

Smith John 03.04.1956 (65)

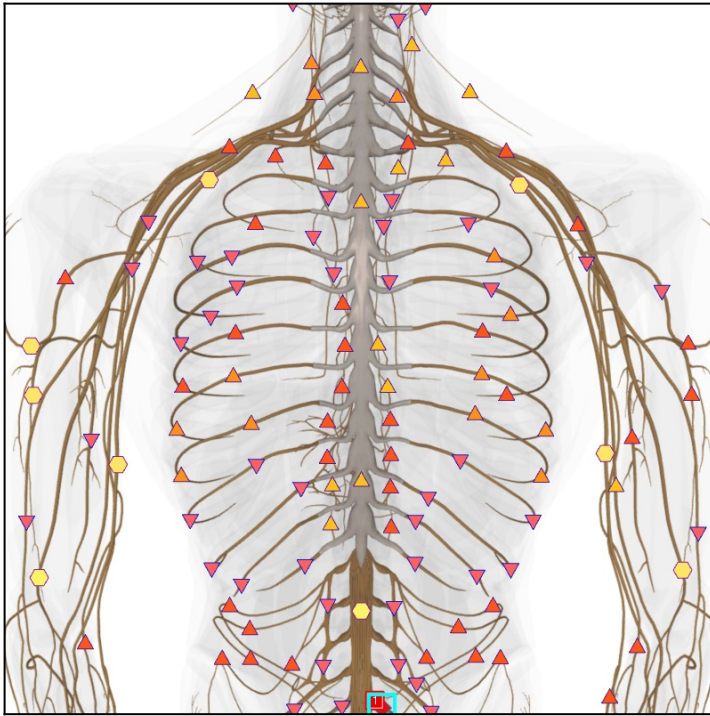
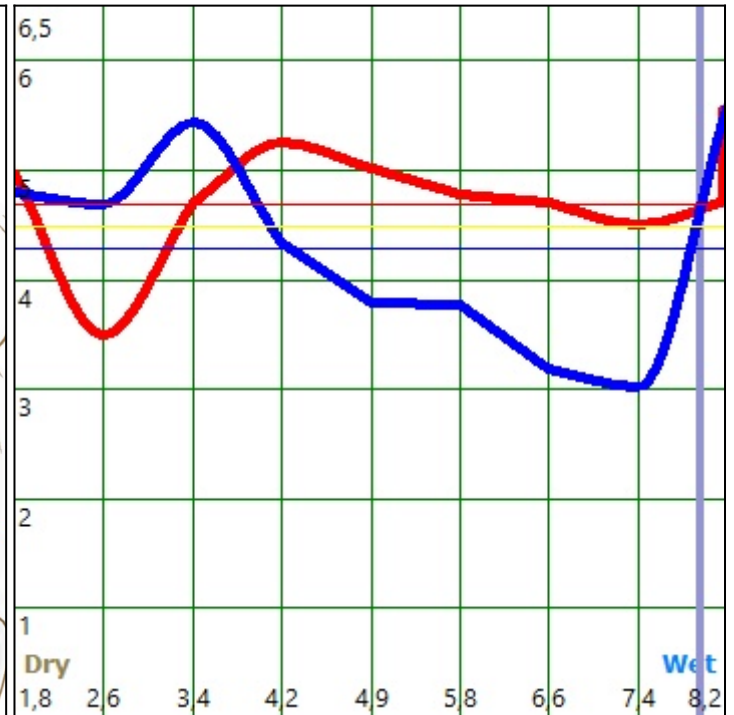
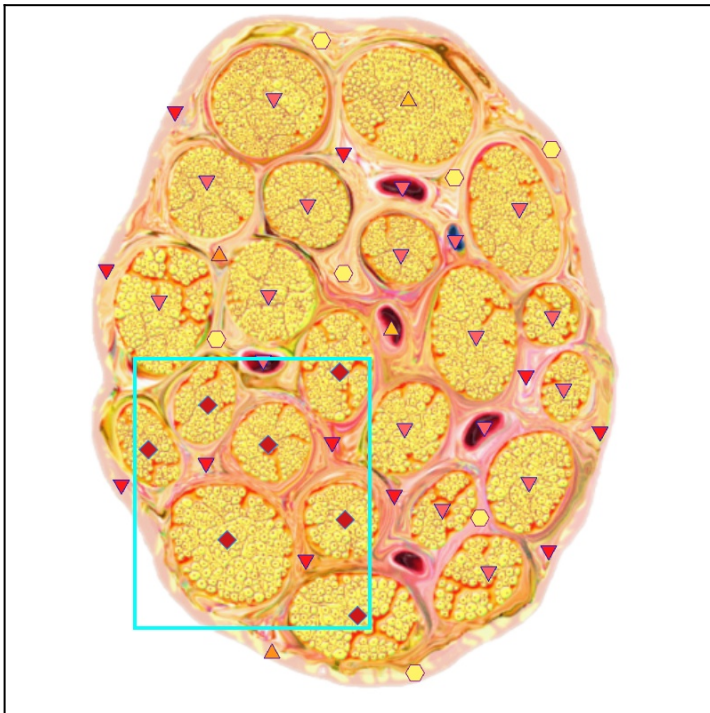
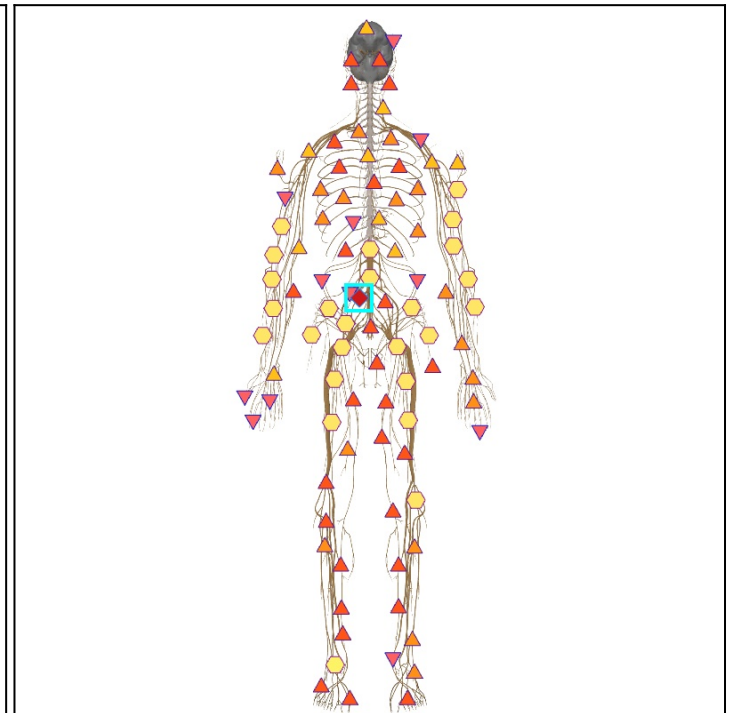
03.08.2021 NERVES OF A BACK AND NECK from behind  
RADICULOPATHY

