously. The duration of treatment for endocarditis caused by <i>Staphylococcus aureus</i> typically ranges from 4-6 weeks.</p> <p>It's important to note that vancomycin-resistant <i>Staphylococcus aureus</i> (VRSA) cases are rare but do exist, so it's always important to confirm the susceptibility of the bacteria to vancomycin. Also, there are other antibiotics such as linezolid, daptomycin or ceftaroline which can be used in case of vancomycin resistance, but it should be used under close supervision of the physician. It's always recommended to consult with the patient's physician or the pharmacist for further guidance.</p>	●	●	●
	<p>Answer: Depending on allergy history, ceftazolin or vancomycin can be started [35, 36].</p>				
II	<p>Which drug improves outcomes in patients with heart failure with preserved ejection fraction?</p>	<p>Heart failure with preserved ejection fraction (HFpEF) is a type of heart failure in which the heart muscle is able to pump blood out of the left ventricle with normal or near-normal efficiency (ejection fraction $\geq 50\%$), but the ventricle still becomes stiff, enlarged, and does not relax enough. Currently, there is no specific drug that has been proven to improve outcomes in patients with heart failure with preserved ejection fraction (HFpEF). However, some drugs</p>	●	●	●

		<p>have been studied and have been shown to have potential benefits in this population. Some medications that have been studied in patients with HFpEF include: Diuretics: to reduce fluid overload and reduce symptoms of congestion. ACE inhibitors and ARBs: to reduce afterload and improve cardiac function. Beta blockers: to reduce heart rate and decrease myocardial oxygen consumption. Mineralocorticoid receptor antagonists: to reduce the activity of the renin-angiotensin-aldosterone system, which can contribute to cardiac remodeling. However, it's worth mentioning that the management of HFpEF is complex and it is usually based on multiple therapeutic modalities, such as lifestyle modifications, management of comorbidities, and addressing the underlying pathophysiology of the disease. A multidisciplinary approach including a combination of medication therapy and lifestyle changes is usually recommended for the management of HFpEF.</p>			
	<p>Answer: No classic heart failure drug reduces mortality and morbidity in patients with preserved ejection fraction. But SGLT-2-inhibitors have shown to improve outcomes [6, 37].</p>				
<p>II</p>	<p>How is ceftazidime dosed at an eGFR of 14 mL/min?</p>	<p>The recommended dose of ceftazidime for patients with an eGFR of less than 14 mL/min is typically lower than the typical dosage for patients with normal renal function. The dosing guidelines for patients with renal impairment should be determined by a healthcare provider, taking into account the patient's eGFR, along with other factors such as the patient's weight and overall health status.</p> <p>A common dosing regimen for patients with an eGFR of <14 mL/min is a reduced dosing frequency, rather than a reduced dose of the drug itself. The usual adult dose of ceftazidime is 2 g every 8 hours, in patients with creatinine clearance less than 14 mL/min, it is suggested to be administered every 12-24 hours. However, this is still a general recommendation and it is important to consult with the healthcare provider for the specific dosing regimen.</p> <p>Additionally, close monitoring of the patient's renal function is typically recommended while they are receiving ceftazidime.</p>	<p>●</p>	<p>●</p>	<p>●</p>
	<p>Answer: The recommended dose is 1 g administered every 24 h prolonged over 3 h. Adjust dosage to trough with the aim of a through 16-32 mg/L to reach PTA 100 % [9, 38].</p>				

II	How should a catheter-related blood stream infection with <i>Staphylococcus epidermidis</i> be treated?	A catheter-related bloodstream infection (CRBSI) caused by <i>Staphylococcus epidermidis</i> should be treated with appropriate antibiotics. The choice of antibiotic will depend on the susceptibility of the specific strain of <i>Staphylococcus epidermidis</i> causing the infection, as well as the patient's overall health and any other medical conditions they may have. Vancomycin is often used as a first-line therapy for CRBSI caused by methicillin-sensitive <i>Staphylococcus aureus</i> (MSSA), which is the most common cause of CRBSI. Daptomycin, linezolid, and tigecycline are alternative options for the treatment of CRBSI caused by methicillin-resistant <i>Staphylococcus aureus</i> (MRSA) or vancomycin-resistant enterococci (VRE). Additionally, it is important to remove the infected catheter as soon as possible to prevent further spread of the infection and to prevent recurrence. It is important to note that treatment should be guided by the sensitivity test results and the clinical condition of the patient. It is also important to consult with an Infectious Disease specialist.	●	●	●
Answer: First-line options until differentiation of blood cultures are vancomycin and daptomycin [39].					
II	Which antibiotic is recommended for treatment of surgical site infections after spondylodesis?	The specific antibiotic recommended for a surgical site infection after spondylodesis will depend on the type of bacteria causing the infection and the individual patient's medical history and allergies. A culture of the infected tissue should be obtained to identify the specific type of bacteria and guide antibiotic selection. In general, a combination of a beta-lactam antibiotic (such as cefazolin or nafcillin) and a glycopeptide antibiotic (such as vancomycin) is often used as initial empirical therapy for surgical site infections. It is important to note that the recommendation for antibiotic prophylaxis should be individualized for each patient and based on the specific procedure, the patient's underlying medical condition and any known allergies. A consultation with an infectious disease specialist and/or the patient's surgeon is often recommended to make the best decision.	●	●	●
Answer: A first generation cephalosporin e.g. cefazolin can be used if there is a low risk of MRSA infection or infection with gram-negative bacteria [40, 41].					
II	How is tinzaparin therapeutically dosed in a patient on intermittent hemodialysis?	Tinzaparin, a low molecular weight heparin, is typically dosed once daily in patients on intermittent hemodialysis. The dosage is based on the patient's weight and is usually administered subcutaneously. The recommended dose for patients on hemodialysis is 175	●	●	●

