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| 1 | Pharmacology is dealing with: | mechanism of drug action | fate of drug in organism | with relationship dose - effect | with research and preparation of drug dosage forms |
| 2 | Part of pharmacology is: | pharmacokinetic | pharmacogenetic | partial part of toxicology | galenic |
| 3 | Clinical pharmacology: | increases the rationality of pharmacotherapy | increases the safety of pharmacotherapy | provides new knowledge from pharmacotherapy | analyzes and controls pharmaceutical preparations |
| 4 | Treatment to alleviate the symptoms of the disease is: | symptomatic | substituent | causal | prophylactic |
| 5 | The Pharmacopoeia is: | list of medicines and medicinal products | legal norm | list of medicines sold at our country | a list of medicines and a summary of regulations on their quality, control, storage and dispensing |
| 6 | Pharmacopoeia: | is a set of standards on drug development, manufacture and evaluation | there is no Pharmacopoeia in EU | is law about drugs | only applies to pharmacists |
| 7 | Pharmacogenetics evaluates: | genetic polymorphism | influence of drugs on hereditary properties of organism and vice versa | relationship of drug administration to developmental disorders | history of different treatments |
| 8 | The preclinical evaluation of the drug includes: | evidence of efficacy in pharmacodynamic studies | animal toxicology studies | teratogenicity tests | studies on volunteers |
| 9 | For EBM applies: | brings evidence of efficacy and safety from large clinical trials | the results are used to make recommendations for practice | relevant statistical methods are applied | does not provide evidence of efficacy and safety from large clinical trials |
| 10 | Clinical evaluation of new drugs is performed in: | in four phases, the last phase of which we also call the "post-registration evaluation" | in two phases (indicative clinical trial) | in three phases (extended clinical trial) | only in one phase (first administration to human) |
| 11 | The drug is evaluated based on: | clinical controlled trials | observational studies | mainly through personal experience | results of mortality studies |
| 12 | Clinical evaluation of new drugs has: | 4 phases | 3 phases | 5 phases | 6 phases |
| 13 | GCP means: | good clinical practice | good laboratory practice | good manufacturing practice | good pharmacovigilance practice |
| 14 | Randomization: | uses incidental selection | prevents systematic error | is used to assign participants in clinical trials to individual groups | seldomly is used in clinical trials |

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| 15 | If the study is controlled: | the new drug is compared to placebo | the new drug is compared to the best available treatment | the new drug is compared to the worst available treatment | neither option is correct |
| 16 | Blinding of clinical trial: | is often used | includes a triple-blind study | includes a double-blind study | is rarely used |
| 17 | The drug dosage forms are: | ointments | suppositories | vaseline | oleum cacao |
| 18 | Solid drug dosage forms include: | coated tablets | tablets | patches | suppositories |
| 19 | Semi-solid drug dosage forms include: | ointments | suppositories | patches | capsules |
| 20 | Liquid drug dosage forms include: | syrups | infusions | injections | creams |
| 21 | Gaseous drug dosage forms include: | aerosols | foams | gels | tablets |
| 22 | Enteric coated tablets: | protect the drug from stomach acid | they dissolve in an alkaline environment | protect the stomach from local irritation | they are preferably absorbed from the stomach |
| 23 | Excipients: | can improve the quality of the medicament | make it possible to create a medicament | have a therapeutic effect | do not affect bioavailability |
| 24 | Generic drug: | is a biologically equivalent copy of the original product without patent protection | is a biologically equivalent copy of the original product after its end of patent protection | it must be bioequivalent to the original product | it may not have the same composition of active substances as the original preparation |
| 25 | Generic drug is: | copy of medicament protected by patent | genetically engineered drug | international name of pharmacologically active substances | drug affecting genome |
| 26 | Generic name: | is the internationally used name of the drug | enables uniform worldwide terminology for substances | is the chemical name of the drug | expresses the exact chemical structure of the drug |
| 27 | Biologic drugs | include hormones | include monoclonal antibodies | are usually large and complex molecules | are usually small molecules |
| 28 | Biosimilars | arrives on the market after the exclusivity of reference biologic drug expires | it is highly similar to reference biologic drug | is less expensive than the reference biologic drug | is more expensive than the reference biologic drug |
| 29 | External factors affecting the effect of drugs include: | size of the dose | use of concomitant drugs | route of administration | pathological condition |
| 30 | Internal factors affecting the effect of drugs include: | pathological condition | age of the patient | size of the dose | use of concomitant drugs |
| 31 | Tachyphylaxis is: | decreased response after repeated administration | excessive response after the first dose | increased response after repeated drug administration | extremely fast response to the drug |

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| 32 | Partial agonist: | has an intrinsic activity of less than 1 | has an intrinsic activity greater than 0 | is the same as a dualist | has a higher effect than a full agonist |
| 33 | The affinity is: | complexing of drug molecules with receptor molecules | drug penetration to the receptor | ability to induce functional changes at the receptor | non-specific property of the medicament |
| 34 | A drug that has an affinity without intrinsic activity: | is not active in itself | has an antagonistic effect | prevents the action of a drug having an agonistic effect | it inhibits a receptor against a drug that has intrinsic activity but has no affinity |
| 35 | Competitive inhibition is: | competition of two substances for receptor binding | reversible drug receptor blockade | reversible receptor blockade by two substances simultaneously | irreversible blockade of the receptor by two drugs |
| 36 | Incompatibility is the interaction between drug molecules: | before entering the organism | during elimination | during second phase of metabolism | at receptors |
| 37 | Pharmacokinetics deals with: | drug resorption | drug distribution | effects of drugs at receptors | adverse drug reactions |
| 38 | Therapeutic drug monitoring: | makes pharmacotherapy more effective | contributes to individualised therapy | serves for statistical purposes of the Ministry of Health of the Slovak Republic | it serves for control purposes of a new insurance company |
| 39 | Fetal drug concentration depends on: | flow through uterine vessels | physicochemical properties of the applied drug | placental functional status | size of placental blood flow especially in the second trimester of pregnancy |
| 40 | The therapeutic index is: | ratio between toxic dose and therapeutic dose | range between minimum and maximum therapeutic dose | list of drugs according to therapeutic indications | drug success statistics |
| 41 | The therapeutic range is: | difference between therapeutic and toxic drug dose | toxicity to therapeutic efficacy ratio | frequency of pharmacological effects | the range of indications in which the drug may be used |
| 42 | Drug cumulation is: | accumulation of the drug in the body | gradual lowering of the effect upon repeated administration | summation of the effect of different medicaments | potentiating drug action |
| 43 | Enteral administration: | is advantageous in terms of compliance | involves intramuscular administration | requires solid drug dosage form | avoids the "first pass" effect |
| 44 | Parenteral administration means: | the fastest onset of action is after i.v. administration | includes administration through inhalation | drug enters the organism through the gastrointestinal tract | the drug undergoes significant biotransformation in the liver |
| 45 | Absorption of drugs from the stomach: | is most often passive diffusion | is decreased in the presence of food | is not affected by antacids | is more intense if the drug is more basic |

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| 46 | Mark the correct statement: | in the case of buccal and sublingual administration of drugs, the "first pass" effect is eliminated | the most drugs are absorbed in the small intestine | the most drugs are absorbed in the stomach | drugs are absorbed mainly in the large intestine |
| 47 | Drugs administered per rectum: | can cause proctitis | are beneficial in patients with nausea and vomiting | have a lower effect than peroral, because they are more strongly metabolised by liver | they must be administered at a lower dose than peroral |
| 48 | In i.v. administration: | the solution must be isotonic with plasma | its advantage is rapid onset of action | the solution is generally neutral | no more than 50 ml of solution can be administered |
| 49 | Bioavailability: | is the fraction of unchanged drug that has entered the systemic circulation | is the fraction of the drug that was eliminated during "first pass" effect | is the penetration of the drug to the receptor | does not depend on the route of administration |
| 50 | Through membranes easily penetrate: | lipophilic substances | non-ionised substances | ionised substances | large molecules |
| 51 | Well absorbed through the gastric mucosa are: | fat-soluble substances | non-ionized substances | weak acids | weak bases |
| 52 | Mark the correct statement: | unionized drugs are liposolubile and can diffuse through membrane | the acid environment of the stomach slows the absorption of acetylsalicylic acid | polar drugs pass through membranes more easily | facilitated diffusion places high demands on energy supply |
| 53 | Biotransformation takes place: | especially in the liver | even in the skin | also in the lungs | never in kidneys |
| 54 | Phenomenon of "first pass" effect in the liver: | significantly influences treatment approach | limits the bioavailability of p.o. administered drugs | determines plasma protein binding | it has no clinical significance |
| 55 | Cytochrome P450: | is part of mixed oxidases | is involved in the metabolism of endogenous substances | is non-specific drug metabolizing enzyme | is specific drug metabolizing enzyme |
| 56 | Prodrug is: | substance that becomes active in the body | end product of biotransformatio n | inactive metabolite | a substance which is excreted unchanged from the body |
| 57 | The drug usually during metabolism changes to: | metabolite more easily eliminated from the body | inactive metabolite | active metabolite | metabolite more difficult to eliminate from the body |
| 58 | Drug metabolism may produce: | active metabolite | inactive metabolite | toxic metabolite | only inactive metabolite |
| 59 | CYP450 inducers include: | rifampicin | benzodiazepines | fluconazole | isoniazid |

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| 60 | CYP450 inducers include: | smoking tobacco | St John's wort | grapefruit juice | SSRI |
| 61 | Enzyme inducers: | may reduce the effect of steroid hormones | may reduce the effect of coumarins | may reduce the effect of other drugs | may increase the effect of other drugs |
| 62 | CYP450 inhibitors include: | isoniazid | fluconazole | benzodiazepines | rifampicin |
| 63 | CYP450 inhibitors include: | SSRI | grapefruit juice | St John's wort | smoking tobacco |
| 64 | Enzyme inhibitors: | can increase the effect of other drugs | they may increase the risk of adverse effects | may reduce the effect of other drugs | can reduce the risk of adverse effects |
| 65 | Drug protein binding: | depends on drug affinity for protein | high protein binding reduces the therapeutic efficacy of the drug | is an irreversible drug protein complex | does not dependent on the number of protein binding sites |
| 66 | Protein-bound part of the drug: | it may be displaced from the binding site by another drug | is temporarily inactive | is more rapidly excreted by the kidneys | easily passes into tissues |
| 67 | The volume of distribution is calculated: | from plasma concentration and amount of substance administered | based on elimination rate | from protein binding | from the space in which the drug is dispersed |
| 68 | Drugs may be excreted from the body through: | kidney | faeces | sweat | saliva |
| 69 | Biologic half-life: | the time interval needed for blood drug level decrease to 50% | defines the time from drug administration to its excretion | drug degradation time | half the dose of drug that has penetrated the tissues |
| 70 | How much T1/2 are required for decrease of plasma drug levels below 1%: | 7 | 5 | 2 | 9 |
| 71 | The irrational combination and prescription of many drugs is named: | polypragmasy | actinotherapy | homeopathy | pulse therapy |
| 72 | Interactions may occur between: | drug - drug | drug - food | drug - nutritional supplement | drug - homeopathic medicine |
| 73 | Foods that cause frequent drug interactions include: | garlic | grapefruit juice | milk | vitamin K - rich vegetables |
| 74 | The most drug interactions occur at the level of: | metabolism | distribution | absorption | excretion |