Diagram of a pathological process

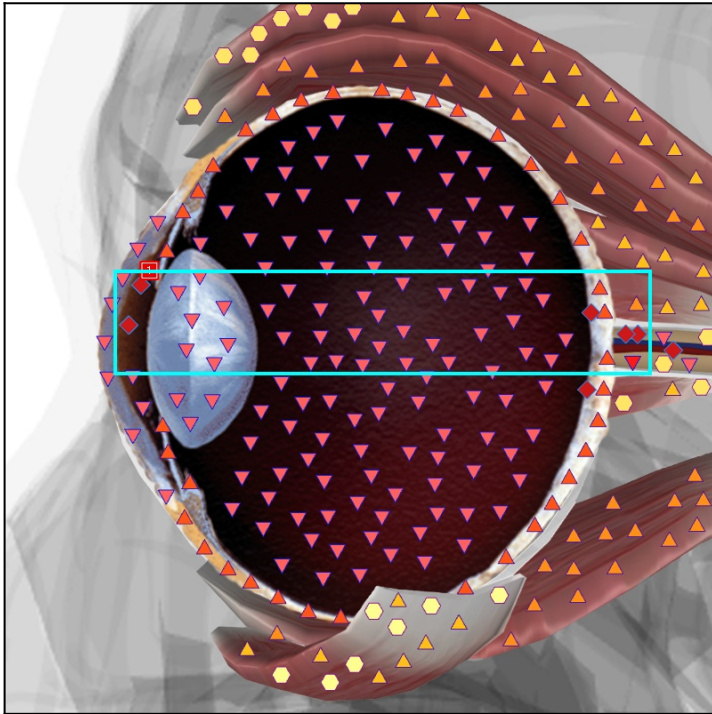


03.08.2021 NERVE - HISTOLOGICAL SECTION #1



03.08.2021 NERVOUS SYSTEM

Sign: Doctor \_\_\_\_\_



03.08.2021 EYEBALL; left side  
GLAUCOMA

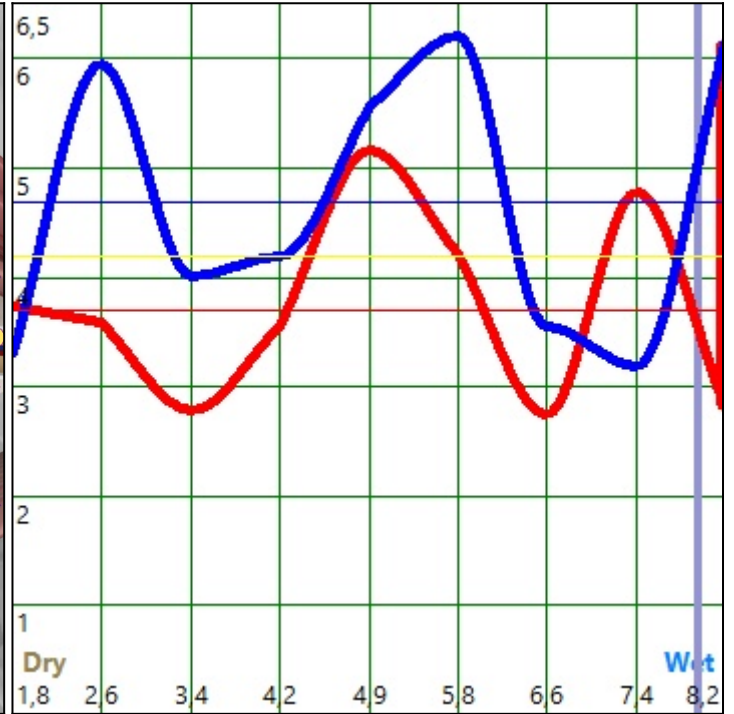
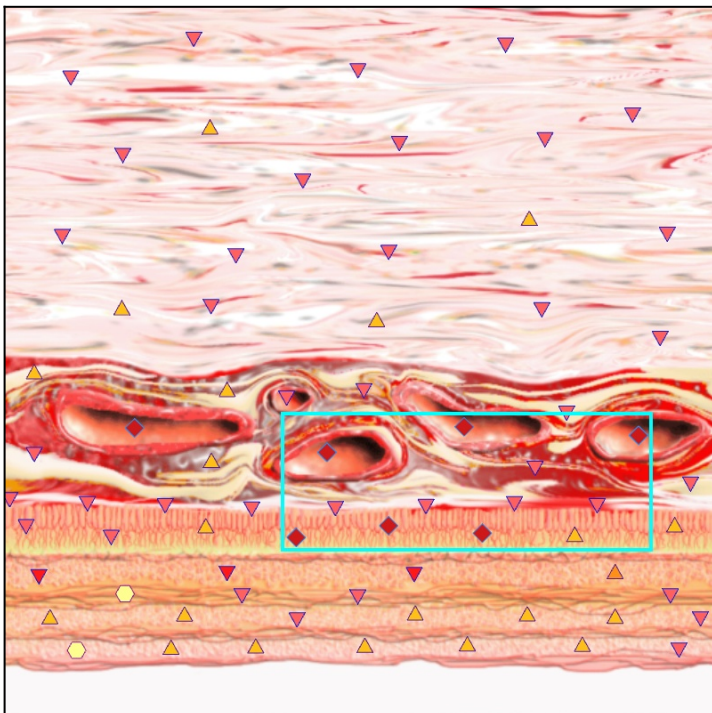
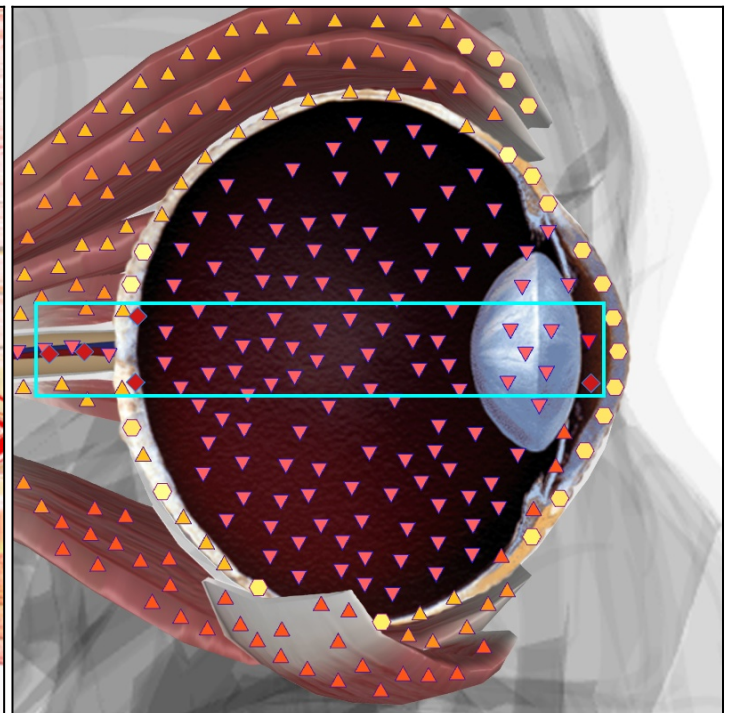