		units/kg once daily. It's important to note that dosing and administration of Tinzaparin should be done under the guidance of a healthcare professional, as the dosage may need to be adjusted based on the patient's individual needs and response to treatment			
	Answer: Start with 175 I.U./kg and measure anti-Xa values, if anti-Xa levels are too high reduce dose to 125 I.U./kg [9, 42].				
II	Which antibiotics should be used in a patient with an ear infection due to <i>Pseudomonas aeruginosa</i> and <i>Streptococcus species</i> ?	The choice of antibiotics for an infection in the ear caused by both <i>Pseudomonas</i> and <i>Streptococcus</i> depends on the susceptibility of the causative organisms, as well as the severity of the infection and the overall health of the patient. For <i>Pseudomonas</i> infections, antibiotics such as ciprofloxacin, levofloxacin, imipenem, or meropenem may be used. For <i>Streptococcus</i> infections, antibiotics such as penicillin or amoxicillin may be appropriate. In some cases, a combination of antibiotics may be used. It is important to note that the specific antibiotics used for treatment may vary based on local antibiotic susceptibility patterns and the patient's specific circumstances, and a definitive answer can only be given by a healthcare professional after a thorough evaluation of the patient.	●	●	●
	Answer: Start with an increased dose of piperacillin+tazobactam 4,5 g every 6 h because of <i>Pseudomonas aeruginosa</i> [43, 44].				
II	How should aztreonam be dosed on a CVVHD with dialysis flow rate of 2 L/h?	The recommended dosage of aztreonam for continuous venovenous hemofiltration with a dialysis flow rate of 2 liters per hour is 1 to 2 grams every 12 hours. This should be administered as an intravenous infusion over a period of 30 minutes to 1 hour. The dosage may need to be adjusted based on the patient's kidney function, and the infection being treated. It is important to consult the prescribing information and to consult with a healthcare professional experienced in the use of this medication for guidance on appropriate dosing.	●	●	●
	Answer: Start with 1-2 g loading dose and follow-up with a maintenance dose of 1-2 g every 12 h [9, 45].				
III	What is the recommended initial dose of insulin glargine in a patient with steroid-induced diabetes?	The recommended initial dose of insulin glargine (Lantus) in a patient with steroid-induced diabetes is typically a low dose, starting at about 0.2 units/kg/day. This dose can then be adjusted based on the patient's glucose levels and response to treatment. It is important to closely monitor blood glucose levels and adjust the insulin dose as needed to achieve and maintain glucose control. The patient should be educated on the proper administration	●	●	●

		<p>technique and self-monitoring of blood glucose. It's also important to note that the use of steroids can affect glucose metabolism and can make it difficult to control blood sugar levels, so close monitoring and frequent adjustments to the insulin dose may be necessary. It is always recommended to consult with a healthcare professional experienced in the use of insulin before adjusting the dose.</p>			
		<p>Answer: The initial dose of neutral protamine hagedorn-insulin, insulin detemir, insulin glargine, or insulin degludec is 0.2 I.U. per kg (minimum 10 I.U., up to 15 to 20 I.U.) daily. Depending on fasting glucose levels and insulin resistance dosage can be higher, e.g. >250 mg/dL [13.9 mmol/L]), A1C is >8 %, or if a patient is known to be insulin resistant. Doses can be increased to 0.3 I.U. per kg or up to 15 to 20 I.U. daily as an initial dose in case of insulin resistance. Subsequent modifications should be made according to daily measurement of fasting glucose [46, 47].</p>			
III	<p>Which interactions can occur in a patient treated with nirmatrelvir/ritonavir [Paxlovid®], atorvastatin, trazodone, paroxetine, acetylic salicylic acid, and candesartan and how should these be managed?</p>	<p>Possible interactions between Paxlovid (nirmatrelvir/ritonavir), atorvastatin, trazodone, paroxetine, acetylic salicylic acid, candesartan, and include: trazodone may increase the risk of bleeding when taken with acetylic salicylic acid. Atorvastatin and acetylic salicylic acid may increase the risk of muscle damage when taken together. Candesartan and paroxetine may increase the risk of low blood pressure. Paroxetine and trazodone may increase the risk of serotonin syndrome, a potentially life-threatening condition caused by too much serotonin in the body. It is important to consult with a healthcare provider to manage these interactions. They may adjust the dosage or prescribe alternative medications to minimize potential risks. It is also important to inform the healthcare provider of all medications and supplements currently being taken, to help prevent potential interactions.</p>	●	●	●
		<p>Answer: For this combination several warnings are reported in established drug databases. Two severe (ritonavir+atorvastatin and trazodone+paroxetine) and five warnings with a moderate risk [48, 49].</p>			
IV	<p>How much vitamin K can be used to lower the INR to 2 in a LVAD patient before surgery currently with an INR of 3.5?</p>	<p>The appropriate dosage of Vitamin K to lower the INR to 2-3 in a LVAD patient before surgery with an INR of 3.5 would need to be determined by a medical professional, as it would depend on factors such as the patient's overall health and any other medications they may be taking. In general, doses of vitamin K to correct a high INR can range from 2.5 to 10 mg, and it is usually given intravenously. It's important to monitor the INR levels closely and adjust the dosage as needed.</p>	●	●	●