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| 75 | Drug interaction: | is a change in the effect of a drug when another drug is administered | is decrease or increase in the effect of the drug | it can only occur at the pharmacodynamic level | it cannot occur at the receptor level |
| 76 | Combinations of drugs are used in therapy of: | hypertension | diabetes mellitus | dislipidemia | infections |
| 77 | Pharmacovigilance: | deals with benefit vs. risk ratio | monitors newly authorized medicines | examines the safety of the drug | its aim is not to find a rare adverse drug reactions |
| 78 | Adverse drug reactions should be monitored in clinical trials: | also in the fourth phase | in all phases | only in the third phase | in no phase |
| 79 | The following applies to Type A ADRs: | are expected | are predictable | are unexpected | are unpredictable |
| 80 | Type B ADRs: | do not depend on the dose size applied | are rare | are easily predictable | depend on dose size |
| 81 | The following applies to Type B ADRs: | are unpredictable | are unexpected | are predictable | are expected |
| 82 | The following applies to Type C ADRs: | occur usually after prolonged use | are unexpected | are predictable | they can be verified experimentally |
| 83 | The rebound phenomenon must be considered during administration of: | statins | betablockers | opioids | nitrates |
| 84 | Activated charcoal: | belongs to intestinal adsorbents | is used in diarrheal diseases | is used to prevent the absorption of toxins | is used in intoxications |
| 85 | N-acetylcysteine is an antidote of: | paracetamol | ibuprofen | ASA | coxibs |
| 86 | The opioid antidote is: | naloxone | only supportive therapy | have no antidote | flumazenil |
| 87 | The antidote for benzodiazepines is: | flumazenil | naloxone | have no antidote | only supportive therapy |
| 88 | Silibinin is: | hepatoprotective | it is used in intoxication with the Amanitina phalloides | extract of the Milk thistle | hepatotoxic |
| 89 | The antiote of organophosphates is: | atropine | the response to the treatment of intoxication with organophosphates is unpredictable | obidoxime | the response to the treatment of intoxication with organophosphates is predictable |
| 90 | Miosis is typical of intoxication with: | heroin | methamphetamine | cocaine | LSD |

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| 91 | Addiction: | is a patological dependence on repeated intake of substance | may be accompanied by tolerance | is only by psychical dependence | does not occur after administration of anxiolytics |
| 92 | Adrenaline: | at high doses acts as an alpha-agonist | at low doses acts as a beta-agonist | at high doses acts as a beta-agonist | at low doses acts as an alpha-agonist |
| 93 | Adrenaline: | is an α- and β-receptor agonist | is used in cardiac arrest | is used in anaphylactic shock | is used in ventricular fibrillation |
| 94 | High-dose adrenaline: | causes vasoconstriction | increases blood pressure | causes vasodilation | lowers blood pressure |
| 95 | Adrenaline at low doses: | increases heart rate | increases heart contractility | decreases heart rate | reduces the contractility of the heart |
| 96 | Noradrenaline: | potent agonist at alpha1-, alpha2- and beta1-receptors | always increases systolic BP | preferably used in the treatment of septic shock | potent agonist at beta2-receptors |
| 97 | Noradrenaline: | is a mediator at the postganglionic endings of the sympathetic nervous system | does not cause a change in heart rate | is a mediator in ganglia of vegetative nervous system | causes tachycardia |
| 98 | Dopamine: | acts as an alpha agonist at high doses | in high doses causes vasoconstriction | it acts as a beta- and D1-agonist at high doses | in high doses increases cardiac output |
| 99 | Dopamine: | it acts as a beta- and D1-agonist at low doses | in low doses increases cardiac output | acts as an alpha agonist at low doses | in low doses causes vasoconstriction |
| 100 | Phenylephrine: | is a potent alpha1-agonist | causes mydriasis | causes vasoconstriction in vessels of nasal mucosa | causes vasodilation |
| 101 | α1-sympatholytics include: | terazosin | tamsulosin | bisoprolol | phenylephrine |
| 102 | Stimulation of β2-adrenergic receptors results in: | vasodilation | bronchodilation | reduction of uterine contractility | vasoconstriction |
| 103 | β2-sympathomimetics include: | vilanterol | salbutamol | felodipine | sildenafil |
| 104 | Beta1 agonists: | increase myocardial contractility | increase heart rate | dilate bronchi | decrease heart rate |
| 105 | Beta-sympatholytics: | are selective and non-selective | may have intrinsic sympathomimetic activity | β1-selective substances are used in therapy | β2-selective substances are used in therapy |
| 106 | Beta-sympatholytics are effective in the therapy of: | angina pectoris | myocardial infarction | bradyarrhythmias | asthma bronchiale |

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| 107 | Acetylcholine is: | is a mediator in the ganglia of the vegetative nervous system | is a mediator in the CNS | is a mediator on the neuromuscular junction | acts only on muscarinic receptors |
| 108 | Direct parasympathomimetics include: | metacholine | betanechol | pilocarpine | scopolamine |
| 109 | Pilocarpine: | causes miosis | increases salivation | causes decrease in intraocular pressure | reduces salivation |
| 110 | Indirect parasympathomimetics: | acetylcholine esterase is inhibited for short or long term | inhibit acetylcholinesterase | activate acetylcholinesterase | they activate acetylcholinesterase for short or long term |
| 111 | Indirect parasympathomimetics include: | pyridostigmine | neostigmine | organophosphates | none of these substances |
| 112 | Long-term acetylcholinesterase inhibitors include: | organophosphate insecticides | physostigmine | atropine | obidoxime |
| 113 | Parasympatholytics are therapeutically used: | as spasmolytics of the GIT and the uropoietic system | as bronchodilators | as mydriatics | as miotics |
| 114 | Atropine: | is a parasympatholytic | induces mydriasis | is a parasympathomimetic | induces miosis |
| 115 | Bronchodilator effect have: | muscarinic receptor antagonists | beta2-sympathomimetic salbutamol | beta1-agonist | acetylcholine |
| 116 | Plants showing parasympathomimetic properties: | Amanita muscaria | Pilokarpus jaborandi | Atropa belladona | datura |
| 117 | Plants showing parasympatholytic properties: | datura | Atropa belladona | Pilokarpus jaborandi | Amanita muscaria |
| 118 | Local anesthetics: | attenuate pain perception by reversible blockade of nerve impulses conduction | inhibit sodium channels | inhibit calcium channels | inhibit potassium channels |
| 119 | The following applies to cocaine: | causes mydriasis | is stimulating | is sedative | causes miosis |
| 120 | Indications of local anesthetics include: | prevention and therapy of some arrhythmias | nerve block | dental procedures | pain relief |
| 121 | Local anesthetics with an ester group include: | cocaine | benzocaine | lidocaine | bupivacaine |
| 122 | Local anesthetics with an amide group include: | lidocaine | bupivacaine | cocaine | benzocaine |

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| 123 | In general, local anesthetics: | they are basic substances which form with acids salts which are readily soluble in water | trigger the extinction of action potential | their non-ionized bases are lipophobic | they bind to the site of action in electroneutral form |
| 124 | Vasoconstrictors added to local anesthetics: | reduce the toxicity of local anesthetics | prolong the effect of anesthetics | reduce the effect of anesthetic | they are mainly used for anesthesia of the acral areas |
| 125 | General anesthetics: | have high affinity for lipids | reduce blood flow in the liver | are applied subdurally | are strongly hydrophilic |
| 126 | General inhalation anesthetics include: | isoflurane | sevoflurane | propofol | ketamine |
| 127 | Malignant hyperthermia: | is treated with dantrolene | characterized is by muscle rigidity and fever | may arise in the co-administration of halothane and succinylcholine | characterized is by muscle weakness and hypothermia |
| 128 | General intravenous anesthetics include: | ketamine | propofol | sevoflurane | isoflurane |
| 129 | After thiopental administration: | apnea may occur | there is a rapid loss of consciousness | a negative inotropic effect may occur | the stage of analgesia and excitation is strongly marked |
| 130 | Propofol ADRs include: | hypotension | pancreatitis | hypertension | none of these |
| 131 | Ketamine ADRs include: | hallucinations | cardiodepressive effect | respiratory depression | cardiostimulatory effect |
| 132 | Short-acting benzodiazepines: | midazolam | alprazolam | oxazepam | diazepam |
| 133 | Intermediate-acting benzodiazepines: | oxazepam | alprazolam | midazolam | diazepam |
| 134 | Long-acting benzodiazepines: | diazepam | alprazolam | oxazepam | midazolam |
| 135 | The effects of benzodiazepines are antagonized by: | flumazenil | diazepam | GABA | pentobarbital |
| 136 | Centrally-acting muscle relaxants: | reduce skeletal muscle spasms | are used as co-analgesics | are used in neurology and rheumatology | are used under general anesthesia |
| 137 | Guaifenesin has following effects: | anxiolytic | expectorant | muscle relaxant | antipyretic |
| 138 | Centrally acting muscle relaxants include: | guaifenesin | tolperisone | vecuronium | succinylcholine |
| 139 | Peripherally acting muscle relaxants of curareform type: | competitively inhibit the effect of acetylcholine on the neuromuscular plate | inhibit calcium release from sarcoplasmic reticulum | depolarize neuromuscular plate | block the sodium channels of muscle cell membranes |
| 140 | Competitive muscle relaxants include: | atracurium | rocuronium | succinylcholine | dantrolene |
| 141 | The following are used as antidotes for competitive muscle relaxants: | neostigmine in combination with atropine | short-term acetylcholinesterase inhibitors | acetylcholine administered i.v. | only neostigmine |

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| 142 | The following are used as antidotes for depolarizing muscle relaxants: | have no antidote | assisted breathing | acetylcholine administered i.v. | pyridostigmine |
| 143 | Paracetamol: | is analalgetic-antipyretic | it does not have a clinically significant anti-inflammatory effect | has a clinically significant anti-inflammatory effect | is NSAID |
| 144 | COX3 inhibiting analgesics include: | paracetamol | metamizole | ibuprofen | acetylsalicylic acid (ASA) |
| 145 | Nonsteroidal anti-inflammatory drugs (NSAIDs): | have an analgesic effect | inhibit prostaglandin biosynthesis | irritate gastric mucosa | practically do not bind to plasma proteins |
| 146 | Nonsteroidal anti-inflammatory drugs (NSAIDs) include: | indomethacin | ibuprofen | acetylsalicylic acid (ASA) | hydrocortisone |
| 147 | COX2 inhibiting NSAIDs have properties: | analgesic | antipyretic | antiinflammatory effect | antiemetic |
| 148 | ASA depending on dosage: | inhibits COX1 and COX2 | inhibits TXA2 synthesis | decreases synthesis of vasodilator prostaglandins in endothelium | inhibits the release of norepinephrine from the presynaptic endings of the sympathetic system |
| 149 | ASA: | decreases elevated body temperature | at higher doses decreases both COX1 and COX2 activity | significantly reduces normal body temperature | at higher doses inhibits only COX1 |
| 150 | Contraindications of ASA administration: | hemorrhagic diathesis | gastric and duodenal ulcer | allergy to salicylates | insomnia |
| 151 | Which nonsteroidal anti-inflammatory drugs preferentially inhibit COX2: | meloxikam | nimesulid | celekoxib | ibuprofen |
| 152 | Tramadol: | it also acts through affecting sympathetic receptors | also acts on opioid receptors | significantly influences the respiratory center | is NSAID |
| 153 | Opioid effects include: | euphoria | sedation | antitussive effect | psychostimulat effect |
| 154 | Opioid ADRs include: | constipation | miosis | mydriasis | diarrhea |
| 155 | Strong opioids include: | fentanyl | morphine | tramadol | codeine |
| 156 | Morphine: | decreases gland secretion | has irritant effect on n. oculomotorius nucleus | after p.o. administration has 90% bioavailability | relaxes Odi sphincter |
| 157 | Codeine: | is an antitussive | can cause drug dependence | potentiates the effect of analgesics-antipyretics | has a bronchodilator effect |
| 158 | Common antitussives include: | dropropizine | pentoxyverine | butamirate | morphine |