Diagram of a pathological process

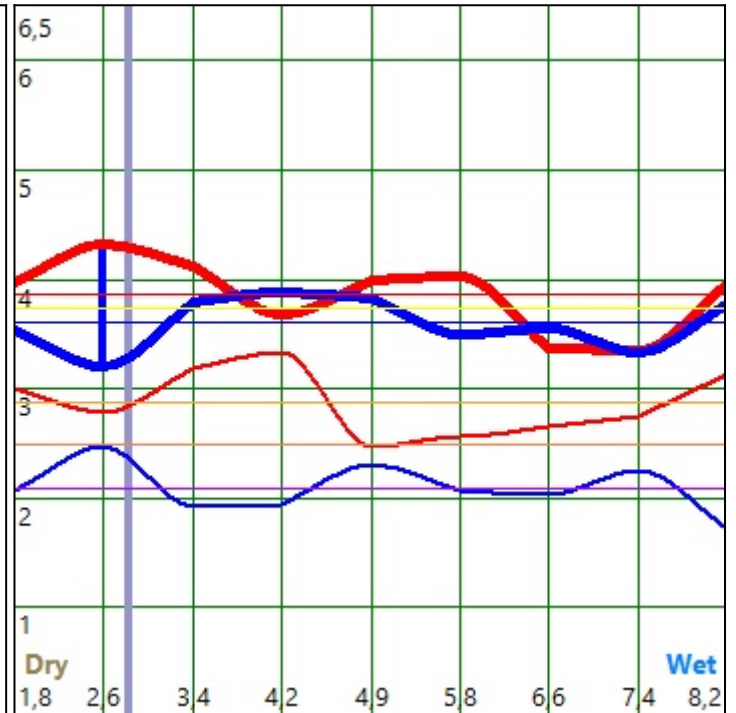


03.08.2021 ANTERIOR CHAMBER OF EYE - HISTOLOGICAL  
SECTION #1



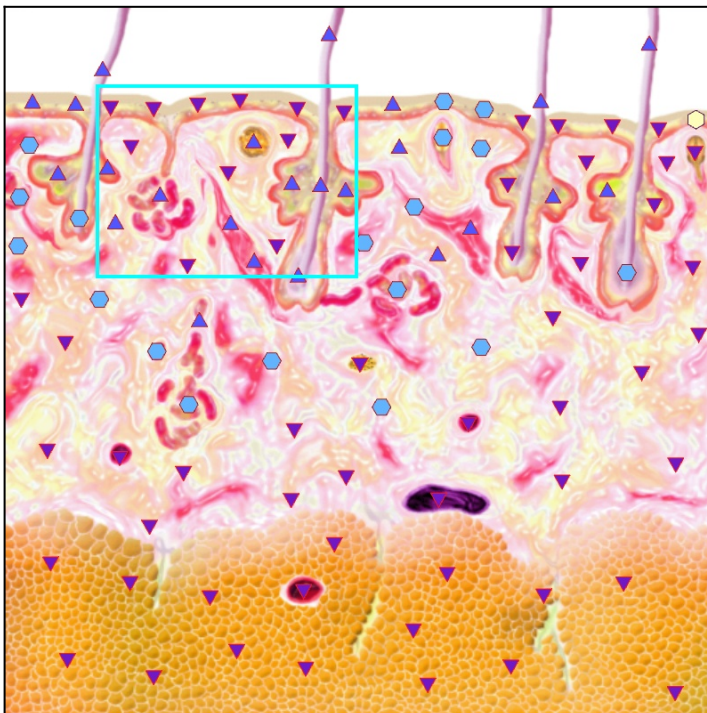
03.08.2021 EYEBALL; right side



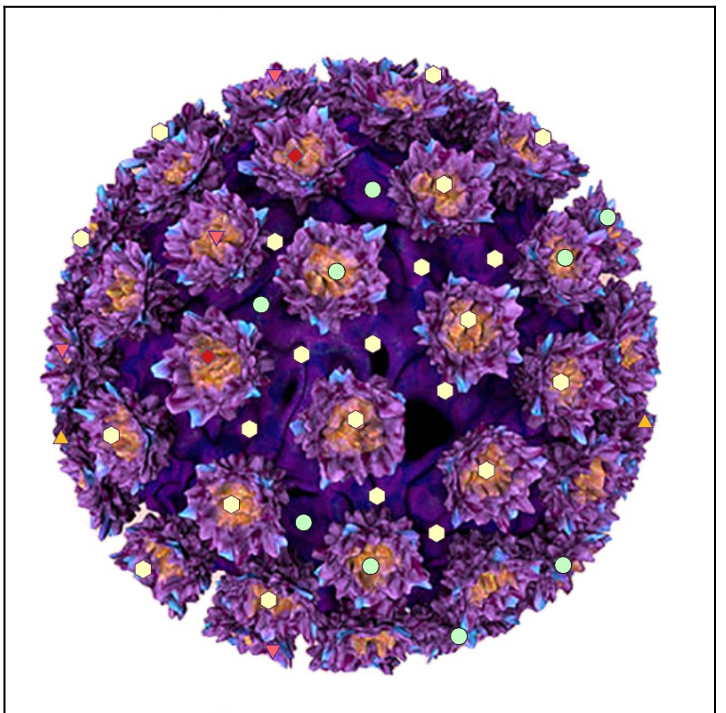


03.08.2021 BODY SKIN from behind  
PAPILLOMATOSIS

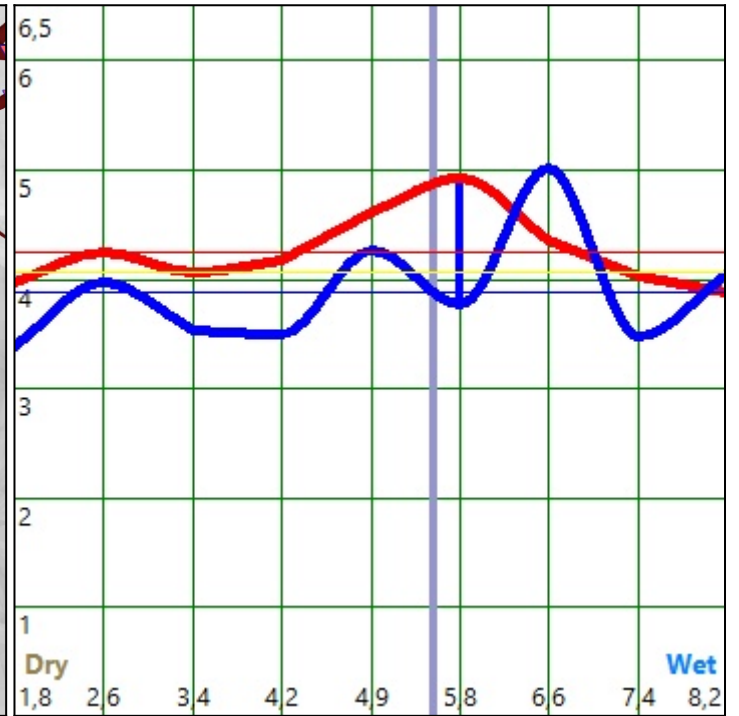
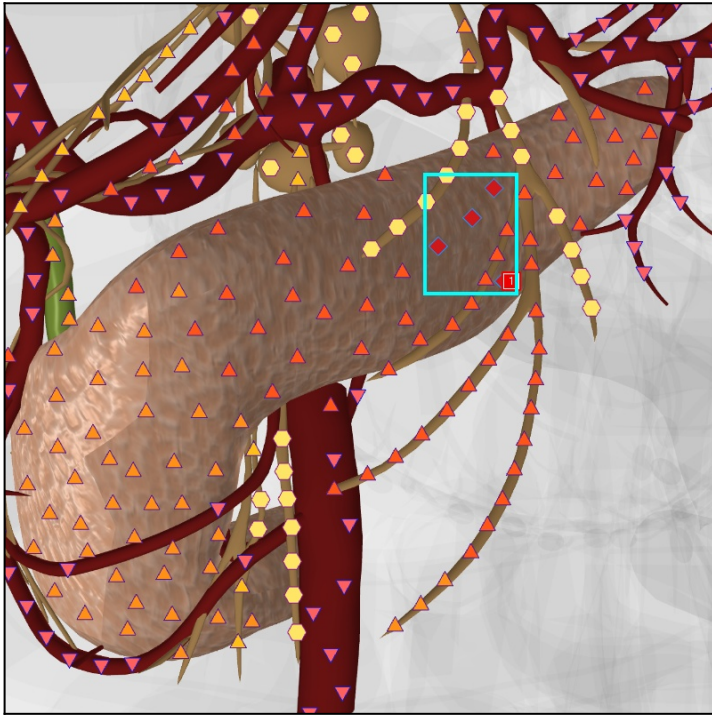
Bold lines represent a diagram of a pathological process  
Thin lines – a diagram of a causative agent