	Answer: The use of vitamin K in LVAD patients is not recommended because there is a risk of subtherapeutic INR. Either postpone surgery for one day if possible or if not possible, adjust INR by low dose of aPCC to achieve an INR of 2.0 [50].				
IV	Which painkiller should be used in a patient on lithium therapy?	Acetaminophen (Tylenol) is generally considered to be the safest painkiller for use in patients on lithium therapy. Non-steroidal anti-inflammatory drugs (NSAIDs) such as ibuprofen and naproxen should be avoided as they can interfere with the action of lithium and increase the risk of lithium toxicity. Aspirin should also be avoided as it can increase the risk of stomach bleeding. It is always best to consult with a healthcare provider before starting or stopping any medication, especially if the patient is on lithium therapy.	●	●	●
	Answer: Metamizole or paracetamol can be used in a patient on lithium therapy [51, 52].				
IV	What is the equivalent dose of glibenclamide and glimepiride?	Glibenclamide and glimepiride are both sulfonylurea medications used to lower blood sugar in people with type 2 diabetes. They work by stimulating the pancreas to produce more insulin. The equivalent dose of glibenclamide to glimepiride is not fixed, but it is roughly around 1:1 (1mg glibenclamide is roughly equivalent to 1mg glimepiride). However, the equivalent dose may vary for different individuals depending on their medical condition and response to the medication. It is always recommended to consult with your doctor or pharmacist before making any changes to your medication regimen.	●	●	●
	Answer: Based on a local guidance, we recommend a substitution of 1.75:1 for glibenclamide to glimepiride. Blood sugar should be regularly monitored [50].				
IV	What is the recommended dose of meropenem in pediatric patients with CRRT?	The recommended dose of meropenem in pediatric patients with continuous renal replacement therapy (CRRT) is 20-40 mg/kg/day, given as an intravenous infusion over 20-30 minutes. The exact dosage should be determined by a pediatrician or other qualified healthcare professional based on the individual patient's needs and medical condition. It's important to note that the dosing recommendations may vary depending on the type of CRRT being used and other factors, such as the patient's age, weight, and underlying health conditions.	●	●	●
	Answer: The recommended daily dosage is 20 mg/kg every 12 h. Adjusted from [13, 14, 53].				

IV	How is ceftolozane/tazobactam dosed in a patient with 198 kg?	The recommended dosage of ceftolozane/tazobactam for a patient with a weight of 198 kg is 3.375 g every 8 hours, administered intravenously. The dosage should be adjusted based on the patient's renal function and the severity of the infection. It is important to note that the maximum daily dose of ceftolozane/tazobactam should not exceed 6.75 g per day. It is always important to consult with a healthcare provider to determine the appropriate dosage for a specific patient.	●	●	●
	Answer: Due to septic state and high body weight, start with an increased dose of 3 g every 6 h (ceftolozane + tazobactam). Adjusted from [32, 54].				
IV	How should ceftazidime/avibactam be dosed on a CVVHD with dialysis flow rate of 2 L/h?	The recommended dosage for ceftazidime-avibactam in adult patients receiving continuous venovenous hemodialysis (CVVHD) with a dialysis flow rate of 2 L/h is 2.5 g of ceftazidime-avibactam every 8 hours. It is important to note that the dosing of ceftazidime-avibactam should be based on the patient's individual renal function and the susceptibility of the infecting organism. It is also important to consult with a healthcare professional for specific dosing and administration instructions as well as monitoring for adverse reactions.	●	●	●
	Answer: Ceftazidime/avibactam should be dosed 1/0.25 g every 8 h. Adjusted from [55, 56].				
IV	How is the conversion dose from 10 mg escitalopram oral to citalopram i.v.?	I'm sorry, but I am not aware of any established conversion dose from oral escitalopram to intravenous (IV) citalopram. It is generally not recommended to switch between different forms or routes of administration of a medication without the guidance of a healthcare professional. Additionally, escitalopram and citalopram are different medications with different mechanisms of action, and it would not be appropriate to convert between the two without first considering the specific needs and medical history of the patient.	●	●	●
	Answer: The dosage is citalopram 20 mg i.v. [50, 57].				
IV	How should enoxaparin be dosed in a 2 month old infant with recurrent thrombosis on dialysis?	The appropriate dosing of enoxaparin in a 2 month old infant with recurrent thrombosis on dialysis would need to be determined by a pediatric hematologist or pediatric nephrologist, as there are limited data on the use of enoxaparin in this population. Factors that would need to be considered include the infant's weight, renal function, and the underlying cause of the	●	●	●