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| 159 | Expectorants: | are substances that enhance the production and transport of bronchial secretion | they are also combined with bronchodilators | from the centrally acting muscle relaxants, only guaifenesin belongs to them | include all centrally acting muscle relaxants |
| 160 | Mucolytics / expectorants include: | N-acetylcysteine | guaifenesin | bromhexine | pentoxyverine |
| 161 | Ambroxol: | is used to treat productive cough | belongs to over-the-counter medicaments | is used to treat dry irritant cough | is a prescription-only drug |
| 162 | Anti-inflammatory drugs for the treatment of bronchial asthma include: | systemic corticoids | inhaled corticoids | anticholinergics | beta2-sympathomimetics |
| 163 | Bronchodilators for the treatment of bronchial asthma include: | beta2-sympathomimetics | anticholinergics | inhaled corticoids | systemic corticoids |
| 164 | SABA: | belong to relieveres | are used only shortly in acute exacerbations | belong to controllers | they are used to prevent exacerbations |
| 165 | Long-acting beta2-sympathomimetics (LABA) include: | indacaterol | formoterol | fluticasone | montelukast |
| 166 | LABA: | relax smooth airway muscles for a long time | they must always be co-administered with inhaled corticoids | relax smooth airway muscles for a short time | they cannot be co-administered with inhaled corticoids |
| 167 | Inhaled anticholinergics: | competitively antagonize M1, M2 and M3 receptors | long-acting is umeclidinium | tiotropium has a short effect | increase cholinergic tone |
| 168 | Methylxanthines: | in particular they have a bronchodilator effect | inhibit phosphodiesterase I to IV | have a mild anti-inflammatory and immunomodulatory effect | do not have frequent adverse effects |
| 169 | Aminophylline: | is methylxanthine | has diuretic effects | may cause diarrhea | is the drug of first choice for asthma bronchiale |
| 170 | Inhaled corticoids (ICS) for the treatment of bronchial asthma: | are the basic drugs for the treatment of asthma bronchhiale | belong to the most effective anti-inflammatory drugs | in bronchial asthma may be used alone | they are rarely used |
| 171 | ICS for the treatment of bronchial asthma: | have a complex anti-inflammatory effect | reduce the severity and frequency of exacerbations | do not restrict airway remodeling | they have many serious adverse effects |
| 172 | Common side effects of ICS include: | oral candidiasis | dysphonia | adrenergic suppression | higher incidence of osteoporosis |

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| 173 | Glucocorticoids in the treatment of bronchial asthma: | they are usually administered by inhalation | in severe acute exacerbations are administered p.o. or i.v. | prolong the life of asthmatics | do not affect the mortality and morbidity of patients |
| 174 | Inhaled corticoids include: | fluticasone | budesonide | methylprednisolone | prednisolone |
| 175 | Glucocorticoid indications include: | inflammation | autoimmune diseases | anaphylaxis | asthma |
| 176 | The following applies to glucocorticoids: | can act for more than 36 hours | they are formed in zona fasciculata | major glucocorticoid = cortisol | they are formed in zona glomerulosa |
| 177 | Glucocorticoids: | have an anti-inflammatory effect | have an immunosuppressive effect | reduce gastric juice secretion | help in wound healing |
| 178 | Short-acting glucocorticoids include: | hydrocortisone | triamcinolone | dexamethasone | prednisone |
| 179 | Antileucotriens: | include montelukast | complement the anti-inflammatory effect of ICS | are relievers | include aminophylline |
| 180 | Antileucotriens: | selectively inhibit the effects of LTC4, D4, E4 | are effective in aspirin sensitive asthma | can be combined with inhaled corticosteroids | inhibit lipooxygenase |
| 181 | Montelukast: | in particular it has an anti-inflammatory effect | is in the dosage form of tablets | its anti-inflammatory effect is lower than that of ICS | is not suitable for children |
| 182 | Omalizumab: | is an anti-IgE monoclonal antibody | has a strong anti-inflammatory effect | it is effective especially in allergy-related asthma | is administered at mild asthma |
| 183 | Omalizumab: | is indicated for the treatment of severe urticaria | is indicated for the treatment of severe persistent bronchial asthma | is administered s.c. | is administered p.o. |
| 184 | In biological treatment of bronchial asthma are used: | omalizumab | mepolizumab | infliximab | adalimumab |
| 185 | H1-antihistamines: | are cetirizine and levocetirizine | are administered in allergic conditions | they are given in chronic urticaria | are cimetidine and ranitidine |
| 186 | The first-generation H1-antihistamines include: | promethazine | bisulepine | desloratadine | loratadine |
| 187 | Promethazine has: | sedative effects | anticholinergic effects | antihistaminic effects | psychostimulant effects |
| 188 | The first-generation H1-antihistamines: | easily pass through the blood-brain barrier (HEB) | have sedative side effects | do not pass through HEB | they do not have sedative side effects |

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| 189 | The second-generation H1-antihistamines: | they do not have sedative side effects | do not pass through HEB | have sedative side effects | easily pass through the blood-brain barrier (HEB) |
| 190 | The second-generation H1-antihistamines include: | rupatadine | bilastine | dimethindene | moxastine |
| 191 | The main indications of the second-generation H1-antihistamines: | allergic skin manifestations | allergic conjunctivitis | allergic rhinitis | viral and bacterial rhinopharyngitis |
| 192 | The following drugs are used to treat gastric and duodenal ulcers: | ranitidine | omeprazole | corticosteroids | NSAIDs |
| 193 | The following drug combinations are used to eradicate Helicobacter pylori: | IPP + bismuth salts + metronidazole + doxycycline | proton pump inhibitor (IPP) + clarithromycin + amoxicillin | only claritromycin + amoxicillin | only proton pump inhibitor + H2-antihistaminic drug |
| 194 | Helicobacter pylori can be diagnosed through: | cultivation | urease test | by determining specific antibodies | acetylcholine test |
| 195 | Omeprazole: | has a high interaction potential | inhibits the proton pump | blocks H2-receptors | has a low interaction potential |
| 196 | H2-antihistamines include: | ranitidine | famotidine | cetirizine | loratadine |
| 197 | H2-antihistamines: | decrease gastric secretion of HCl | reduce HCl secretion less than IPP | are used in allergic conditions | they are used in motion sickness and parkinsonism |
| 198 | Ranitidine: | has less adverse effects than cimetidine | is H2-antihistaminic drug | has more adverse effects than cimetidine | is H1-antihistaminic drug |
| 199 | Antacids: | reduce gastric acidity | relieve stomach pain | increase pepsin activity | increase drug absorption |
| 200 | Antacids: | are divided into adsorbent and reactive | reactive antacids produce reactive hypersecretion and alkalosis | sodium bicarbonate is a reactive antacid | sodium bicarbonate is an adsorbent antacid |
| 201 | Intestinal adsorbents include: | diosmectite | activated charcoal | ranitidine | famotidine |
| 202 | Intestinal disinfectants include: | nifuroxazide | loperamide | diosmectite | activated charcoal |
| 203 | For the treatment of diarrhea we can use: | loperamide | codeine | lactulose | magnesium salts |
| 204 | As antiemetics we can use: | dopamine receptor antagonists | 5-HT3 receptor antagonists | H1-receptor antagonists | opioids |
| 205 | In the treatment of vomiting after chemotherapy we can use: | ondansetron | granisetron | aprepitant | moxasthine theoclate |
| 206 | Prokinetics include: | domperidone | itopride | metoclopramide | loperamide |

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| 207 | Butylscopolamine: | has anticholinergic effects | is a GIT spasmolytic | has cholinergic effects | strongly passes into the CNS |
| 208 | Mechanism of action of antihypertensives: | influence of arterial resistance | influencing blood volume | influence of CNS | influence of venous resistance |
| 209 | The following are involved in vascular tone regulation: | sympathetic and parasympathetic mediators | endothelial secretion | bradykinin | angiotensin I |
| 210 | To first-choice antihypertensives belong: | ACEI | CCB | diuretics | nitrates |
| 211 | In the treatment of hypertension during pregnancy is used: | methyldopa | labetalol | ARB | ACEI |
| 212 | Centrally acting antihypertensives include: | moxonidine | clonidine | enalapril | amlodipine |
| 213 | ACEI: | have endothel-protective effects | prevent pathological remodeling of the heart | have strong EBM evidence on mortality and morbidity in patients with CVS diseases | they do not significantly affect the mortality and morbidity of patients with CVS diseases |
| 214 | ACEI: | are suitable for patients with heart failure | are suitable in diabetic patients | have an adverse effect on glucose levels | have an adverse effect on lipid levels |
| 215 | Trandolapril: | has renoprotective effects | belongs to ACEI | its contraindication is bilateral renal artery stenosis | may cause hypokalaemia |
| 216 | AT1 receptor blockers (ARB): | do not cause dry irritant cough | have a lower risk of angioneurotic edema than ACEI | may replace ACEI in case of dry irritant cough | have a higher risk of angioneurotic edema than ACEI |
| 217 | Following calcium channel blockers (CCB) can be used as antiarrhythmic agents: | verapamil | diltiazem | amlodipine | felodipine |
| 218 | Typical ADRs of CCB include: | constipation | perimaleolar edema | adverse effect on glucose levels | adverse effect on lipid levels |
| 219 | CCB are suitable for the treatment of hypertension in: | diabetics | patients with metabolic syndrome | patients with systolic hypertension | patients with peripheral artery disease |
| 220 | Nimodipine: | is calcium channel blocker | is used to treat subarachnoid haemorrhage | mainly affects cerebral circulation | mainly affects peripheral circulation |
| 221 | Thiazide diuretics include: | hydrochlorothiazide | furosemide | amiloride | spironolactone |
| 222 | Prolonged use of thiazide diuretics may cause: | hypokalaemia | deterioration of glucose tolerance | gout attack | hyperkalaemia |
| 223 | Thiazide and loop diuretics are preferred in a patiens with: | heart failure | gout | hyponatraemia | hypokalaemia |

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| 224 | Mineralocorticoid receptor antagonists include: | spironolactone | eplerenone | amiloride | indapamide |
| 225 | Beta-blockers: | decrease heart rate | reduce intraocular pressure | have cardiodepressive effects | increase cardiac contractility |
| 226 | Beta-blockers: | reduce cardiac output | may increase the risk of hypoglycaemia | induce bronchoconstrictio n | increase cardiac output |
| 227 | Administration of β-blockers is contraindicated in: | bronchial asthma | AV block of higher degree | supraventricular tachyarrhythmia | angina pectoris |
| 228 | Metoprolol is: | beta-blocker without ISA | selective beta-blocker | beta-blocker with ISA | non-selective beta-blocker |
| 229 | Selective beta-blockers include: | metoprolol | atenolol | bisoprolol | propranolol |
| 230 | Beta-blockers with a vasodilating effect include: | labetalol | nebivolol | carvedilol | pindolol |
| 231 | Rilmenidine: | belongs to I1 - receptor agonists in CNS | is suitable for the treatment of hypertension in diabetics | can be combined with other antihypertensive agents | belongs to central antihypertensives |
| 232 | Arterial vasodilators include: | CCB | hydralazines | nitrates | molsidomine |
| 233 | Venous vasodilators include: | nitroglycerin | isosorbide dinitrate | molsidomine | hydralazines |
| 234 | Both arterial and venous vasodilators include: | ACEI | sodium nitroprusside | ARB | CCB |
| 235 | Substances that reduce myocardial oxygen demand include: | beta-blockers | CCB | nitrates | statins |
| 236 | Nitrates include: | glyceryl trinitrate | isosorbide mononitrate | isosorbide dinitrate | molsidomine |
| 237 | Nitrates: | do not affect mortality and morbidity of patients | relieve pain in acute angina pectoris | they can be used to prevent angina attacks | they cannot be used to prevent angina attacks |
| 238 | Organic nitrates: | dilatate mainly venous system | reduce preload | dilatate mainly arterial system | reduce afterload |
| 239 | Molsidomine: | dilates the venous system | has a similar mechanism of action to organic nitrates | dilates the arterial system | during administration can occur tolerance |
| 240 | Antithrombotics include: | antiplatelet agents | anticoagulants | fibrinolytics | antifibrinolytics |
| 241 | Acetylsalicylic acid at dose100 mg / day: | irreversibly inhibits COX1 | belongs to the basic antiplatelet agents | increases level of thromboxane | has a protective effect on the gastric mucosa |
| 242 | Low dose ASA: | is used in secondary prevention of MI | inhibits TXA2 synthesis | has analgesic effects | is used in primary prevention of MI |