03.08.2021 SKIN OF HANDS - HISTOLOGICAL SECTION #1

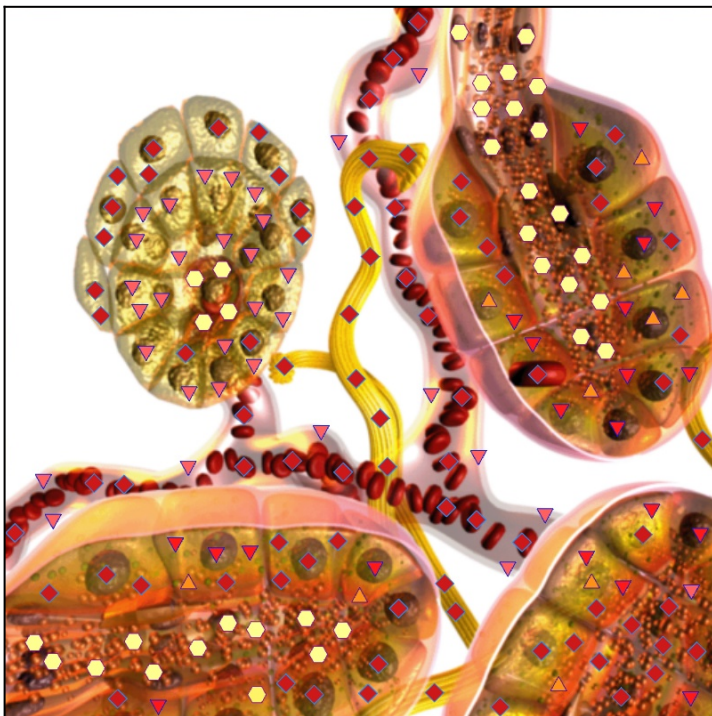


03.08.2021 HUMAN PAPILLOMA VIRUS HPV (6 /11) Complex.  
- Bacterial analysis #1

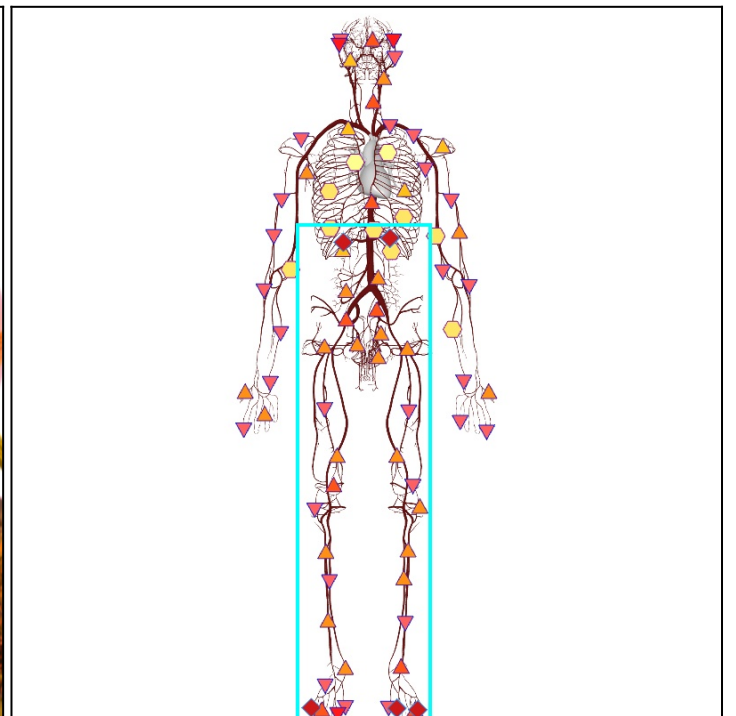


03.08.2021 PANCREATIC-LIENAL AREA from the front  
NON-INSULIN-DEPENDENT PANCREATIC DIABETES

Diagram of a pathological process

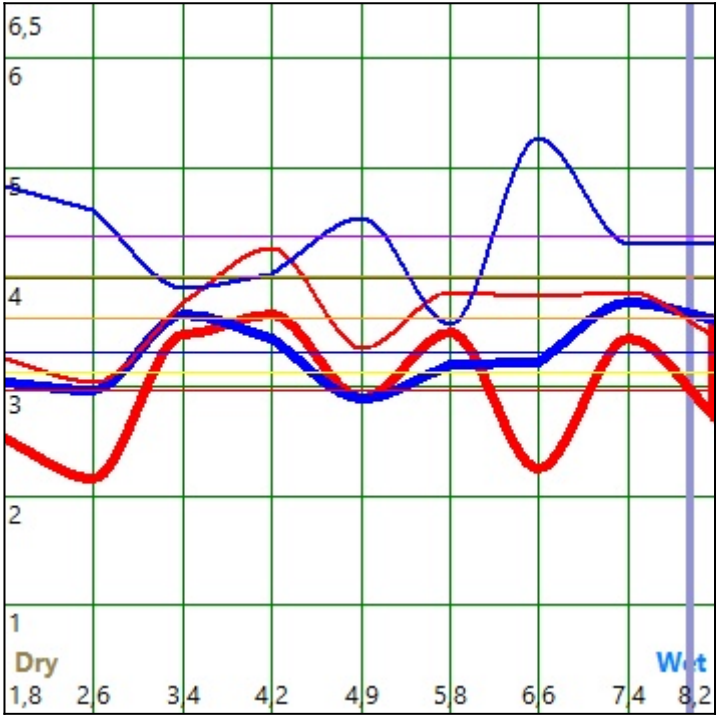


03.08.2021 ULTRASTRUCTURE OF TAIL OF PANCREAS -  
HISTOLOGICAL SECTION #1

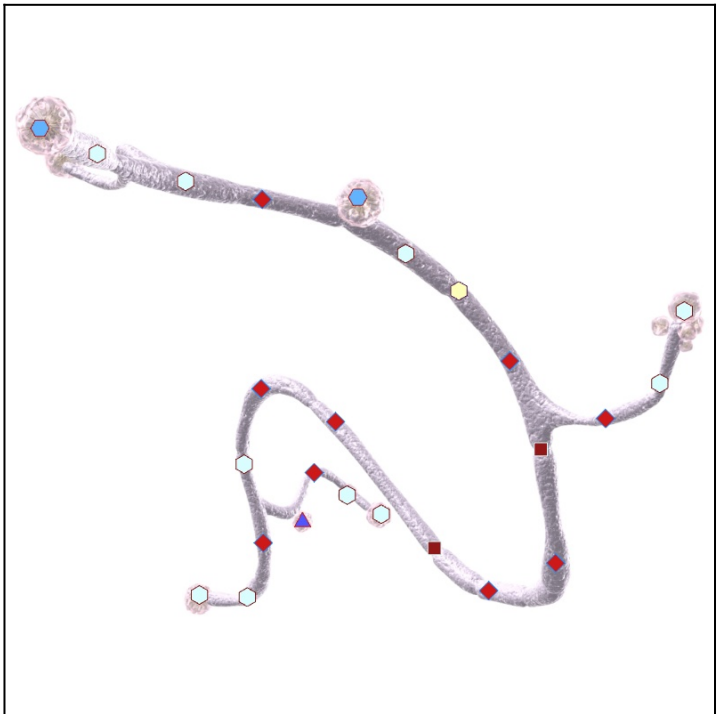


03.08.2021 ARTERIES OF BODY

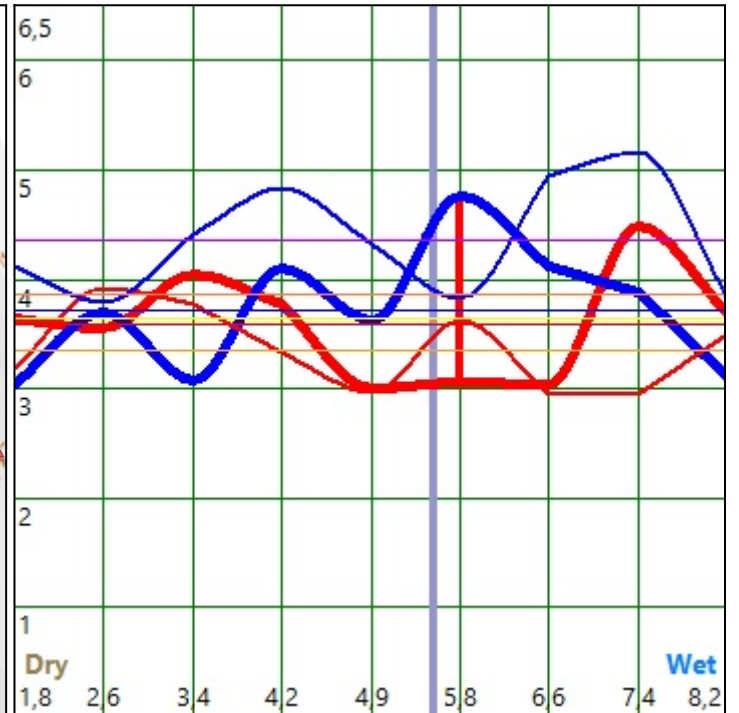
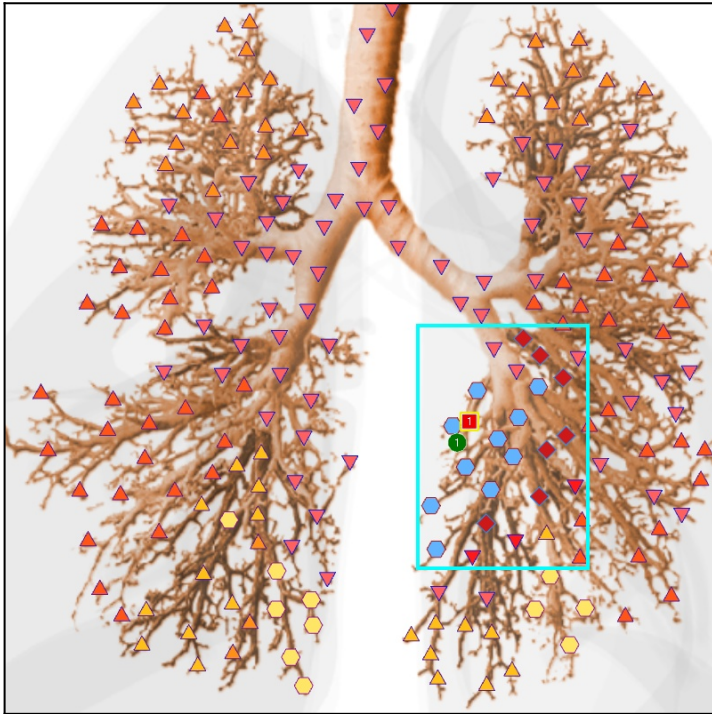




Bold lines represent a diagram of a pathological process  
Thin lines – a diagram of a causative agent

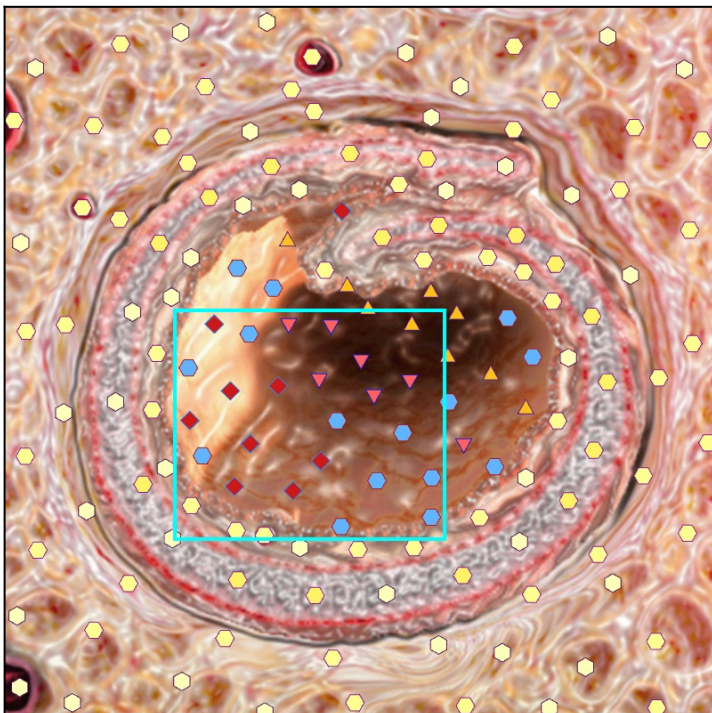


03.08.2021 CANDIDA ALBICANS - Bacterial analysis #1

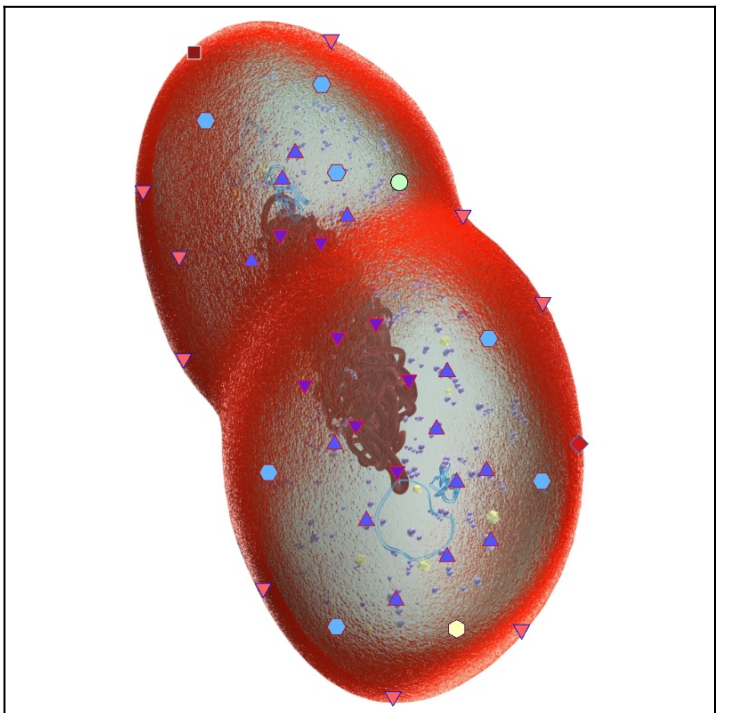


03.08.2021 TRACHEA AND BRONCHI  
CHRONIC OBSTRUCTIVE BRONCHITIS

Bold lines represent a diagram of a pathological process  
Thin lines – a diagram of a causative agent