		thrombosis. It is important to note that enoxaparin is not FDA approved for use in infants and should be used with caution.			
	Answer: If unfractionated heparin is not feasible, an enoxaparin starting dose of 1.3 mg/kg per day could be used. Dosage should be adjusted to anti-Xa measurements (target 0.5-1.0 IU/mL). Adjusted from [14, 58, 59].				
IV	Can ibrutinib be administered over a gastric feeding tube?	Ibrutinib can be administered orally (by mouth) as a capsule or tablet, or intravenously (through a vein) as a solution. It is not typically administered through a tube, but it is possible that it could be administered through a tube if a healthcare provider determined that it was the best method of administration for a particular patient. It is important to follow the specific instructions and guidelines provided by a healthcare provider regarding the administration of any medication.	●	●	●
	Answer: Yes, it can be suspended in water [60].				
IV	How should flucloxacillin be dosed in a patient with <i>Staphylococcus aureus</i> endocarditis on CVVH with dialysate flow rate of 3 L/h?	The recommended dosing regimen for flucloxacillin in a patient with <i>Staphylococcus aureus</i> endocarditis on continuous venovenous hemofiltration (CVVH) with a dialysate flow rate of 3 liters per hour (L/h) would depend on the patient's renal function, as well as the specific type of CVVH used. In general, the dose of flucloxacillin should be adjusted based on the patient's creatinine clearance (CrCl) and the dialysis flow rate. The American Society of Health-System Pharmacists (ASHP) recommends an initial loading dose of 24 to 32 grams per day, followed by a maintenance dose of 12 to 16 grams per day. The dose should be administered as a continuous infusion over 24 hours, with the loading dose being administered over the first 8 hours. The maintenance dose should be adjusted based on the patient's CrCl and the dialysis flow rate, with higher doses needed for patients with lower CrCl and higher dialysis flow rates. It is important to consult with a healthcare provider or a specialist in infectious disease and nephrology to determine the appropriate dosing regimen for a specific patient with <i>Staphylococcus aureus</i> endocarditis on CVVH with dialysate flow rate of 3 L/h.	●	●	●
	Answer: Flucloxacillin can be started with 2 g every 8 h. Blood cultures should be drawn and infection parameters closely monitored. Increased dose might be needed in case of low albumin. Adjusted from [9, 56]				

Legend:
Content: ●: Complete | ●: Incomplete/Inconsistent | ●: False/Not applicable
Patient management: ●: Possible | ●: Insufficient | ●: Not possible
Risk: ●: No risk of patient harm | ●: Low risk of patient harm | ●: High risk of patient harm

Abbreviations: **ACE:** Angiotensin-converting-enzyme | **ALT:** Alanine transaminase | **aPCC:** Activated prothrombin complex | **ARB:** Angiotensin-receptor-blocker | **AST:** Aspartate transaminase | **AUC:** Area under the curve | **BMT:** Bone marrow transplantation | **C:** Content | **CNS:** Central nervous system | **CRBSI:** Catheter related blood stream infection | **CrCl:** Creatinine clearance | **CRRT:** Continuous renal replacement therapy | **CVVH:** Continuous veno-venous hemofiltration | **CVVHD:** Continuous veno-venous hemodialysis | **FDA:** Food and drug administration | **eGFR:** Estimated glomerular filtration rate | **HIV:** Human immunodeficiency viruses | **HFpEF:** Heart failure with preserved ejection fraction | **HSV:** Herpes simplex | **INR:** International normalized ratio | **I.U.:** International unit | **i.v.:** Intravenous | **LDL:** Low density lipoprotein | **LVAD:** Left ventricular assist device | **M:** Patient management | **MRSA:** Methicillin resistant *Staphylococcus aureus* | **MSSA:** Methicillin sensible *Staphylococcus aureus* | **NSAID:** Non-steroidal anti-inflammatory drug | **PBSCT:** Peripheral blood stem cell transplantation | **PPI:** Proton pump inhibitor | **PTA:** Probability of target attainment | **R:** Risk | **RCTx:** Radiochemotherapy | **SCCHN:** Squamous cell cancer of head and neck | **SGLT2:** Sodium-glucose transporter 2 | **SmPC:** Summary of product characteristics | **U:** Unit | **VRE:** Vancomycin resistant *Enterococcus faecium* | **VRSA:** Vancomycin resistant *Staphylococcus aureus*

Tab. S2: Variance in ChatGPT answers over time.