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| 243 | Anticoagulants: | heparin has a rapid onset of anticoagulant effect | the anticoagulant effect of heparin requires antithrombin III | warfarin has an immediate onset of anticoagulant effect | coumarin anticoagulants are safe throughout pregnancy |
| 244 | Warfarin: | blocks carboxylation of gamma-glutamic residues of factors II., VII., IX., X. | is a vitamin K antagonist | is effective both in vivo and in vitro | is used parenterally |
| 245 | Warfarin: | we monitor INR during therapy | during therapy we monitor Quick prothrombin time | aPTT is monitored during therapy | coagulation parameters do not need to be monitored during therapy |
| 246 | ADRs of warfarin include: | teratogenicity | skin necrosis | dyspepsia | bradycardia |
| 247 | Direct oral anticoagulants include: | dabigatran | edoxaban | apixaban | warfarin |
| 248 | Indications of direct oral anticoagulants (DOACs) are: | prevention of deep vein thrombosis and pulmonary embolism | prevention of stroke in non-valvular atrial fibrillation | treatment of deep vein thrombosis and pulmonary embolism | prevention of ischemic stroke in valvular atrial fibrillation |
| 249 | Parenteral anticoagulants include: | fondaparinux | low molecular weight heparins | heparin | xabans |
| 250 | Heparin: | is a large negatively charged molecule | is ineffective in the absence of AT III | its effect starts within a few hours | it is produced by extraction from human mast cells |
| 251 | Heparin: | belongs to the parenteral anticoagulants | we use aPTT to monitor treatment | we use INR d to monitor treatment | belongs to oral anticoagulants |
| 252 | The heparin ADRs include: | thrombocytopenia | osteoporosis | alopecia | hemorrhage |
| 253 | Antidote of heparin: | protamine | histamine | ranitidine | vitamin K |
| 254 | Low molecular weight heparins (LMWHs): | during therapy, we usually do not monitor coagulation parameters | have lower effect on factor IIa than heparin | aPTT is monitored during therapy | have more adverse effects than heparin |
| 255 | Advantages of LMWHs: | predictable effect | have a longer elimination half-life than "classical" heparin | rapid onset of action | slow onset of effect |
| 256 | Dabigatran: | antidote is idarucizumab | is indicated for the treatment of deep vein thrombosis | therapy is controlled by INR | has frequent drug interactions |
| 257 | Idarucizumab: | causes immediate, complete and permanent reversion of dabigatran | is a humanized monoclonal antibody | is a biologically active substance (biological) | is an antidote to apixaban |

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| 258 | Xabans: | are administered p.o. 1x a day | their antidote is adnexanet alfa | their antidote is idarucizumab | therapeutic efficacy is controlled by aPTT |
| 259 | Fibrinolytics include: | alteplase | streptokinase | tenecteplase | PAMBA |
| 260 | Mechanism of action of antiarrhythmic drugs: | slowing of depolarization | blocking of fast Na channel | prolonging repolarization by blocking K and Ca channels | reduction of sympathetic activity |
| 261 | To classify antiarrhythmic drugs, we use the following classification: | by Vaughan-Williams | classification has 4 classes according to the influence of action potential | antiarrhythmic drugs are no longer classified | we do not use any classification |
| 262 | Amiodarone: | has two iodine atoms in the molecule | prolongs refractory period and decreases myocardial excitability at atrial, nodal and ventricular levels | is used in the treatment of ventricular arrhythmias | it is not used in the treatment of ventricular arrhythmias |
| 263 | The amiodarone ADRs include: | cardiac - symptomatic dose-dependent bradycardia | endocrine complications | eye complications | do not include lung and skin complications |
| 264 | Non-glycoside cardiotonics include: | amrinone | milrinone | dobutamine | noradrenaline |
| 265 | Digoxin: | is mainly used in patients with HF and atrial fibrillation with rapid ventricular response | its level is monitored to check its effectiveness | is not used in patients with atrial fibrillation | is not used in patients with heart failure (HF) |
| 266 | Digoxin indication: | atrial fibrillation with rapid ventricular response | ventricular fibrillation | bradycardia | essential hypertension |
| 267 | Atropine: | is a parasympatholytic drug | is a competitive antagonist of the effect of acetylcholine on muscarinic receptors | tachycardia occurs at higher doses after blockage of the vagal effect on the SA node | is not spasmolytic drug |
| 268 | Hypolipidemics include: | substances affecting mainly cholesterol levels | statins | do not include ezetimibe | do not include fibrates |
| 269 | Statins: | have pleiotropic effects | inhibit the enzyme HMG-CoA reductase | decrease LDL concentration | increase intracellular new cholesterol synthesis |
| 270 | Statins: | have an anti-inflammatory effect | inhibit adhesion of leukocytes, macrophages, platelets to endothelium | stabilize atherosclerotic plaque, reduce thrombogenicity | increase blood viscosity |

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| 271 | Statin ADRs include: | myopathy | elevation of liver function tests | rhabdomyolysis | does not include neuropathy |
| 272 | Ezetimibe: | inhibits the absorption of cholesterol in the intestine | we use it in combination therapy with statins | is not essential in the treatment of dyslipidemia | it has no effect on cholesterol metabolism |
| 273 | The following applies to fibrates: | cause of their mechanism of action they increases the activity of lipoprotein lipase | increase lipolysis of TAG and chilomicrons | do not affect the metabolism of TAG | are not hypolipidemic agents |
| 274 | PCSK9 inhibitors: | are monoclonal antibodies that inhibit proprotein convertase subtilisin/kexin type 9 | they are used when the patient does not tolerate statins / when we do not reach the target LDL concentration with statin therapy | in hyperlipidemia, they are currently used as first-line drugs | are not used in the treatment of dyslipidemia |
| 275 | The mechanism of action of psychopharmacons may include: | influencing the effect of neurotransmitter degrading enzymes | blockade of neurotransmitter reuptake | blockade of neurotransmitter receptors | increasing the availability of the neurotransmitter |
| 276 | Antidepressants include: | imipramine | fluoxetine | fluvoxamine | haloperidol |
| 277 | To SSRI belong: | citalopram | sertraline | fluoxetine | venlafaxine |
| 278 | To indications of SSRI belong: | depression | eating disorders | anxiety disorders | schizophrenia |
| 279 | To TCA belong: | amitriptyline | imipramine | sertraline | fluoxetine |
| 280 | The reversible inhibitor of monoamine oxidase A (RIMA) is: | moclobemide | tranylcypromine | amitriptyline | alprazolam |
| 281 | RIMA: | induce reversible inhibition of MAO A | are characterized by a high interaction potential with other drugs | they do not interact with a diet containing tyramine | have interactions with a diet containing tyramine |
| 282 | The full effect of antidepressants occurs in: | in a few days to weeks | in a few hours | within 48 hours | immediately |
| 283 | Lithium has: | antimanic effect | teratogenic potential | rare and not serious adverse reactions | high therapeutic index |
| 284 | In the treatment of manio-depressive syndrome we can use: | lithium | benzodiazepines | some antiepileptics | some antipsychotics |
| 285 | Anxiolytics include: | diazepam | buspirone | zolpidem | risperidone |
| 286 | Benzodiazepines can have following effects: | anticonvulsant and centrally muscle relaxant | anxiolytic and antiphobic | hypnotic | antipsychotic |

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| 287 | Benzodiazepines are used for: | short-term therapy of fear and anxiety | short-term treatment of insomnia | status epilepticus | depression |
| 288 | Antidote of benzodiazepines: | flumazenil | diazepam | GABA | barbiturates |
| 289 | Non-benzodiazepine anxiolitics include: | buspirone | zolpidem | alprazolam | zopiclone |
| 290 | Non-benzodiazepine hypnotics include: | zopiclone | zolpidem | alprazolam | buspirone |
| 291 | Typical antipsychotics (first-generation antipsychotics) include: | chlorpromazine | haloperidol | ziprasidone | aripiprazol |
| 292 | Atypical antipsychotics (second-generation antipsychotics) include: | risperidone | olanzapine | quetiapine | haloperidol |
| 293 | ADRs of antipsychotics include: | hypotension | hyperprolactinemia | extrapyramidal ADRs | anticholinergic ADRs |
| 294 | To extrapyramidal ADRs belong: | dyskinesia | Parkinson syndrome | akathisia | galactorrhea |
| 295 | Fixed drug combinations for the treatment of Parkinson's disease: | levodopa, carbidopa | levodopa, carbidopa, entacapone | levodopa, selegiline | levodopa, amantadine |
| 296 | Cognitives used in the treatment of Alzheimer's dementia include: | galantamine | rivastigmine | donepezil | memantine |
| 297 | Memantine: | is used in more advanced stages of Alzheimer's dementia | affects glutaminergic neurotransmission of the brain | is used in the early stages of Alzheimer's dementia | affects brain cholinergic neurotransmission |
| 298 | Antiepileptics are used in therapy: | manio-depressive syndrome | epilepsy | migraine | neuropathic pain |
| 299 | The mechanism of action of antiepileptic drugs: | blockade of depolarizing ion channels | antagonizing effect at glutamate receptors | potentiating the inhibitory effects of GABA | by attenuating the inhibitory effects of GABA |
| 300 | Antiepileptics suitable for the treatment of tonic-clonic epileptic seizures: | sodium valproate | carbamazepine | lamotrigine | ethosuximide |
| 301 | Antiepileptics suitable for the treatment of absences in epilepsy: | sodium valproate | ethosuximide | lamotrigine | carbamazepine |
| 302 | Sodium valproate is suitable for the treatment of the | tonic-clonic | atonic | myoclonic | absences |

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| | following epileptic seizures: | | | | |
| 303 | Carbamazepine is suitable for the treatment of the following epileptic seizures: | tonic-clonic | atonic | myoclonic | absences |
| 304 | Carbamazepine: | reduces the effect of warfarin | is CYP3A4 inducer | reduces the effect of hormonal contraceptives | is CYP3A4 inhibitor |
| 305 | Antiepileptics: | administration of folic acid reduces the risk of neural tube defects | teratogenic effects are particularly dangerous in the first trimester of pregnancy | their administration is safe during pregnancy | their blood levels do not change during pregnancy |
| 306 | Insulin: | can cause general convulsions | lowers blood glucose level | has anabolic action | has antianabolic action |
| 307 | Circulating glucagon level at DM: | is predominantly increased | is mainly reduced | is not changed | it is currently influenced by glucagon receptor active substances |
| 308 | To newer insulins belong: | insulin degludek | insulin analogues | insulin NPH | regular insulin |
| 309 | Insulin analogs: | are administered parenterally | are administered perorally | are not causing weight gain | can be given both orally and parenterally |
| 310 | Short-acting insulin analogs include: | insulin lispro | insulin glulisine | insulin aspart | insulin degludek |
| 311 | Long-acting insulin analogs include: | insulin glargine | insulin degludek | insulin detemir | insulin aspart |
| 312 | Intensified insulin regimen: | is used in the treatment of type 1 diabetes mellitus | most often consists of 3-5 s.c. injections / day | is used in the treatment of type 2 diabetes mellitus | most often consists of 1-2 s.c. injections / day |
| 313 | Conventional insulin regimen: | most often consists of 1-2 s.c. injections / day | is used in the treatment of type 2 diabetes mellitus | most often consists of 3-5 s.c. injections / day | is used in the treatment of type 1 diabetes mellitus |
| 314 | The risk of hypoglycaemia in insulin therapy is increased by: | insufficient food intake | alcohol | physical activity | excessive food intake |
| 315 | Somogyi effect: | means "rebound" hyperglycemia | develops after an episode of hypoglycaemia | usually occurs at night | means "rebound" hypoglycemia |
| 316 | Incretin effect is: | peroral administration of glucose stimulates insulin secretion more efficiently than intravenous | peroral administration of glucose stimulates insulin secretion more later compared to intravenous | venous administration of glucose stimulates insulin secretion more efficiently than peroral | peroral administration of glucose stimulates insulin secretion equally to intravenous |