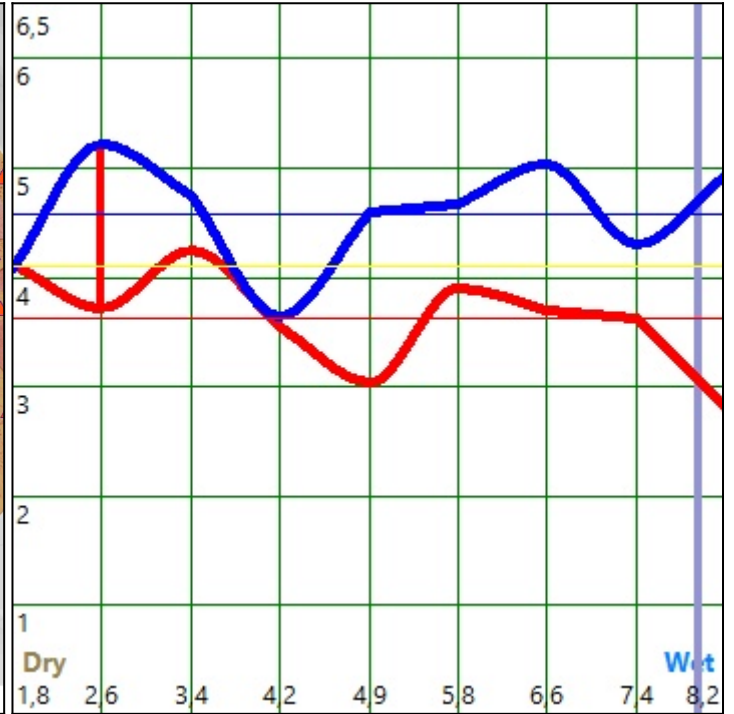


03.08.2021 SECTION OF BRONCHUS - HISTOLOGICAL  
SECTION #1



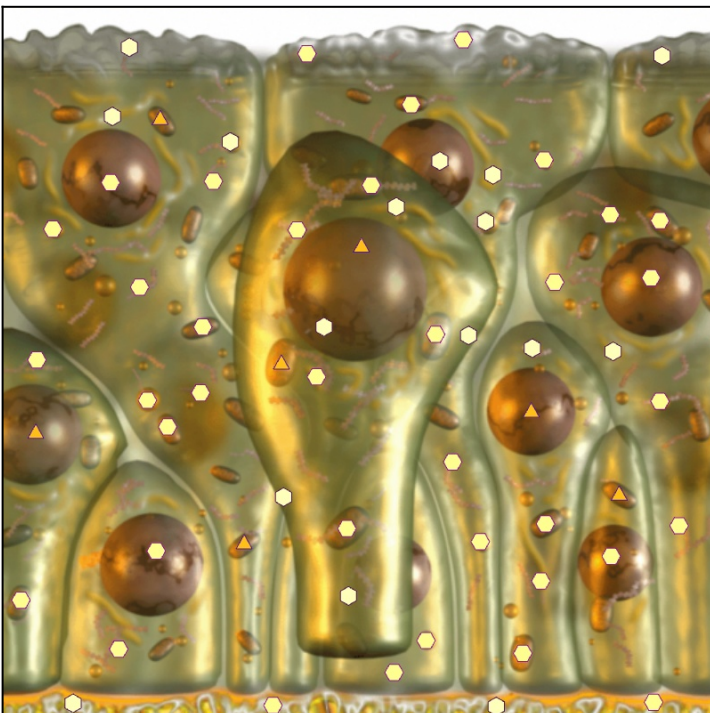
03.08.2021 STREPTOCOCCUS PNEUMONIA - Bacterial  
analysis #1





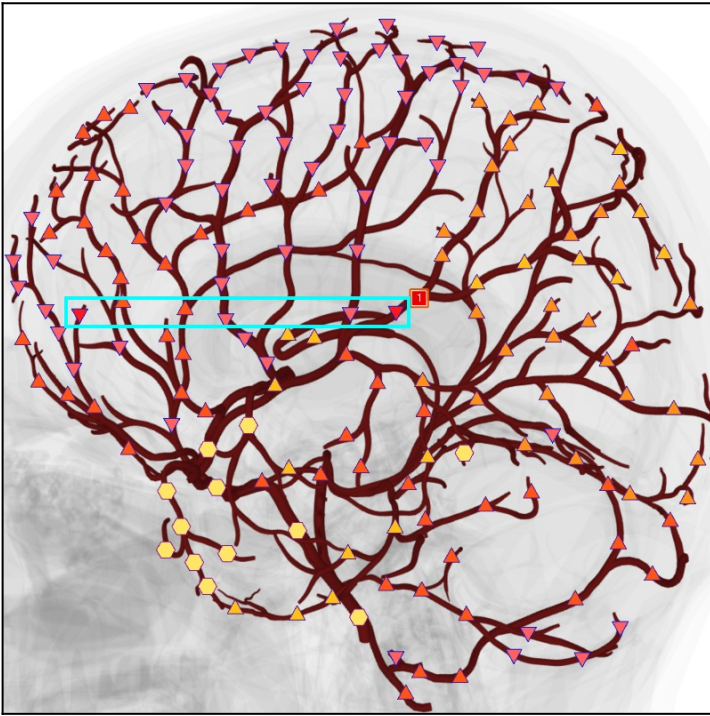
03.08.2021 KIDNEYS from behind  
HYPEROXALURIA

Diagram of a pathological process



03.08.2021 RENAL PELVIS - CYTOLOGICAL PREPARATION #1

03.08.2021 RENAL DUCTS from behind



03.08.2021 BRAIN ARTERIES from the left  
ESSENTIAL HYPERTENSION

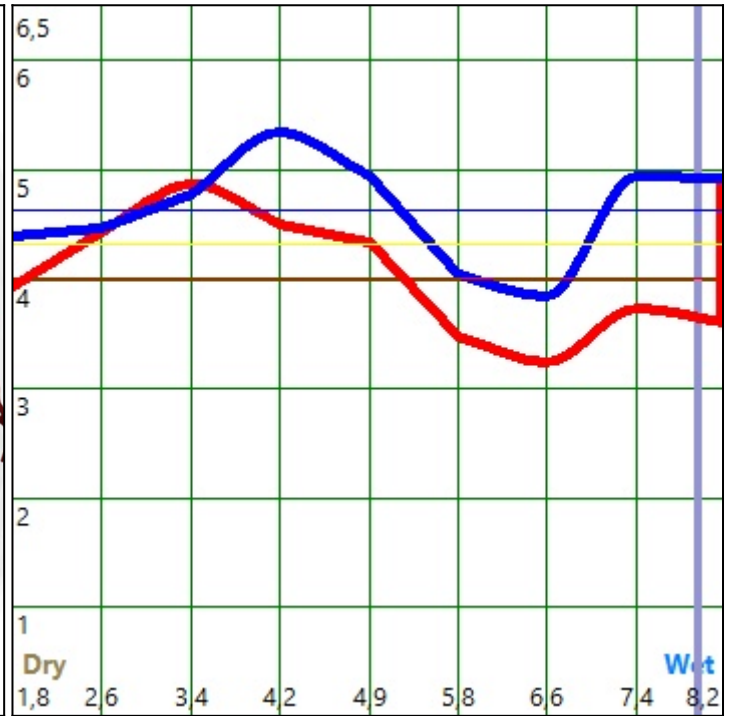
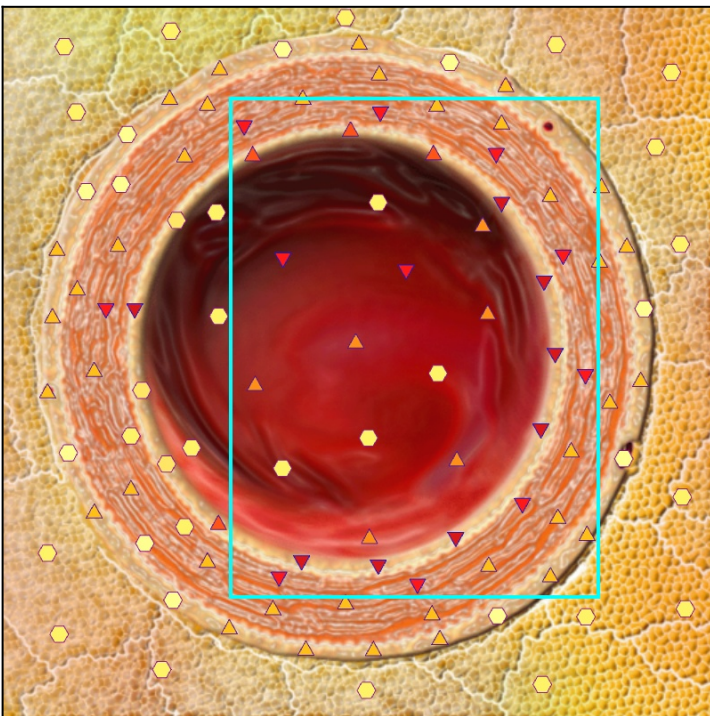
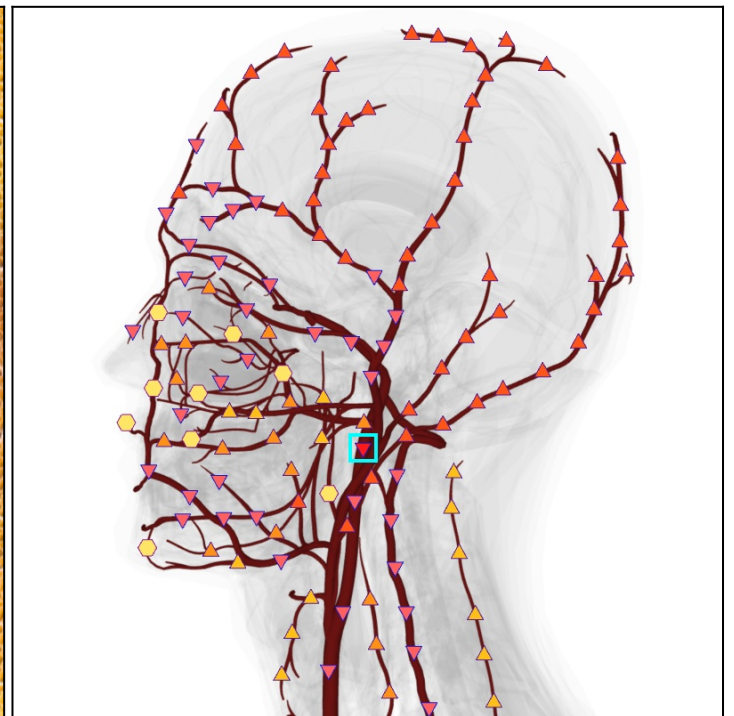