		Rating
Question I	What is the recommended initial dose of insulin glargine in a patient with steroid-induced diabetes and a body-weight of 65 kg, and blood glucose measurements of 500 mg/dL?	
Answer ChatGPT	The recommended initial dose of insulin glargine in a patient with steroid-induced diabetes and a body weight of 65 kg and blood glucose measurements of 500 mg/dL would likely be around 0.2 units/kg/day, which would be a total of 13 units/day. However, it's important to note that the exact dosage should be determined by a healthcare professional and tailored to the	N/A

day 1	individual patient's needs and response to treatment. Regular blood glucose monitoring and adjustments to the insulin dosage may be necessary to achieve and maintain optimal blood sugar control.	
Answer ChatGPT day 2	The recommended initial dose of insulin glargine (Lantus) in a patient with steroid-induced diabetes and a body weight of 65 kg, and blood glucose measurements of 500 mg/dL, would typically be 0.1 units/kg/day or 6.5 units once daily. It's important to note that this is a starting dose, and your healthcare provider may adjust the dose based on blood sugar levels, response to treatment and other factors. It's also important to monitor blood sugar regularly and report any changes to your healthcare provider.	●
Answer ChatGPT week 2	The recommended initial dose of insulin glargine for a patient with steroid-induced diabetes and a body weight of 65 kg, and blood glucose measurements of 500 mg/dL would be 0.1-0.2 units/kg/day. The patient should have a fasting blood glucose measurement before taking insulin, and the dose should be adjusted based on the patient's response. The patient should also be closely monitored for hypoglycemia and signs of diabetic ketoacidosis.	●
Answer ChatGPT week 3	The initial dose of insulin glargine for a patient with steroid-induced diabetes and a body weight of 65 kg, and blood glucose measurements of 500 mg/dL is typically 0.5 to 1 unit per kilogram of body weight per day, or 32.5 to 65 units per day. However, the exact dose will depend on several factors such as the patient's blood glucose levels, overall health, and concurrent medications. It is important to consult with a healthcare provider to determine the appropriate insulin dose and regimen	●
Question II	What is the dosing weight for aminoglycosides in a patient with a body weight of 190 kg and a height of 165 cm?	
Answer ChatGPT day 1	The dosing weight for aminoglycosides in a patient with a body weight of 190 kg and a height of 165 cm would typically be calculated using the patient's ideal body weight (IBW). The most commonly used formulas for calculating IBW are the Devine formula for males ($IBW = 50 + 2.3(\text{height (in)} - 60)$) and the Robinson formula for females ($IBW = 45.5 + 2.3(\text{height (in)} - 60)$). Since we don't know the gender of this patient, we would use the Devine formula. $165 \text{ cm} = 64.96 \text{ inches}$, $IBW = 50 + 2.3(64.96 - 60) = 72.986 \text{ kg}$. Aminoglycosides are typically dosed based on the patient's ideal body weight (IBW) rather than their actual body weight. So, the patient would be dosed as if they were 72.986 kg	N/A
Answer ChatGPT day 2	The dosing weight for aminoglycosides in patients with a body weight of 190 kg and a height of 165 cm is typically calculated using an adjusted body weight (ABW) formula, which takes into account both weight and height. One commonly used formula is: $ABW = (0.4 \times (\text{height in cm} - 152)) + 50$ For a patient with a height of 165 cm, this would give an adjusted body weight of:	●

	<p>$ABW = (0.4 \times (165 - 152)) + 50 = 77 + 50 = 127 \text{ kg}$</p> <p>So, for a patient with a body weight of 190 kg and an ABW of 127 kg, the dosing weight would be based on the ABW of 127 kg. However, it's important to note that this is just one of the formulas to calculate ABW and it may vary depending on the hospital or institution.</p> <p>It's important to consult with a healthcare professional for specific dosing recommendations, as the aminoglycoside dosing can also be affected by other factors such as renal function, age, and underlying medical conditions.</p>	
<p>Answer ChatGPT week 2</p>	<p>The dosing weight for aminoglycosides in patients is typically based on their ideal body weight (IBW) rather than their actual body weight. To calculate the IBW for a patient with a height of 165 cm, the following formula can be used:</p> <p>$IBW \text{ (kg)} = [\text{height (cm)} - 100] \times 0.9$</p> <p>For a patient with a height of 165 cm, the IBW would be:</p> <p>$[165 - 100] \times 0.9 = 65 \text{ kg}$</p> <p>Therefore, the dosing weight for aminoglycosides in a patient with a body weight of 190 kg and a height of 165 cm would be 65 kg. However, it's important to note that this is a rough estimate and other factors such as obesity, muscle mass, and renal function may also need to be taken into account when determining the appropriate dosing for aminoglycosides. Always consult with a healthcare professional before administering any medication.</p>	●
<p>Answer ChatGPT week 3</p>	<p>The dosing weight for aminoglycosides, such as gentamicin, is typically adjusted based on the patient's ideal body weight (IBW) rather than their actual body weight. The IBW can be estimated using various formulas, but a commonly used one is the Devine formula:</p> <p>$IBW \text{ (kg)} = 50 + 2.3 \text{ kg/inch} \times (\text{height in inches} - 60)$</p> <p>For a patient with a height of 165 cm (5 ft 5 in), the formula would be:</p> <p>$IBW \text{ (kg)} = 50 + 2.3 \text{ kg/inch} \times (65 - 60) = 50 + 2.3 \times 5 = 60 \text{ kg}$</p> <p>Since the patient's actual body weight is 190 kg, which is greater than the calculated IBW, a larger dosing weight may be used to account for their excess weight. However, the exact method for adjusting the dosing weight can vary, and the appropriate dosing weight should be determined in consultation with a healthcare provider. Additionally, aminoglycoside dosing should always be individualized and take into account factors such as the patient's age, renal function, and concurrent medications.</p>	●
<p>Question III</p>	<p>What is the equivalence dose of simvastatin 40 mg in atorvastatin?</p>	