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| 317 | Incretin mimetics: | are GLP-1 analogs | are applied s.c. | are DPP-4 inhibitors | are applied p.o. |
| 318 | Gliptins: | are applied p.o. | are DPP-4 inhibitors | are applied s.c. | are GLP-1 analogs |
| 319 | DPP-4 inhibitors: | are administered per os | are related to the risk of several types of infections | can cause frequent hypoglycemias | are administred intravenously only |
| 320 | To newer antidiabetics belong: | incretin mimetics | glucuretics | gliptins | metformin |
| 321 | Oral antidiabetics: | are substances of a non-hormonal nature | can be combined with insulin | are used in the treatment of type 2 diabetes mellitus | replace diet |
| 322 | Biguanides: | can cause lactic acidosis | increase sensitivity of insulin receptors | increase insulin secretion | they only are hypoglycaemic in diabetics |
| 323 | The first choice agent in diabetic patients with metabolic syndrome is: | metformin | sulfonylurea agent | long term insulin analog | GLP-1 analog |
| 324 | Metformin is contraindicated: | in severe renal failure | in metabolic decompensation | before RTG contrast examination | at treatment with DPP-4 inhibitors |
| 325 | Rosiglitazone: | belongs to thiazolidinediones | belongs to PPAR gamma agonists | is indicated for type 1 DM | is indicated as a first-choice drug for type 2 DM |
| 326 | Sulphonylureas: | may cause hypoglycaemia | increase the secretion of residual insulin | increase sensitivity of insulin receptors | increase lipid metabolism |
| 327 | Repaglinide: | can be combined with other PADs | increases insulin secretion from pancreatic B cells | is excreted predominantly by the kidneys | affects insulin resistance |
| 328 | Canagliflozin is: | gliflozin | SGLT2 inhibitor | glucuretic | incretin mimetic |
| 329 | Alpha-glucosidase inhibitors include: | acarbose | gliclazide | tolbutamide | buformin |
| 330 | The risk of euglycemic ketoacidosis is increaes by treatment with: | glucuretics | metformin | sulfonylurea agents | aminoacid ketoanalogues |
| 331 | The risk of lactic acidosis is increased by treatment with: | metformin | sulfonylurea agents | glucuretics | insulin |
| 332 | The risk of weight gain is related to treatment with : | sulfonylurea agents | insulin | glucuretics | metformin |
| 333 | The risk of pancreatitis is increased by treatment with: | GLP-1 analogs | DPP-4 inhibitors | sulfonylurea agents | metformin |

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| 334 | Indications for pancreas transplantation are: | severe progreding course of complications of type 1 diabetes | metabolic instability of type 1 diabetes with frequent hypoglycemia | recidivant infections of urinary tract with dysregulated blood glucose levels | if diabetes treatment requires too high doses of insulin |
| 335 | Thyroxine administration induces: | increase in basal metabolism | increased CNS excitability | decrease in heart rate and blood pressure | effect reduction of catecholamines |
| 336 | Possible causes of hypothyroidism: | amiodarone therapy | Hashimoto's thyroiditis | dietary iodine deficiency | all of the above |
| 337 | Thyrostatic effects have: | carbimazole | lithium | propyltiouracyl | low doses of iodine |
| 338 | Adverse effects of thyrostatics: | predominate B-type ADRs | skin allergic manifestations are common | rarely cause aplastic anemia | induce hyperthyroidism in newborns |
| 339 | Possible mechanisms of action of antibiotics include: | inhibition of cell wall synthesis | inhibition of cytoplasmic membrane function | inhibition of protein synthesis | stimulation of antibody production |
| 340 | Gram-positive bacteria include: | Staphylococcus sp. | Streptococcus sp. | Enterococcus sp. | Haemophilus sp. |
| 341 | Gram-negative bacteria include: | Escherichia colli | Klebsiella sp. | Haemophilus sp. | Clostridium sp. |
| 342 | Gram-negative bacteria include: | Pseudomonas sp. | Salmonella sp. | Shigella sp. | Mycoplasma sp. |
| 343 | Anaerobic bacteria include: | Clostridium sp. | Bacteroides sp. | Legionella sp. | Bordetella sp. |
| 344 | Facultative anaerobic bacteria: | include most bacteria | are able of growing both in the presence and absence of oxygen | include a minimum of bacteria | is a synonym for microaerophilic bacteria |
| 345 | The following bacteria do not have a cell wall: | Mycoplasma sp. | Ureaplasma sp. | Chlamydia sp. | Pseudomonas sp. |
| 346 | Basic narrow-spectrum penicillins include: | penicillin G | penicillin V | ampicillin | amoxicillin |
| 347 | The antibacterial effect of penicillins is due to: | impaired cell wall synthesis | inhibiting peptidoglycan chain synthesis | activation of lytic enzymes in bacterial wall | inhibiting DNA gyrase |
| 348 | Hoigne´s syndrome may occur after administration of: | as a result of microembolization | i.m. depot penicillin | i.v. ampicillin | p.o. penicillin |
| 349 | Aminopenicillins: | they are acid resistant | can cause allergies | are bactericidal | are primarily bacteriostatic |
| 350 | Clavulanic acid: | is used in combination with amoxicillin | inhibits ß-lactamase | has a bactericidal effect | reduces the incidence of allergic reactions to penicillins |
| 351 | Beta-lactamase inhibitors include: | clavulanic acid | sulbactam | tazobactam | azithromycin |
| 352 | The following are considered safe for use in pregnancy: | ß-lactam ATB | aminoglycosides | tetracyclines | quinolones |

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| 353 | To penicillin have the closest mechanism of action and properties: | cephalosporins | aminoglycosides | tetracyclines | sulfonamides |
| 354 | Macrolide ATBs: | they are mainly bacteriostatic | are well absorbed from GIT | act on chlamydia and mycoplasma | they are mainly bactericidal |
| 355 | Macrolide antibiotics include: | azithromycin | clarithromycin | lincomycin | streptomycin |
| 356 | Azithromycin is advantageous for: | low sensitization | long elimination half-life | broad-spectrum | narrow spectrum |
| 357 | Inhibition of CYP 3A4: | clarithromycin is an inhibitor of CYP 3A4 | azithromycin inhibits CYP 3A4 the most | clarithromycin almost does not inhibit CYP 3A4 | is the same for all macrolide antibiotics and has no clinical significance |
| 358 | Tetracycline antibiotics: | they should not be taken with dairy products | are contraindicated in children | are contraindicated in pregnancy | are bactericidal |
| 359 | Tetracyclines are effective against: | many gram-positive and gram-negative bacteria | chlamydia and mycoplasma | amoeba | yeast |
| 360 | Tetracyclines may have the following ADRs: | nausea | candidiasis | diarrhea | dental enamel discoloration |
| 361 | An advantage of doxycycline is: | broad-spectrum | long elimination half-life | no photosensitivity reaction | bactericidal effect |
| 362 | Aminoglycosides: | are potentially ototoxic | are poorly resorbed from GIT | they are potentially nephrotoxic | are relatively safe |
| 363 | Aminoglycosides: | they can be combined with penicillins | are mainly active against G- microorganisms | are mainly active against G+ microorganisms | are highly effective against anaerobic strains |
| 364 | The advantages of clindamycin are: | good bone penetration | action against streptococci and staphylococci | action against anaerobes | poor absorption after p.o. administration |
| 365 | Quinolones: | affect chlamydia and mycoplasma | inhibit bacterial DNA gyrase | affect both G- and G + microorganisms | influence the synthesis of folic acid |
| 366 | Harmful newly discovered ADRs of fluoroquinolones include: | tendonitis, joint pain | neuropathy | hearing and visual disturbances | aneurysms |
| 367 | Sulfamethoxazole + trimethoprim: | is the drug of choice for pneumonia caused by Pneumocystis carinii | suitable for single dose treatment of uncomplicated UTI | resistance rarely arises | suitable for the treatment of complicated UTI |
| 368 | Fosfomycin: | suitable for single dose treatment of uncomplicated UTI in women | is a broad-spectrum antibiotic | suitable for single dose treatment of uncomplicated UTI in males | is a narrow-spectrum antibiotic |

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| 369 | Primarily bactericidal are: | aminoglycosides | cephalosporins | sulfonamides | tetracyclines |
| 370 | Primarily bactericidal are: | beta-lactam ATB | quinolones | chloramphenicol | macrolide ATB |
| 371 | We can expect a beneficial effect from a combination of: | penicillins + macrolides | amoxicillin + clavulanic acid | trimethoprim + sulfamethoxazole | ampicillin + sulbactam |
| 372 | For the treatment of infections caused by Clostridium difficile are used: | vancomycin | metronidazole | cefuroxime | penicillin |
| 373 | Bacteria that have mycolic acid in the cell wall include: | Mycobacteria sp. | Chlamydia sp. | Ureaplasma sp. | Mycoplasma sp. |
| 374 | Basic antituberculotics include: | rifampicin | izoniazid | ethambutol | pyrazinamide |
| 375 | Isoniazid: | its toxicity is reduced by pyridoxine | can induce peripheral neuropathy | is used in tuberculosis monotherapy | its toxicity is increased by pyridoxine |
| 376 | Rifampicin: | induces microsomal biotransformation enzymes | decreases the effect of hormonal contraceptives | increases the effect of warfarin | inhibits microsomal biotransformation enzymes |
| 377 | Possible ADRs of rifampicin: | nausea, diarrhea | hepatotoxicity, hematotoxicity | orange colour of tears, sweat and urine | may cause flu-like syndrome |
| 378 | Indications of aciclovir: | treatment of herpes simplex | treatment of herpes zoster | treatment of AIDS | prevention and treatment of influenza |
| 379 | Antiviral drugs for the treatment of cytomegalovirus infection: | valganciclovir | abacavir | valaciclovir | amantadine |
| 380 | ART means: | HIV antiretroviral therapy | use of a combination of at least 3 antiretroviral agents | monotherapy with a highly effective antiretroviral agent | use of a combination of at least 4 antiretroviral agents |
| 381 | The main antiretroviral medicines used in HIV therapy include: | integrase inhibitors | reverse transcriptase inhibitors | protease inhibitors | DNA polymerase inhibitors |
| 382 | Typical pathogens in mycotic infections: | Candida sp. | Epidermophyton sp., Trychophyton sp. | Aspergillus | Cryptococcus sp. |
| 383 | Polyene antifungals include: | nystatin | amphotericin | clotrimazole | sulfamethoxazole |
| 384 | Imidazole antifungals: | they are usually administered topically | resistance is difficult to develop | they are usually administered p.o. | resistance to them develops very quickly and easily |
| 385 | Imidazole antifungals include: | clotrimazole | amphotericin | nystatin | sulfamethoxazole |