Diagram of a pathological process

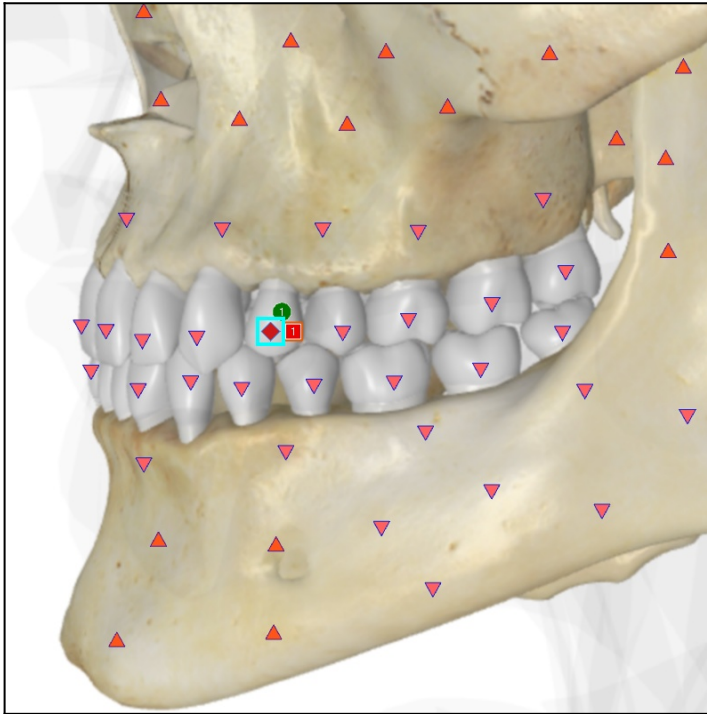


03.08.2021 WALL OF ARTERIAL VESSEL - HISTOLOGICAL  
SECTION #1

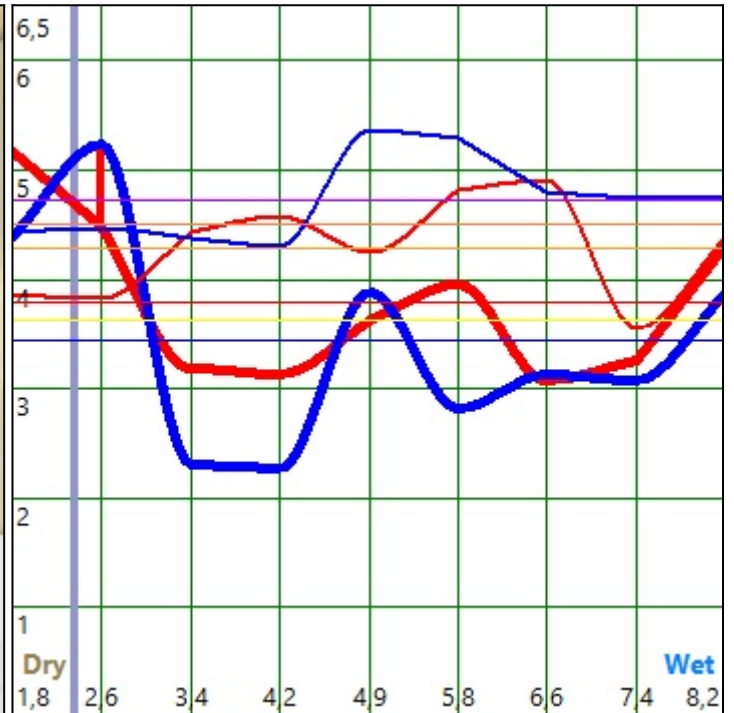


03.08.2021 HEAD ARTERIES from the left

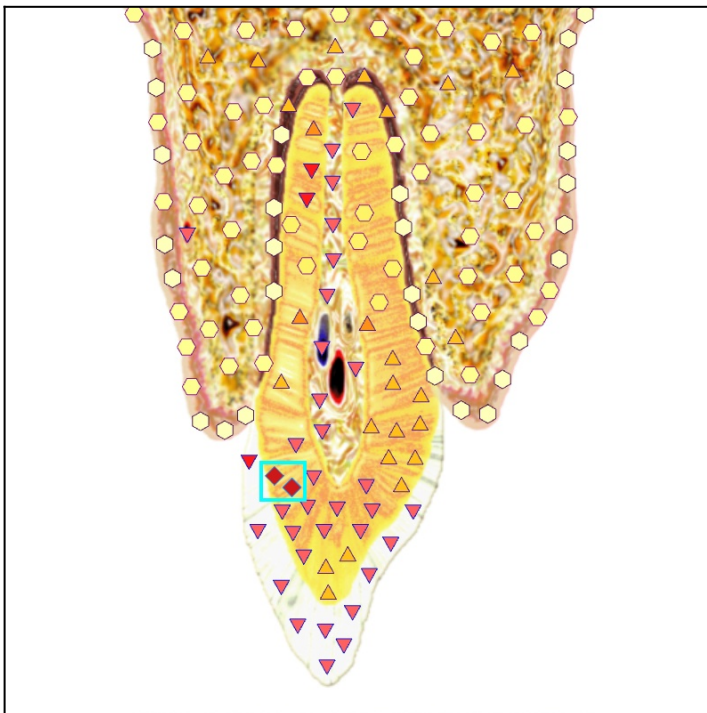




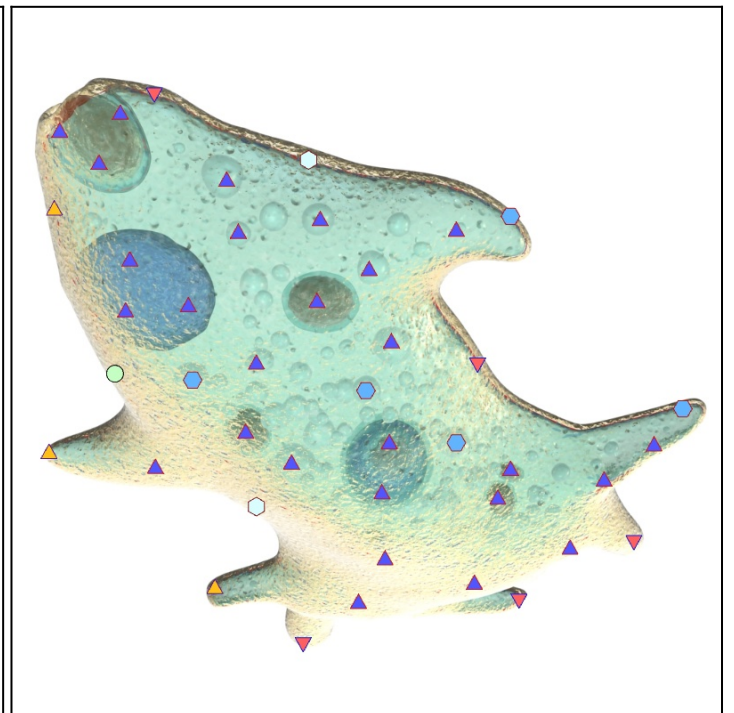
03.08.2021 SKULL FROM THE LEFT  
CARIES



Bold lines represent a diagram of a pathological process  
Thin lines – a diagram of a causative agent

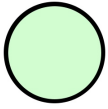


03.08.2021 Tooth - HISTOLOGICAL SECTION #1



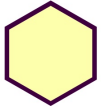
03.08.2021 ENTAMOEBEBA HISTOLYTICA - Bacterial analysis  
#1

## Research results scoring on the Fleindler's scale



Extremely low functional activity.

## Warm processes (Yang-related, reflecting degenerative reactions)



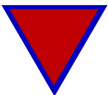
Level of a latent functional activity. Pre-apoptosis stage. Activation of gene-dependent mechanism of a cell self-destruction.



Level of an optimal regulation. Physiological apoptosis.



Shifting of characteristics to a higher level. Stressed regulatory mechanisms. Forcing of apoptosis response.



Asthenization of regulatory mechanisms. Repression of protein synthesis. Apoptosis dysregulation.

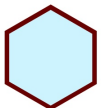


Compensated disorders of adaptation mechanisms. Reversible paranecrotic changes. Multiple organ failure.