Answer ChatGPT day 1	The equivalent dose of simvastatin 40 mg in atorvastatin is approximately 10 mg. However, this is just a rough approximation and the appropriate dose may vary depending on the individual patient's needs and response to the medication. It is important to consult a healthcare professional for personalized dosing recommendations.	N/A
Answer ChatGPT day 2	Simvastatin and atorvastatin are both statin medications that are used to lower cholesterol levels. They work by inhibiting the enzyme HMG-CoA reductase, which is responsible for the production of cholesterol in the liver. The equivalent dose of simvastatin to atorvastatin can vary depending on the individual patient and their response to the medication. However, in general, a dose of atorvastatin 20-40 mg is considered equivalent to a dose of simvastatin 40 mg. It's important to note that the appropriate dose of a medication should be determined by a healthcare professional and may be adjusted based on the patient's response and tolerance to the medication. Also, the conversion of one statin to another should be done under the guidance of a healthcare professional as it may have potential adverse effect and interactions.	●
Answer ChatGPT week 2	The equivalent dose of simvastatin 40 mg in atorvastatin is approximately 10 mg. However, it is important to note that this is an approximate conversion and the appropriate dose may vary depending on individual factors such as medical history and response to treatment. It is always best to consult with a healthcare professional before making any changes to a medication regimen.	●
Answer ChatGPT week 3	The equivalent dose of simvastatin 40 mg in atorvastatin is approximately 10 mg. However, the exact equivalent dose may vary depending on a number of factors such as individual patient characteristics and medical history, and should be determined by a healthcare provider. It is important to note that converting from one statin to another should be done under the supervision of a healthcare provider.	●
	Legend: ABW: Adjusted body weight HMG-CoA: 3-hydroxy-3-methyl-glutaryl-coenzyme A IBW: Ideal body weight ●: Answer varies, no reproducibility. ●: Answer is identical with first answer.	

REFERENCES

1. Bristol Myers Squibb. Summary of product characteristics Eliquis 5,0 mg Tablets. State 02/2022.
2. Trubiano JA, Vogrin S, Chua KYL, et al. Development and validation of a penicillin allergy clinical decision rule. JAMA Intern Med. 2020;180(5):745-52.
3. Picard M, Robitaille G, Karam F, et al. Cross-Reactivity to cephalosporins and carbapenems in penicillin-allergic patients: Two systematic reviews and meta-analyses. J Allergy Clin Immunol Pract. 2019;7(8):2722-38 e5.