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| 386 | Triazole antifungals: | include voriconazole | have a similar mechanism of action as imidazole antifungals | include itraconazole | they cannot be used locally |
| 387 | Antiseptics: | destroy microorganisms on tissues (skin, wounds, mucous membranes) | have a non-specific mechanism of action | have a specific mechanism of action | destroy microorganisms on inanimate objects and in infectious material |
| 388 | Disinfectants: | have a broad-spectrum | destroy microorganisms on inanimate objects and in infectious material | have a narrow-spectrum | destroy microorganisms on tissues (skin, wounds, mucous membranes) |
| 389 | The antimicrobial effect of antiseptics strongly depends on: | substance concentration | temperature | time | penetration of the substance through skin |
| 390 | The mechanism of action of antiseptics: | precipitation of membrane proteins | cytoplasmic membrane lysis | disintegration of membrane lipids | none of these |
| 391 | Frequently used antiseptics, disinfectants include: | ethanol | chlorhexidine | substances with quaternary nitrogen | iodine compounds |
| 392 | The iodine compounds act: | bactericidal | antifungal | virucidal | sporadically on spores |
| 393 | Chlorohexidine has a significant effect on: | G+ microorganisms | spores | mycobacteria | pseudomonas |
| 394 | Trastuzumab: | is a monoclonal antibody against the HER2 receptor | is used in the treatment of breast cancer | it is a monoclonal antibody against TNF-α | it is a monoclonal antibody against vascular endothelial growth factor (VEGF) |
| 395 | Monoclonal antibodies against vascular endothelial growth factor (VEGF): | are used in the treatment of colorectal cancer | are used in ophthalmology in the treatment of macular degeneration | this group includes bevacizumab | this group includes infliximab |
| 396 | Monoclonal antibodies against TNF-α: | are used in the treatment of rheumatoid arthritis | are used in the treatment of ulcerative colitis and Crohn's disease | are used in the treatment of psoriasis | these include trastuzumab |
| 397 | Monoclonal antibodies against TNF-α include: | infliximab | adalimumab | bevacizumab | natalizumab |
| 398 | Monoclonal antibodies: | are also used in hypolipidemic treatment | treatment with monoclonal antibodies is associated with an increased risk | adverse effects include hypersensitivity reactions | are not used in neurology |

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| | | | of opportunistic infections | | |
| 399 | Monoclonal antibodies: | are also used as antidotes, e.g. with dabigatran treatment | in neurology they are used in the treatment of multiple sclerosis | their administration is associated with the risk of autoimmune diseases | chimeric monoclonal antibodies do not contain any regions of human origin |
| 400 | Cetuximab: | is a monoclonal antibody against epidermal growth factor receptor (EGFR) | is used in the treatment of colorectal cancer | is a monoclonal antibody against TNF-α | is a monoclonal antibody against vascular endothelial growth factor (VEGF) |
| 401 | Original drug: | has a patent for 15 to 20 years | the patent is registered during phase II. clinical trial | the patent is registered in the post-marketing phase of the clinical trial | the development of a new drug takes 3-5 years |
| 402 | Generic drug: | it must have the same qualitative composition as the reference drug | it must have the same quantitative composition as the reference drug | must have the same excipients as the reference drug | it must have the same price as the reference drug |
| 403 | Generic drug: | has the same dosage form as the reference drug | is bioequivalent to the reference drug | generic drug should have pharmacokinetic properties bioequivalent to original drug | it has the same efficacy, safety and price as the reference drug |
| 404 | Mark the correct statement: | AUC of the generic must be 80% - 125% of the original | the price of the generic drug is usually 50% lower than the price of the original drug when entering the market | AUC of the generic must be 95% - 110% of the original | the price of the generic drug must be 60% lower than the price of the original drug when entering the market |
| 405 | Generic drugs: | are stable at room temperature | have a low molecular weight | they increase the risk of immunogenicity | they mainly have a parenteral route of administration |
| 406 | Original drugs: | are stable at room temperature | have a low molecular weight | they increase the risk of immunogenicity | they mainly have a parenteral route of administration |
| 407 | Pharmacology deals with: | drug interactions with the body | synthesis of drugs | production of drug dosage forms | processing and disposal of pharmaceuticals |
| 408 | Pharmacodynamics is dealing with: | the effect of the drug on the body | processing the drug in the body | transport of the drug into the cells | drug absorption |

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| 409 | EC50 represents: | the drug concentration producing a 50% effect | an effective drug concentration that produces half the biological effect | concentration of drug producing less than 50% effect | half the concentration of the drug, which will produce the maximum effect |
| 410 | ED50 represents: | median effective dose | the dose of drug most likely to elicit a response in 50% of individuals | it is the same as EC50 | it is the same as TD50 |
| 411 | TD50 represents: | is the dose that produces a toxic effect in 50% of individuals | median toxic dose | is the dose that causes death in 50% of individuals | median lethal dose |
| 412 | LD50 represents: | median lethal dose | is the dose that causes death in 50% of individuals | median toxic dose | is the dose that produces a toxic effect in 50% of individuals |
| 413 | Therapeutic index: | is the TD50/ED50 ratio | if it is more than 10, the drug is relatively safe | represents the safety of the drug | is the ED50/TD50 ratio |
| 414 | Therapeutic index: | indicates how much the median toxic dose is higher than the median effective dose | if it is low, the risk of toxic effects increases | if it is high, the drug is relatively safe | if it is high, the risk of toxic effects increases |
| 415 | The therapeutic window is: | the difference between LD50 and ED50 values | drugs with a large therapeutic range are relatively safe | drugs with a small therapeutic window are less safe | drugs with a large therapeutic window are less safe |
| 416 | The drug can produce its effect through: | binding to receptors | binding to enzymes | binding to plasma proteins | binding to the plasma membrane |
| 417 | Receptors include: | G-protein coupled receptors | ligand-gated ion channels | proteins to which the drug binds and produces a biological effect | cyclooxygenase |
| 418 | Cyclooxygenase-1: | is a protein | is an enzyme | is a hormone | is a receptor |
| 419 | Intracellular receptors: | they can be localized in the cytoplasm | they can be localized in the nucleus | they can be localized on the cell surface | their ligands are hydrophilic molecules |
| 420 | Intracellular receptors: | examples of their ligands are steroid hormones | their ligands are lipophilic molecules | their ligands are both hydrophilic and lipophilic molecules | their ligands are hydrophilic molecules |
| 421 | Depolarization means: | increase in membrane potential | increasing the probability of an action potential | decrease in membrane potential | reducing the probability of the occurrence of an action potential |
| 422 | Hyperpolarization means: | reducing the probability of the occurrence of an action potential | decrease in membrane potential | increasing the probability of an action potential | increase in membrane potential |

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| 423 | Second messengers: | are signal transducing molecules | include cyclic adenosine monophosphate | include cyclic guanosine monophosphate | include inositol triphosphate |
| 424 | cAMP: | the effect of cAMP is determined by the activation of protein kinase A | the effect of cAMP is determined by the activation of protein kinase C | the effect of cAMP is determined by the activation of protein kinase G | the effect of cAMP is determined by the activation of protein kinase B |
| 425 | cGMP: | the effect of cGMP is determined by the activation of protein kinase G | the effect of cGMP is determined by the activation of protein kinase C | the effect of cGMP is determined by the activation of protein kinase A | the effect of cGMP is determined by the activation of protein kinase B |
| 426 | DAG (diacylglycerol): | activates protein kinase C | activates protein kinase A | activates protein kinase G | activates protein kinase B |
| 427 | Second messengers derived from membrane phospholipids include: | inositol triphosphate | DAG (diacylglycerol) | cAMP | cGMP |
| 428 | The antidote for dabigatran is: | idarucizumab | infliximab | andexanet alfa | abxicimab |
| 429 | The antidote for rivaroxaban is: | andexanet alfa | infliximab | idarucizumab | abxicimab |
| 430 | The antidote for enoxaparin is: | andexanet alfa | infliximab | idarucizumab | abxicimab |
| 431 | The antidote for heparin is: | protamine sulfate | vitamin K | andexanet alfa | bevacizumab |
| 432 | Idarucizumab is an antidote for: | dabigatran | enoxaparin | apixaban | fondaparin |
| 433 | For life-threatening bleeding after edoxaban, the following is administered: | andexanet alfa | 4-factor prothrombin complex concentrate | idarucizumab | i.v. vitamin K |
| 434 | Adrenaline: | is given during anaphylactic shock | increases blood pressure | increases cardiac output | it is produced by the adrenal glands |
| 435 | Non-selective sympathomimetics include: | adrenaline | noradrenaline | dopamine | dobutamine |
| 436 | Selective α1-sympathomimetics include: | substances used to treat nasal congestion | phenylephrine | naphazoline | methyldopa |
| 437 | Selective α2-sympathomimetics: | they are used in opiate addiction therapy | include methyldopa | include clonidine | they are used in the therapy of hypertension |
| 438 | Selective β2-sympathomimetics: | include formoterol | include salbutamol | have a tocolytic effect | have a uterotonic effect |
| 439 | Non-selective α-sympatholytics include: | phentolamine | phenoxybenzamine | terazosin | tamsulosin |
| 440 | Selective α1-sympatholytics: | include tamsulosin | they are used in the therapy of hypertension | they are used in the therapy of benign prostatic hyperplasia | include rilmenidine |

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| 441 | Indirectly acting sympathomimetics: | they can affect neurotransmitter release | they can affect neurotransmitter synthesis | they can affect the storage of the neurotransmitter | they act directly on the adrenergic receptor |
| 442 | Phenoxybenzamine: | its effect lasts longer than the effect of phentolamine | is an irreversible antagonist of α1 and α2 receptors | its effect lasts less than the effect of phentolamine | is a competitive antagonist of α1 and α2 receptors |
| 443 | Phentolamine: | is a competitive antagonist of α1 and α2 receptors | its effect lasts less than the effect of phenoxybenzamine | is an irreversible antagonist of α1 and α2 receptors | its effect lasts longer than the effect of phenoxybenzamine |
| 444 | Mydriatics: | dilate pupils | mydriasis is caused by activation of the sympathetic nervous system | mydriasis is caused by inhibition of the parasympathetic nervous system | mydriasis is caused by activation of the parasympathetic nervous system |
| 445 | Tropicamide: | it has a short biological half-life | belongs to substances causing mydriasis | belongs to anticholinergics | it has a long biological half-life |
| 446 | Cycloplegics: | after their application, the eye loses the ability to focus on nearby objects | after their application, the eye is sensitive to the sun | after their application, the eye loses the ability to focus on distant objects | include phenylephrine |
| 447 | Antimuscarinics: | cause mydriasis | cause cycloplegia | driving motor vehicles should be avoided after their administration | they can be administered without restriction to patients with glaucoma |
| 448 | Topical beta-blockers for glaucoma include: | carteolol | timolol | carvedilol | metoprolol |
| 449 | Prostaglandin analogues administered locally in glaucoma: | are drugs of the first choice in open-angle glaucoma | they have fixed combinations with beta blockers | include latanoprost | are second-line drugs for open-angle glaucoma |
| 450 | ADRs of prostaglandins administered locally in glaucoma: | eye color change due to increased number of melanosomes | eyelash growth | dry eye | loss of eyelashes |
| 451 | Brimonidine: | is an alpha2 sympathomimetic | is a sympathomimetic | is an alpha2 sympatholytic | is a sympatholytic |
| 452 | Carbonic anhydrase inhibitors given for glaucoma include: | acetazolamid p.o. | dorzolamide topically | brinzolamide topically | acetazolamide topically |
| 453 | Drugs influencing the sympathetic nervous system in glaucoma include: | brimonidine | timolol | tropicamide | acetazolamid |