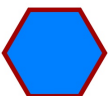


Decompensation of adaptation mechanisms. Severe degenerative changes of tissues. Development of necrobiotic processes. Massive destruction of mitochondrial endomembranes and genetic apparatus of a cell. Destruction of hereditary information.

## Cold processes (Yin-related, reflecting regenerative reactions)



Latent functional activity, weak regenerative reactions.



Level of physiological regeneration.



Level of regenerative systems stress, actuation of reparative-regenerative mechanisms.



Asthenization of typical regenerative reactions of epimorphous proliferation.











Compensated abnormality of regenerative processes, development of atypical reactions of heteromorphous proliferation.









Uncontrollable growth of atypical cells, severe proliferative-degenerative processes in tissues.





Smith John 03.04.1956 (65)

VIRTUAL MODELS OF ORGANS		
	BRONCHUS [6]	4,785
	NODI LYMPH. TRACHEOBRONCHIALES [6]	4,461
	BRONCHIOLI [6]	3,922
	NODI LYMPH. BRONCHOPULMONALES [6]	3,801
SPECTRAL WAVE PATHOGENESIS		
	DEGENERATIVE CHANGES OF VESSELS [2,9]	0,064
	NERVE TRUNKS INFLAMMATION [1]	0,100
	RENAL TISSUES DYSPLASIA [3]	0,105
	DEGENERATIVE CHANGES OF RENAL TISSUES [4]	0,133
	DEGENERATIVE CHANGES OF EYE TISSUES [5]	0,154
	BRONCHI MUCOUS MEMBRANE INFLAMMATION [6]	0,164
	PROLIFERATIVE PROCESS OF SKIN [7]	0,173
	CARBOHYDRATE METABOLISM ABNORMALITY [2]	0,194
	DEGENERATIVE CHANGES OF HARD TOOTH TISSUES [8]	0,231
	DEGENERATIVE CHANGES OF PANCREAS TISSUES [2]	0,298
	DYSFUNCTIONAL ABNORMALITIES OF VESSELS [9]	0,303
	DYSFUNCTIONAL ABNORMALITIES OF SMALL INTESTINE [10]	0,420
NOSOLOGICAL FORMS		
	1 RADICULOPATHY	0,095
	2 NON-INSULIN-DEPENDENT PANCREATIC DIABETES	0,109
	3 RENAL CYST	0,111
	4 HYPEROXALURIA	0,135
	5 GLAUCOMA	0,154
	6 CHRONIC OBSTRUCTIVE BRONCHITIS	0,156
	7 PAPILLOMATOSIS	0,170
PREDISPOSITION TO THE DEVELOPMENT OF		
	8 CARIES	0,226
	9 ESSENTIAL HYPERTENSION	0,306
	10 INTESTINAL DISBACTERIOSIS	0,422
BACTERIA		
	BRANHAMELLA (NEISSERIA)	0,180
	ENTAMOEBA GINGIVALIS [8]	0,223
	AEROMONAS HYDROPHILA	0,287
	STREPTOCOCCUS PNEUMONIA [6]	0,307
	CLOSTRIDIUM DIFFICILE [10]	0,654
VIRUSES		
	HUMAN PAPILLOMA VIRUS HPV (6 /11) Complex.	0,137
	HUMAN CYTOMEGALOVIRUS - HCMV	0,159
	ROTAVIRUS	0,240
FUNGI		
	EPIDERMOPHYTON FLOCCOSUM	0,334
	CANDIDA ALBICANS [10]	0,504


## ANTIBACTERIAL PREPARATIONS

	MEROPENEM [6]	0,038
	NIFUROXAZIDE [10]	0,045
	METRONIDAZOLE [8]	0,172
	FURAZIDIN [10]	0,192
	CIPROFLOXACIN [8]	0,206
	AMIKACIN [10]	0,219














## ANTIVIRAL PREPARATIONS

	ORVITOL NP [10]	0,073
	OXOLIN [7]	0,203
	INGAVIRIN [10]	0,640












## ANTIFUNGAL PREPARATIONS

	FLUCONAZOLE [10]	0,023
	KETOCONAZOLE [10]	0,082
	AMOROLFINE [10]	0,173

## PATENTED MEDICAL PREPARATIONS

	BAGOMET - Argentina, BAGO GROUP COMPANY - antihyperglycemic agent [2]	0,130
	SALAMOL - the Czechia/Great Britain, GALENA A.S./NORTON HEALTHCARE [6]	0,152
	SPIRIVA - Germany, BOEHRINGER INGELHEIM PHARMA GmbH & Co.KG - broncholytic preparation [6]	0,216
	DOXIUM - LAB. O. M. , Switzerland [2]	0,252
	OFTAN TIMOLOL - Finland, SANTEN [5]	0,269
	TRANEXAM - Russia, MIR-FARM Company - angioprotective preparation [8]	0,309
	PANZYNNORM FORTE-N - Slovenia, KRKA d.d. - enzymatic preparation [10]	0,356
	AIRONYL SEDICO - Egypt, SEDICO [6]	0,475
	AVANDIA - Great Britain, GLAXO SMITH KLINE [2]	0,491
	XALACOM - Belgium, PHARMACIA HV/SA - antiglaucoma [5]	0,507
	KREON 10000 - Germany, SOLVAY PHARMA [10]	0,515
	LINEX - Slovenia, LEK d.d. - probiotic [10]	0,601
	CUSIMOLOL - Switzerland, ALCON [5]	0,676










































## HOMEOPATHY






	CONIUM [1,6]	0,052   D1
	THUJA [1,7]	0,052   C1000
	STAPHYSAGRIA [7]	0,062   C30
	CINA [10]	0,083   C30
	COLOCYNTHIS [1]	0,086   C30
	RHUS TOXICODENDRON [7]	0,086   D1
	MEZEREUM [6]	0,110   C30
	ABROTANUM [10]	0,204   C30
	MEDORRHINUM [4]	0,219   C30
	CAMPHORA [10]	0,262   C30
	AMMONIUM CARBONICUM [6]	0,296   D1

## NUTRICEUTICALS and PARAPHARMACEUTICALS











































	OMEGA 3 EPA - NSP [9]	0,118
--	-----------------------	-------















































	BEET WITH PROBIOTICS - BIONORMS [10]	0,126
	OMEGA 3 EPA - NEWAYS [9]	0,139
	HEART OF NORTH [6,7]	0,140
	OQ patch For my heart - NANO PATCH [9]	0,172
	LECITHIN - NEWAYS [7]	0,178
	MODIFYLAN - IFS [10]	0,209
	PULMOCLINX - ARTLIFE [6]	0,210
	CALCIUM WITH VITAMINS C&D - RBC [8]	0,238
	HGH patch Source of youth - NANO PATCH [1,6]	0,241
	GASTROCALM - ARTLIFE [10]	0,248
	CALCIMAX - ARTLIFE [8]	0,407
MICROELEMENTS		
	SILICON (Si) in hair, µg/g	> 30,000
	BARIUM (Ba) in hair, µg/g	< 0,200
	MAGNESIUM (Mg) in hair, µg/g	< 0,200
	NATRIUM (Na) in hair, µg/g	> 5,000
	COPPER (Cu) in hair, µg/g	< 0,500
	CALCIUM (Ca) in hair, µg/g	< 2,500
	IRON (Fe) in hair, µg/g	> 60,000
	MANGANESE (Mn) in hair, µg/g	> 10,000
	POTASSIUM (K) in hair, µg/g	< 0,500
	IODINE (I) in hair, µg/g	< 3,500
	SELENIUM (Se) in hair, µg/g	< 0,020
	LITHIUM (Li) in hair, µg/g	< 0,050
	ARSENIC (As) in hair, µg/g	> 3,000
	BERYLLIUM (Be) in hair, µg/g	> 1,000
	BORON (B) in hair, µg/g	< 0,001
	VANADIUM (V) in hair, µg/g	< 0,025
	COBALT (Co) in hair, µg/g	< 0,010
	CADMIUM (Cd) in hair, µg/g	> 2,000
	LEAD (Pb) in hair, µg/g	> 25,000
	TIN (Sn) in hair, µg/g	> 3,000
LITOTHERAPY		
	DIAMOND [4,9]	0,068
	CORNELIAN [1,4,7]	0,069
	MOISSANITE [4,9]	0,177
PHYTOTHERAPY		
	POLYGONUM BISTORTA [7]	0,021
	PARIS QUADRIFOLIA [6]	0,047
	CAPSICUM ANNUUM [10]	0,061
	VERBASCUM THAPSUS [6]	0,081
	NIMPHAEA COLORATA (WATER LILY) [2]	0,091
	PAEONIA [7]	0,103
	EPHEDRA [6]	0,114