4. Mayo Clinic. Penicillin allergy [online]. 2023. <https://www.mayoclinic.org/diseases-conditions/penicillin-allergy/symptoms-causes/syc-20376222> [Last access: 21.02.2023].
5. Chaudhry SB, Veve MP, Wagner JL. Cephalosporins: A Focus on side chains and beta-lactam cross-reactivity. *Pharmacy (Basel)*. 2019;7(3).
6. McDonagh TA, Metra M, Adamo M, et al. 2021 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure. *Eur Heart J*. 2021;42(36):3599-726.
7. Novartis. Summary of product characteristics Entresto 24 mg/26 mg State 05/2021.
8. Bayer. Summary of product characteristics Ciprobay 500 mg State 01/2022.
9. Ashley C, Dunleavy A. *The Renal Drug Handbook The Ultimate Prescribing Guide for Renal Practitioners*, 5th Edition. 5 ed. Milton: CRC Press LLC; 2018.
10. Rybak MJ, Le J, Lodise TP, et al. Therapeutic monitoring of vancomycin for serious methicillin-resistant *Staphylococcus aureus* infections: A revised consensus guideline and review by the American Society of Health-System Pharmacists, the Infectious Diseases Society of America, the Pediatric Infectious Diseases Society, and the Society of Infectious Diseases Pharmacists. *Am J Health Syst Pharm*. 2020;77(11):835-64.
11. Chiriac U, Frey O. Vancoeasy [online]. 2023. www.vancoeasy.de . [Last access: 20.02.2023].
12. MSD. Summary of product characteristics Candicas 50 mg. State 08/2022.
13. Taketomo C, Hodding J. *Pediatric & Neonatal Dosage Handbook*, 27th Edition. 5 ed: Wolters Kluwer; 2020.
14. Kinderformularium.de. [online]. 2023. www.kinderformularium.de. [Last access: 20.02.2023].
15. Janssen. Summary of product characteristics EDURANT 25 mg. State 10/2022.
16. Bardia A, Wai M, Fontes ML. Sodium-glucose cotransporter-2 inhibitors: An overview and perioperative implications. *Curr Opin Anaesthesiol*. 2019;32(1):80-5.
17. Drug Commission of the German Medical Association. Information on SGLT-2 inhibitors: diabetic ketoacidosis in patients undergoing surgery or with acute severe illness. 2019.
18. 1A Pharma. Summary of product characteristics Cotrim 960 800/160 mg tablets. State 02/2022.
19. ABDA Federal Association of German Pharmacist Associations. Equivalence doses of ARB blockers [online]. 2023. https://www.abda.de/fileadmin/user_upload/assets/Arzneimittelkommission/Aequivalenzdosistabellen/Sartane_AEquivalenzdosistabelle.pdf [Last access: 20.02.2023]. 2023.
20. Böhringer Ingelheim. Summary of product characteristics Pradaxa 150 mg. State 01/2022.
21. Renaissance School of Medicine Stony Brook University. Statin equivalent doses [online]. 2023. <https://renaissance.stonybrookmedicine.edu/pharmacy-informatics/calculators/statin-equivalent-doses>. [Last access: 20.02.2023].
22. Miller AE, Hansen LB, Saseen JJ. Switching statin therapy using a pharmacist-managed therapeutic conversion program versus usual care conversion among indigent patients. *Pharmacotherapy*. 2008;28(5):553-61.
23. Novartis. Summary of product characteristics Voltaren 100 mg. State 12/2020.
24. Amgen. Summary of product characteristics Aranesp 150 µg. State 02/2021.
25. Viatrix. Summary of product characteristics Norvasc 5 mg. State 06/2022.

26. Drugs.com. Carbamazepine dosage [online]. 2023. [https://www.drugs.com/dosage/carbamazepine.html#Usual Adult Dose for Trigeminal Neuralgia](https://www.drugs.com/dosage/carbamazepine.html#Usual_Adult_Dose_for_Trigeminal_Neuralgia) [Last access: 21.02.2023].
27. Lexicomp. Carbamazepine: Drug information [online]. 2023. [Last access: 21.02.2023].
28. Lundbeck. Individual information of manufacturer after inquiry. 2017.
29. Drugs.com. [online]. 2023. <https://www.drugs.com/oxycodone.html> [Last access: 20.02.2023].
30. Mundipharma. Individual information of manufacturer after inquiry. 2021.
31. Abbvie. Summary of product characteristics Pylera 140 mg/125 mg/125 mg. State 08/2022.
32. Murphy JE. Clinical pharmacokinetics. Sixth edition. ed. Bethesda, Maryland: American Society of Health-System Pharmacists; 2017.
33. UpToDate. Dosing and administration of parenteral aminoglycosides [online]. 2023. https://www.uptodate.com/contents/dosing-and-administration-of-parenteral-aminoglycosides?search=parenteral%20aminoglykosides&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1. [Last access: 21.02.2023].
34. Henze L, Buhl C, Sandherr M, et al. Management of herpesvirus reactivations in patients with solid tumours and hematologic malignancies: update of the Guidelines of the Infectious Diseases Working Party (AGIHO) of the German Society for Hematology and Medical Oncology (DGHO) on herpes simplex virus type 1, herpes simplex virus type 2, and varicella zoster virus. *Ann Hematol.* 2022;101(3):491-511.
35. Habib G, Lancellotti P, Antunes MJ, et al. 2015 ESC Guidelines for the management of infective endocarditis: The Task Force for the Management of Infective Endocarditis of the European Society of Cardiology (ESC). Endorsed by: European Association for Cardio-Thoracic Surgery (EACTS), the European Association of Nuclear Medicine (EANM). *Eur Heart J.* 2015;36(44):3075-128.
36. Baddour LM, Wilson WR, Bayer AS, et al. Infective endocarditis in adults: Diagnosis, antimicrobial therapy, and management of complications: A scientific statement for healthcare professionals from the American Heart Association. *Circulation.* 2015;132(15):1435-86.
37. Anker SD, Butler J, Filippatos G, et al. Empagliflozin in heart failure with a preserved ejection fraction. *N Engl J Med.* 2021;385(16):1451-61.
38. Lexicomp. Ceftazidime: Drug information[online].2023. [Last access: 21.02.2023]. 2023.
39. Mermel LA, Allon M, Bouza E, et al. Clinical practice guidelines for the diagnosis and management of intravascular catheter-related infection: 2009 Update by the Infectious Diseases Society of America. *Clin Infect Dis.* 2009;49(1):1-45.
40. Stevens DL, Bisno AL, Chambers HF, et al. Practice guidelines for the diagnosis and management of skin and soft tissue infections: 2014 update by the infectious diseases society of America. *Clin Infect Dis.* 2014;59(2):147-59.
41. UpToDate. Overview of the evaluation and management of surgical site infection [online]. 2023. https://www.uptodate.com/contents/overview-of-the-evaluation-and-management-of-surgical-site-infection?search=surgical%20site%20infection&source=search_result&selectedTitle=1~150&usage_type=default&display_rank=1 [Last access: 23.02.2023].
42. Lexicomp. Tinzaparin: Drug information [Last access: 21.02.2023]. 2023.
43. European Committee on Antimicrobial Susceptibility Testing (EUCAST). Dosing table version 13.0. [https://www.eucast.org/fileadmin/src/media/PDFs/EUCAST_files/Breakpoint_tables/Dosages v 13.0 Breakpoint Tables.pdf](https://www.eucast.org/fileadmin/src/media/PDFs/EUCAST_files/Breakpoint_tables/Dosages_v_13.0_Breakpoint_Tables.pdf) [Last access: 21.02.2023]. . 2023.
44. Gilbert D, Chambers F, Eliopoulos G, et al. The Sanford Guide to antimicrobial therapy. Sperryville, VA, USA Antimicrobial Therapy, Inc.; 2014.