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| 454 | Hormonal contraceptives: | may contain a combination of synthetic estrogen with synthetic progestogen | combined contraception is prescribed more often than progestin-only contraception | may contain only progestin | combined contraception is prescribed less often than progestin-only contraception |
| 455 | Combined two-component oral contraceptive: | monophasic has tablets with the same amount of hormones | triphasic has 3 types of tablets | biphasic has two types of pills with different amounts of hormones | triphasic has a different amount of hormones in each tablet |
| 456 | Oral contraceptives: | some types are taken for 21 days, followed by a 7-day break | the oral contraceptives, which are taken for 28 days without a break, have 7 pills without hormones | some types are taken for 28 days without a break for better adherence | some types are taken for 28 days without a break, because each tablet contains hormones |
| 457 | Synthetic estrogens used in hormonal contraception include: | estetrol | ethinylestradiol | levonorgestrel | drospirenone |
| 458 | Benefits of combined contraception include: | weakening and shortening of menstrual bleeding | prevention of ovarian cancer | improvement of acne | breast cancer prevention |
| 459 | Disadvantages of combined contraception include: | nausea, vomiting | increased risk of cervical cancer | increased risk of thromboembolism | increased risk of liver cancer |
| 460 | Laxatives: | they support the emptying of intestinal contents | many of them are over-the-counter drugs | some of them are dietary supplements | they can be applied p.o. and also rectally |
| 461 | Laxatives: | are mostly given for a short time | they represent a symptomatic treatment | are usually administered long-term | they represent a causal treatment |
| 462 | Bulk-forming laxatives: | are substances that increase the content in the large intestine | absorb liquid in the intestine | they are not absorbed | they are easily absorbed |
| 463 | Bulk-forming laxatives include: | poorly digestible polysaccharides | methylcellulose | psyllium | agar |
| 464 | Osmotic laxatives: | are substances that bind water in the lumen of the intestine | include lactulose | include macrogol (polyethylene glycol) | include sodium sulfate |
| 465 | Saline laxatives: | are substances that bind water in the lumen of the intestine | include magnesium sulfate | include sodium sulfate | include lactulose |
| 466 | Stimulant laxatives: | they irritate the intestinal wall | include castor oil | are substances that increase the content in the large intestine | are substances that bind water in the lumen of the intestine |

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| 467 | Synthetic stimulant laxatives include: | sodium picosulfate | bisacodyl | castor oil | psyllium |
| 468 | Laxatives that are opioid receptor antagonists include: | naloxegol | bisacodyl | loperamide | sodium picosulfate |
| 469 | Paraffinum liquidum (liquid paraffin): | belongs to stool softeners | can be administered p.o. or in the form of an enema | is intended for single use | is suitable for the therapy of chronic constipation |
| 470 | Intestinal anti-infectives include: | fidaxomicin | probiotics | prebiotics | metabolic products of bacteria |
| 471 | Eubiotics: | are drugs that modify the intestinal microflora | include prebiotics | include probiotics | probiotics do not include yeast |
| 472 | Intestinal adsorbents: | they are able to absorb toxins | include activated charcoal | include diosmectite | are able to adsorb some drugs |
| 473 | Antipropulsives: | they stimulate opioid receptors | include diphenoxylate | include loperamide | they inhibit opioid receptors |
| 474 | Supportive treatment of diarrhea: | replacement of water and electrolytes | tea mixtures containing tannins | limiting fat in the diet | restriction of dietary fiber |
| 475 | Constipation and perimalleolar edema are adverse effects of: | calcium channel blockers | statins | fibrates | NSAIDs |
| 476 | Methyldopa: | is used to treat hypertension during pregnancy | acts in the central nervous system | inhibits the RAAS | is an alpha2-receptor antagonist |
| 477 | Vivid dreams and nightmares are adverse effects of: | beta-blockers | alpha-blockers | beta2-sympathomimetics | alpha2-sympathomimetics |
| 478 | In atrial fibrillation, we administer the following antithrombotics: | warfarin | DOAC | ASA | clopidogrel |
| 479 | In valvular atrial fibrillation, we administer the following anticoagulants: | warfarin | apixaban | dabigatran | edoxaban |
| 480 | In non-valvular atrial fibrillation, we administer the following anticoagulants: | dabigatran | apixaban | warfarin | edoxaban |
| 481 | Amiodarone: | can be administered p.o. | can be administered in i.v. infusion | it has a very long biological half-life | it has a very short biological half-life |
| 482 | Amiodarone: | it is given for some supraventricular arrhythmias | belongs to the class III. of antiarrhythmics according to the Vaugham- | it is administered in severe ventricular arrhythmias | belongs to the class I. of antiarrhythmics according to the Vaugham-Williams classification |

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| | | | Williams classification | | |
| 483 | Class III. of antiarrhythmics according to the Vaugham-Williams classification includes following drugs: | amiodarone | dronedarone | flecainide | propafenone |
| 484 | Class I. of antiarrhythmics according to the Vaugham-Williams classification includes following drugs: | propafenone | flecainide | dronedarone | amiodarone |
| 485 | Class II. of antiarrhythmics according to the Vaugham-Williams classification includes following drugs: | atenolol | esmolol | diltiazem | verapamil |
| 486 | Class IV. of antiarrhythmics according to the Vaugham-Williams classification includes following drugs: | verapamil | diltiazem | esmolol | atenolol |
| 487 | Parenteral, indirect inhibitors of factor IIa and Xa include: | low molecular weight heparins | unfractionated heparin | edoxaban | apixaban |
| 488 | Unfractionated heparin: | has very fast onset of action (within minutes) | the most common ADRs is bleeding | its antidote is vitamin K | its antidote is idarucizumab |
| 489 | Enoxaparin: | inhibits more coagulation factor Xa than coagulation factor IIa | is an indirect thrombin inhibitor | is a direct thrombin inhibitor | inhibits more coagulation factor IIa more than coagulation factor Xa |
| 490 | Fondaparinux: | is administered s.c. once daily | is a synthetic inhibitor of coagulation factor IIa | is administered p.o. 2 times a day | is a plant derived inhibitor of coagulation factor Xa |
| 491 | Warfarin is: | coumarin | vitamin K antagonist | inhibits vitamin K epoxide reductase | vitamin K analogue |
| 492 | Warfarin: | inhibits carboxylation of glutamic acid residues of factors II., VII., IX., X. | inhibits protein C and S carboxylation | stimulates the oxidation of vitamin K | induces vitamin K epoxide reductase |

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| 493 | Coumarins: | are indirect oral anticoagulants | influence the synthesis of coagulation factors II, VII, IX, X | inhibit the activity of coagulation factors II, VII, IX, X | they have a fast, powerful anticoagulant effect |
| 494 | The activity of warfarin is monitored using: | INR | activated partial thromboplastin ti me | thrombin time | activated coagulation time |
| 495 | Warfarin: | is a teratogen | has pharmacodynami c interactions with food | has a wide therapeutic window | it is metabolized in the liver mainly by CYP1B2 |
| 496 | Direct oral anticoagulants: | inhibit the activity of activated coagulation factors X and II | have a strong, predictable anticoagulant effect | they have a slow onset of action and an unpredictable anticoagulant effect | they are given parenterally once a day |
| 497 | Dabigatran: | its contraindication is severe renal dysfunction | inhibits free thrombin as well as thrombin bound to fibrin | is a natural inhibitor of coagulation factor Xa | its available antidote is protamine sulfate |
| 498 | Dabigatran: | inhibits thrombin activity | its antidote is idarucizumab | inhibits the synthesis of coagulation factor II | is a direct antiplatelet drug |
| 499 | Xabans have following effects: | anticoagulant | antiplatelet | thrombolytic | fibrinolytic |
| 500 | Direct factor Xa inhibitors include: | edoxaban | abxicimab | dalteparin | idarucizumab |
| 501 | Apixaban: | the mechanism of action reduces the supply of thrombin | it is indicated for the treatment of thromboembolic disease | is an irreversible antiplatelet agent | it is administered s.c. 1 times a day |
| 502 | Fibrinolytics: | they break down fibrin into fibrin degradation products | significantly increase the risk of bleeding | they are combined with antiplatelet and/or anticoagulant treatment | therapy is monitored using thrombin time |
| 503 | Fibrin-specific, selective thrombolytics include: | tenectepase | altepase | antistreptase | urokinase |
| 504 | Indications for administration of fibrinolytics belong: | acute myocardial infarction | massive pulmonary embolism | ischemic stroke | obliterating arterial disease of the lower limbs |
| 505 | Altepase: | is a tissue plasminogen activator | is a natural protease from vascular endothelium | is antigenic | it is administered s.c. 1 times a day |
| 506 | Tenecteplase: | is a fibrin specific anticoagulant | has less resistance to natural inhibitors | is a natural protease from vascular endothelium | it is administered s.c. 1 times a day |
| 507 | Rhabdomyolysis and myopathy are adverse effects of: | statins | beta-blockers | alpha-blockers | xabans |

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| 508 | Statins: | short-acting ones are taken in the evening | cholesterol is mainly synthesized overnight | short-acting are taken at lunch | short-acting are taken in the morning |
| 509 | To the pleiotropic effects of statins belong: | endothelial protective effect | stabilization of atherosclerotic plaques | anti-inflammatory effect | antioxidant effect |
| 510 | Statins with a longer biological half-life include: | atorvastatin | rosuvastatin | simvastatin | fluvastatin |
| 511 | Ezetimibe: | inhibits the absorption of cholesterol from the GIT | inhibits the absorption of TAG from the GIT | inhibits the absorption of bile acids from the GIT | inhibits the absorption of fat-soluble vitamins from the GIT |
| 512 | Ezetimibe: | blocks NPC1L1 | acts in the brush border of the intestine | acts in the liver | activates NPC1L1 |
| 513 | Ezetimibe: | the combination with a statin potentiates the hypolipidemic effect | if administered as monotherapy, its effect on reducing LDL cholesterol is approx. 20% | combination with a statin reduces the hypolipidemic effect | if administered as monotherapy, its effect on reducing LDL cholesterol is approx. 40% |
| 514 | Bempedoic acid: | is an ATP citrate lyase (ACL) inhibitor | reduces cholesterol biosynthesis and regulates LDL receptors | lowers CRP (C-reactive protein) | increases CRP (C-reactive protein) |
| 515 | ADRs of bempedoic acid: | hyperuricemia | muscle cramps and limb pain | nausea and diarrhea | anemia |
| 516 | ADRs of statins: | nausea and diarrhea | abdominal pain, flatulence | myalgia | elevated liver enzymes |
| 517 | ADRs of fibrates: | nausea and diarrhea | myalgia | rash, pruritus | headaches, fatigue |
| 518 | Inclisiran: | is a double-stranded, small interfering ribonucleic acid | increases the clearance of plasma LDL particles | inclisiran binds to receptors in hepatocytes, enters the cell and inhibits PCSK9 gene expression | increases the number of LDL receptors on the surface of hepatocytes |
| 519 | Inclisiran: | is administered s.c. | is administered p.o. | is administered i.v. | is administered s.c. or i.v. |
| 520 | Inclisiran: | it is administered once every 6 months | it is given once a year | it is given once a month | it is given once every 2 weeks |
| 521 | PCSK9 inhibitors: | are monoclonal antibodies | PCSK9 is responsible for the degradation of LDL receptors on the surface of hepatocytes | they inhibit the enzyme PCSK9 | PCSK9 is responsible for the synthesis of LDL receptors on the surface of hepatocytes |
| 522 | The main causes of iron deficiency include: | abnormal blood loss from the GIT | celiac disease | abnormal blood loss with heavy menstrual bleeding | high intake of meat products |
| 523 | We can administer iron preparations: | as tablets | as syrup | i.v. | i.m. |

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| 524 | Oral iron: | include bivalent iron salts | iron can be combined with ascorbic acid | includes trivalent iron salts | iron can be combined with folic acid |
| 525 | Iron salts in the treatment of anemia can be combined with: | folic acid | vitamin B9 | vitamin B12 | calcium |
| 526 | ADRs of oral iron: | black stool | nausea | constipation | diarrhea |
| 527 | Parenteral iron is administered: | in trivalent form | in a complex with a carbohydrate component | in bivalent form | in a complex with a protein component |
| 528 | Folic acid: | it is administered before pregnancy as a prevention of neural tube deffects | it is given for megaloblastic anemia | it is administered during therapy with methotrexate | it is not taken during pregnancy |
| 529 | Vitamin $B_{12}$: | its deficiency is common among vegetarians and vegans | it is given for pernicious anemia | its deficiency is common in the lack of intrinsic factor | in concurrent lack of folic acid, folic acid should be supplemented first |
| 530 | Epoetin alfa: | is an erythropoietin analogue | it is administered parenterally | its use in sports is prohibited | it is administered p.o. |
| 531 | Anemia can be caused by: | NSAIDs | cytostatics | alcoholism | infections |
| 532 | Which of the following drugs has a risk of agranulocytosis: | clozapine | hydroxychloroquine | amlodipine | dexamethasone |
| 533 | Hormones that affect the growth of some tumor cells include: | glucocorticoids | estrogens | androgens | progesterone |
| 534 | Glucocorticoids: | they are used in the therapy of lymphoblastic leukemias | they are used in the therapy of lymphomas | they can reduce edema around tumors | include dexamethasone |
| 535 | Hypothyroidism, diabetes insipidus and weight gain are adverse effects of: | lithium | levothyroxine | methotrexate | pioglitazone |
| 536 | Bisphosphonates: | are used in treatment of osteoporosis | are used in treatment of Paget's disease | are used in oncology | are not used in oncology |
| 537 | Bisphosphonates include: | zolendronic acid | disodium pamidronate | ibandronic acid | tamoxifen |
| 538 | ADRs of bisphosphonates: | esophagitis | headache and muscle pain | osteonecrosis of the jaw | pyrexia |
| 539 | Cytostatics: | they are not specific only for cancer cells | they can also damage healthy cells | have relatively many adverse effects | are relatively well tolerated |
| 540 | Typical ADRs of cytostatics include: | they have a negative effect on hair follicles | they have a negative effect on the GIT mucosa | they have a negative effect on the bone marrow | they have a negative effect on the fetal development |

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| 541 | Possible mechanisms of action of cytostatics are: | inhibition of nucleic acid biosynthesis | damage to the structure and function of already formed nucleic acids | microtubule damage and abnormal mitosis | interference with protein synthesis |
| 542 | Alkylating agents: | damage the structure and function of nucleic acids by alkylation | target and destroy resting cells | target and destroy proliferating cells | do not target and destroy resting cells |
| 543 | To alkylating agents belong: | nitrogen mustard derivatives | platinum derivatives | nitrosourea derivatives | a relatively wide range of drugs |
| 544 | To alkylating agents belongs: | cyclophosphamide | busulfan | doxorubicin | bleomycin |
| 545 | To cytotoxic antibiotics belongs: | doxorubicin | bleomycin | fludarabine | gemcitabine |
| 546 | To antimetabolites belong: | methotrexate | fludarabine | gemcitabine | fluorouracil |
| 547 | To antimetabolites belong: | folic acid antagonists | purine antagonists | pyrimidine antagonists | topoisomerase inhibitors |
| 548 | To mitotic inhibitors belong: | taxanes | vinca alkaloids | irinotecan | topotecan |
| 549 | Vinca alkaloids: | include vinorelbine | include vinflunine | they are of plant origin - Vinca rosea | belong to mitotic inhibitors |
| 550 | Taxanes: | include docetaxel | include paclitaxel | are of plant origin - Taxus brevifolia | belong to mitotic inhibitors |
| 551 | To topoisomerase inhibitors belong: | topotecan inhibits topoisomerase I | etoposide inhibits topoisomerase II | irinotecan inhibits topoisomerase I | topotecan inhibits topoisomerase II |
| 552 | To anthracyclines belong the following cytotoxic antibiotics: | epirubicin | doxorubicin | bleomycin | azithromycin |
| 553 | Tendon rupture/damage is a adverse effect of: | fluoroquinolones | macrolides | oxazolidinediones | vancomycin |
| 554 | Aminoglycosides are retained by the kidneys in: | proximal tubule | distal tubule | Loop of Henle | glomerulus |
| 555 | Aminoglycosides are most effective against: | aerobic gram-negative bacteria | anaerobic gram-negative bacteria | aerobic gram-positive bacteria | anaerobic gram-positive bacteria |
| 556 | Aminoglycosides bind: | irreversibly to the 30S subunit of the ribosome | reversibly to the 30S subunit of the ribosome | reversibly to the 50S subunit of the ribosome | irreversibly to the 50S subunit of the ribosome |
| 557 | Tetracyclines bind: | reversibly to the 30S subunit of the ribosome | irreversibly to the 30S subunit of the ribosome | reversibly to the 50S subunit of the ribosome | irreversibly to the 50S subunit of the ribosome |
| 558 | Macrolides bind: | reversibly to the 50S subunit of the ribosome | reversibly to the 30S subunit of the ribosome | irreversibly to the 30S subunit of the ribosome | irreversibly to the 50S subunit of the ribosome |
| 559 | In the treatment of infections caused by Clostridium difficile can be used: | fidaxomicin | vancomycin p.o. | Saccharomyces boulardii | vancomycin i.v. |
| 560 | Probiotics include: | lactobacilli | bifidobacteria | yeast | enterobacteria |

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| 561 | Natural probiotics: | are present mainly in yoghurt, soured milk and kefir | pasteurization eliminates them from groceries | are present in foods prepared by fermentation | pasteurization does not affect their presence |
| 562 | Highly similar biologic drugs: | they will come on the market after the patent for the reference biologic has expired | are e.g. growth hormones | are e.g. low molecular weight heparins | are drugs with low molecular weight |
| 563 | Biologics: | are growth hormones | are vaccines | are herbal products | are Janus kinase (JAK) inhibitors |
| 564 | Biosimilars: | they increase the risk of immunogenicity | they have parenteral route of administration | are very stable at room temperature | have a low molecular weight |
| 565 | Reference biologic drugs: | they increase the risk of immunogenicity | they have parenteral route of administration | are very stable at room temperature | have a low molecular weight |
| 566 | Biologics: | they are not very stable at room temperature | they are made from living cells using biotechnology | reduce the risk of immunogenicity | have a low molecular weight |
| 567 | Biologic drugs include: | monoclonal antibodies | gene therapy | insulin | erythropoetin |
| 568 | Omalizumab: | binds to IgE | it is used in the treatment of severe asthma | binds to IL-5 | it is used in the treatment of mild asthma |
| 569 | In the treatment of eosinophilic asthma, the following drugs are used: | substances that bind to IL-5 | mepolizumab | benralizumab | substances that bind to IL-4 and IL-13 |
| 570 | Dupilumab: | binds to IL-4 and IL-13 | binds to IL-5 | binds to IgE | binds to IL-4, IL-5 and IL-13 |
| 571 | Mepolizumab: | binds to IL-5 | binds to IL-4 and IL-13 | binds to IgE | binds to IL-4, IL-5 and IL-13 |
| 572 | To PCSK9 inhibitors belong: | alirocumab | evolocumab | mepolizumab | inclisiran |
| 573 | Evolocumab: | is administered s.c. | it is given once every 2 weeks | is administered p.o. | is administered i.v. |
| 574 | Community-based methods of fluoridation include: | fluoridation of drinking water | salt fluoridation | both drinking water and salt fluoridation | only fluoridation of drinking water |
| 575 | Fluorides can be used topically in: | toothpaste | mouthrinse | in a form of gel by dentist | in a form of solution by dentist |
| 576 | Acute fluoride toxicity: | occurs due to accidental ingestion of fluoride-containing insecticides | can occur after oral hygiene with fluoride-containing toothpaste especially in children | symptoms include nausea, vomitting, abdominal pain, diarrhoea, hypotension, seizures, muscle spasms, respiratory failure | can occur after oral hygiene with fluoride-containing toothpaste especially in adults |
| 577 | Chronic fluoride toxicity: | in mild cases opaque spots are seen on teeth | in severe cases brown pits are seen on teeth | in sever cases opaque spots are seen on teeth | in mild cases brown pits are seen on teeth |

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| 578 | Chronic fluoride toxicity: | can result in dental fluorosis | can result in skeletal fluorosis | the progression of the disease can be halted | the progression of the disease can be reversed |
| 579 | Dentinal hypersensitivity is treated by: | potassium nitrate mouthrinse of toothpaste | fluorides | oxalates | chlorhexidine |
| 580 | Potassium nitrate: | is desensitizing the nerve | blocks generation of action potential in the pulpal nerves | seals the surface of the dentine | is occluding dentinal tubules |
| 581 | Causes of dentinal hypersensitivity: | gingival recession | abrasion of tooth surface | erosion of tooth surface | abrasive brushing |
| 582 | Chlorhexidine: | is antiplaque agent | has anti-inflammatory effect | has broad-spectrum antibacterial effect | has no anti-inflammatory effect |
| 583 | Dental plaque consists of: | wide range of bacteria | food debris | salivary proteins | bacterial polysaccharides |
| 584 | To antiplaque agents belong: | chlorhexidine | triclosan | menthol | glycerine |
| 585 | Anticalculus (antitartar) agents include: | tetrapotassium and sodium pyrophhosphate | zinc citrate | triclosan/copolymer | triclosan |
| 586 | Antisialogues include: | glycopyrrrolate | botulinum toxin A | scopolamine | latrotoxin |
| 587 | Antisialogues include: | parasympatholytics | anticholinergics | directly acting parasympathomimetics | indirectly acting parasympathomimetics |
| 588 | Sialogues include: | pilocarpine | cevimeline | bethanechol | atropine |
| 589 | Sialogues include: | parasympathomimetics | cholinergics | directly acting parasympathomimetics | sympathomimetics |
| 590 | Following drugs can cause xerostomia: | anticholinergics | antidepressants | antipsychotics | cholinergics |
| 591 | Sterilization: | destroys all microorganisms including spores | e.g. through autoclaving | e.g. through UV light | destroys all microorganisms except spores |
| 592 | Methods of sterilization: | autoclaving | UV light | hydrogen peroxide | dry heat |
| 593 | Imunossuppressants: | are used in autoimmune diseases | are used in rheumathoid arthritis | are used in organ transplantation | are used in psoriasis |
| 594 | Imunossuppressants used in rheumatoid arthritis include: | methotrexate | leflunomide | hydroxychloroquine | corticosteroids |
| 595 | JAK inhibitors: | they belong to substances with a small molecular weight | are administered p.o. | they belong to substances with a large molecular weight | are administered s.c. or i.v. |
| 596 | To JAK inhibitors used in the treatment of rheumatoid arthritis belong: | tofacitinib | baricitinib | infliximab | adalimumab |

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| 597 | Imunossuppressants used in organ rejection include: | sirolimus | tacrolimus | cyclosporine | everolimus |
| 598 | Inosine pranobex (Isoprinosine®): | immunomodulatory drug approved in several countries for the treatment of viral respiratory infections | immunomodulatory drug approved in several countries for the treatment of viral herpetic infections | immunomodulatory drug approved in several countries for the treatment of HPV infections | immunomodulatory drug approved in several countries for the treatment of bacterial infections |
| 599 | Immunostimulants include: | vaccines | interferons | sirolimus | tacrolimus |
| 600 | Immunostimulants include: | thymic extracts | beta-glucans | cytokines | corticosteroids |