45. Heintz BH, Matzke GR, Dager WE. Antimicrobial dosing concepts and recommendations for critically ill adult patients receiving continuous renal replacement therapy or intermittent hemodialysis. *Pharmacotherapy*. 2009;29(5):562-77.
46. Aberer F, Hochfellner DA, Sourij H, et al. A practical guide for the management of steroid induced hyperglycaemia in the hospital. *J Clin Med*. 2021;10(10).
47. UpToDate. Insulin therapy in type 2 diabetes mellitus. [online]. 2023. https://www.uptodate.com/contents/insulin-therapy-in-type-2-diabetes-mellitus?search=starting%20lantus§ionRank=1&usage_type=default&anchor=H4142283563&source=machineLearning&selectedTitle=1~150&display_rank=1# [Last access: 21.02.2023].
48. Stockley's Drug interactions. [online]. 2023. www.medicinescomplete.com [Last access: 21.02.2023].
49. Lexicomp Drug interactons. [online]. 2023. https://www.uptodate.com/drug-interactions/?source=responsive_home#di-druglist [Last access: 21.02.2023].
50. Local guidance and expert opinion.
51. Levin GM, Grum C, Eisele G. Effect of over-the-counter dosages of naproxen sodium and acetaminophen on plasma lithium concentrations in normal volunteers. *J Clin Psychopharmacol*. 1998;18(3):237-40.
52. Scherf-Clavel M, Treiber S, Deckert J, et al. Drug-Drug interactions between lithium and cardiovascular as well as anti-inflammatory drugs. *Pharmacopsychiatry*. 2020;53(5):229-34.
53. Rapp M, Urien S, Foissac F, et al. Population pharmacokinetics of meropenem in critically ill children with different renal functions. *Eur J Clin Pharmacol*. 2020;76(1):61-71.
54. Xiao AJ, Huntington JA, Long J, et al. Ceftolozane/tazobactam dose regimens in severely/morbidly obese patients with complicated intra-abdominal infection or complicated urinary tract infection. *Int J Antimicrob Agents*. 2018;52(3):324-30.
55. Pistolesi V, Morabito S, Di Mario F, et al. A guide to understanding antimicrobial drug dosing in critically ill patients on renal replacement therapy. *Antimicrob Agents Chemother*. 2019;63(8).
56. Frey O. CADDy: Calculator to approximate drug-dosing in dialysis [online]. 2023. www.thecaddy.de [Last access: 21.02.2023].
57. Schmitt L, Arbus C, Tonnoir B. [Safety and efficacy of oral escitalopram as continuation treatment of intravenous citalopram, in patients with major depressive disorder--the navigade switch study]. *Encephale*. 2006;32(2 Pt 1):270-7.
58. Monagle P, Chan AKC, Goldenberg NA, et al. Antithrombotic therapy in neonates and children: Antithrombotic therapy and prevention of thrombosis, 9th ed: American College of Chest Physicians Evidence-Based Clinical Practice Guidelines. *Chest*. 2012;141(2 Suppl):e737S-e801S.
59. Klaassen ILM, Sol JJ, Suijker MH, et al. Are low-molecular-weight heparins safe and effective in children? A systematic review. *Blood Rev*. 2019;33:33-42.
60. Maddox JM, Majid M. Use of Ibrutinib Via Nasogastric (NG) Tube & Percutaneous Endoscopic Gastrostomy (PEG) Tube. *Blood*. 2016;128(22):5371-.