	PANAX GINSENG [9]	0,137
	NERIUM [8]	0,169
	CROCUS [2]	0,199
	HELIANTHUS TUBEROSIS [9]	0,208
	SOLANUM NIGRUM [7]	0,319



RECOMMENDED FOOD		
	WALNUTS, seeds	0,059
	SPROUTING ONION, vegetables [6]	0,060
	LEMON, fruits [2,9]	0,068
	BUCKWHEAT GROATS, cereals.	0,068
	PORRIDGE OAT, cereals [10]	0,073
	ZINZIBER, spices	0,089
	DATES, fruits [2]	0,099
	FIG , fruits [9]	0,102
	KEFIR, dairy [10]	0,102
	CHICKEN MEAT, meat [7]	0,107
	APRICOT, fruits [6]	0,108
	PEANUT, seeds [6]	0,120
	PUMPKIN, vegetables	0,158
	CORN, vegetables [8]	0,165
	SPINACH, vegetables	0,172
	PINE NUTS, seeds	0,191
	PEAR, fruits	0,196
	YOGHURT, dairy	0,204
	PINEAPPLE, fruits	0,207
	LEEK, vegetables	0,219
	CARROTS, vegetables	0,229
	KIWI, fruits	0,266
	HAZELNUT, seeds	0,267
	SPOTTED STRING BEAN, vegetables [4]	0,278
	BLACK CURRANT, fruits	0,307
	CUCUMBERS, vegetables	0,313
	LAMINARIA, vegetables [7]	0,313
	GARLIC, vegetables	0,317
	CELERY, vegetables	0,325
	GRAPES, fruits	0,335
	PEACH, fruits	0,343
	BAMBOO SHOOTS, vegetables	0,379
	MANGO, fruits	0,392
	WATER-MELON, fruits	0,412
	GARDEN RADISH, vegetables	0,415
CONTRAINDICATED FOOD		
	GIN [ Bombay ] drinks	6,757
	GINGELLY OIL, oil	6,873
	MELTED CHEESE, dairy	6,873
	BICUSPID MOLLUSCUMS, fish	6,952
	VEAL, meat	7,246
	GOAT MEAT, meat	7,314
	SWEET MARJORAM, spices	7,433

	ROQUEFORT CHEESE, dairy	7,442
	RABBIT MEAT, meat	7,552
	MAIZE OIL, oil	7,575
	PISTACHIO, seeds	7,728
	VENISON, meat	7,856
	PRUNES, fruits	7,966
	ANISE, spices	7,977
	BUFFALO MEAT, meat	8,046
	MUSSELS, fish	8,193
	PARSLEY, vegetables	8,230
	BEEF, meat	8,543
	LOBSTER, fish	8,588
	MASTIC drinks	8,798
	THYME, spices	8,971
	COCONUT, fruits	9,022
	ANCHOVIES, fish	9,090
	FLOUNDER, fish	9,143
	CHAMPIGNONS, vegetables	9,179
	CASHEWS, seeds	9,199
	BLACK OLIVES, vegetables	9,215
	SCHNAPPS [ Apfel ] drinks	9,307
	COLA, drinks	9,331
	COOKING BUTTER, oil	9,580
	GOOSE MEAT, meat	9,665
	OCTOPUS, fish	9,678
	RADISH, vegetables	9,688
	SWISS CHEESE, dairy	9,760
	HERRING, fish	9,777
	SALMON, fish	9,996
	CHAMPAGNE [ Veuve Clicquot ] drinks	10,214
	DUCK MEAT, meat	10,567
	EEL, fish	10,763
	CATFISH, fish	10,800
	HALIBUT, fish	10,822
	ICE-CREAM, dairy	12,192
	CHERRY, fruits	12,332
	BAY SCALLOP, fish	12,341
	RASPBERRY, fruits	12,357
	GREEN PEPPER , vegetables	13,650
	GOOSEBERRY, fruits	17,021
	LARD, meat	17,497
	POMEGRANATE, fruits	23,056
	ABSINTH [ Pernod ] drinks	25,226
	RAISIN, fruits	26,010



	ORANGE, fruits	26,129
	TOMATO, vegetables	37,034
	VEAL LIVER, meat	39,582
	MELON, fruits	49,815
	COCKWEED, vegetables	92,494

## VIRTUAL MODELS OF ORGANS

## BRONCHUS

Bronchus

## NODI LYMPH. TRACHEOBRONCHIALES

Tracheobronchial lymph nodes

## BRONCHIOLI

Bronchus.

## NODI LYMPH. BRONCHOPULMONALES

Bronchopulmonary lymph nodes

## NOSOLOGICAL FORMS

## RADICULOPATHY

These are pains, motor and vegetative disorders caused by affection of roots of spinal marrow in consequence of spinal osteochondrosis. Spinal osteochondrosis is a degenerative-dystrophic process that develops due to intervertebral disks absorbability loss which is caused by degeneration of disk's tissue which leads to lowering of pressure in it. Diskopathy etiology is uncertain, excluding cases of trauma. In segment of affected disk there is a relative spinal instability with osteophytes of vertebral bodies (spondylosis) development, ligaments injury and arthropathy of intervertebral articulations (spondylarthrosis). Herniation of a disk (protrusion or rupture), and also osteophytes can squeeze roots causing nerve root pains. In addition to it damaged tissues of spine can be the source of local and spreading pains in extremity. Weight lifting, awkward movement, cold, negative emotions, infections and other reasons can serve as an immediate cause of pains. Not less than in 95% of cases of lumbosacral and cervical radiculitis are caused by vertebral osteochondrosis, and usually mechanical, compressive factor is the reason for radiculopathy. Major part in pain syndrome plays local neurodystrophic changes in tendons, ligaments and muscles. These factors are especially evident in cases of development at contracture radiculitis of separate muscles. It seems that first attacks of low back and cervical pains are related to tear of fibrous ring disk and damage of capsules of intervertebral joints. Vegetative innervation suffers from it and pain can be diffuse (lumbar rheumatism, myositis). Disk hernia development that squeezes root causes formation of nerve root syndrome. Spinal column has such shape so that maximum of load goes to inferior cervical, inferior thoracic, inferior lumbar parts, that is why root compression is often predominant on these levels in clinical picture.

## NON-INSULIN-DEPENDENT PANCREATIC DIABETES

Non-insulin-dependent pancreatic diabetes is a disease conditioned by relative deficiency of insulin and characterized by carbohydrates metabolism disorders with hyperglycemia and glycosuria, and also by other metabolism disorders. Hereditary predisposition, autoimmune, vascular disturbances, obesity, mental and physical traumas and viral infection have certain importance for development of the disease. Relative insulin deficiency may be a result of insulin activity lowering due to its increased binding with proteins, quick destruction by hepatic enzymes, prevailing of hormonal and non-hormonal insulin antagonists effects (glucagon, adrenal and thyroid hormones, growth hormone, non-etherified fatty acids), changing of insulin-dependent tissues sensitivity to insulin. Insulin deficiency leads to disorders of carbohydrate, fat and protein metabolism. Glucose permeability of adipose and muscular tissues' cellular membranes decreases, glycogenolysis and gluconeogenesis strengthen, hyperglycemia and glycosuria appear, formation of fat decreases, but destruction strengthens. It causes shift of acid-base balance to acidosis, promotes high excretion of potassium, sodium and magnesium ions with urine, disturbs renal functions. Usually it develops in adults, in people with overweight; it is characterized by slow and slight beginning. Insulin and C-peptide levels in blood are normal or high. In some cases pancreatic diabetes is diagnosed only when complications develop or at random examination. Compensation is achieved by diet or peroral hypoglycemic medications mainly; clinical course is without ketose.

## RENAL CYST

Unicameral cyst – is a solitary cystic neoplasm, growing from renal parenchyma and projecting above its surface. Diameter of the cyst is less than 10 cm, as a rule. The cyst usually contains serous, rarely hemorrhagic (due to hemorrhage) fluid. Dermoid renal cyst is registered rarely. The most typical clinical signs of solitary cyst is dull apin in renal region, palpated tumor and transitory hematuria. Multicameral cyst is a quite rare abnormality, which is characterized by replacement of renal region by multicameral cyst that is not connected to renal pelvis.

## HYPEROXALURIA

It is an increased content of oxalates in urine; it is often diagnosed at urolithiasis and sometimes accompanied by pyelonephritis. Primary hyperoxaluria underlies oxalosis, secondary – is the consequence of excessive intake of products rich in oxalic acid with food.

## GLAUCOMA

It is a chronic disease of eyes with permanent or periodical increasing of intraocular pressure, optic nerve atrophy (glaucomatous excavation) and visual field changing. There are primary, secondary and congenital glaucoma. Development of



## Intruder

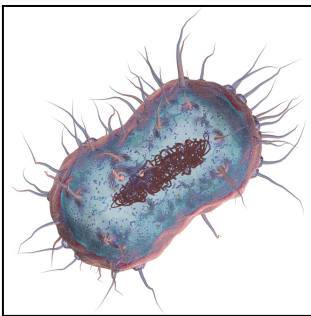
primary glaucoma is promoted by trophic disturbances in tissues of eye anterior part (especially in its drainage system), which develop due to changes of vascular system and eye haemodynamics, and also by general pathological changes. It causes disorders of aqueous humor circulation and leads to rising of intraocular pressure. Its high level is the reason of secondary trophic changes in eye tissues. Worsening of eyesight is related to death of functional elements of retina and optical nerve. The disease usually develops in people above 40 years old. At secondary glaucoma changes in intraocular fluid outflow tracts, leading to intraocular pressure rising, are caused by various diseases of eyes (inflammatory and degenerative diseases of iris, lens pathology, consequences of eyes injuries, etc.). At congenital glaucoma rising of intraocular pressure happens mainly due to disorder of intraocular fluid outflow due to obstructing of anterior chamber angle by mesodermal tissue. There are two main forms of primary glaucoms - open-angle and closed-angle glaucoma. Open-angle glaucoma is related to progressing degenerative changes in eye drainage system. The disease usually develops without being noticed by patient. Subjective sensations are missing in majority of patients. Sometimes they complain of fullness sensation in eyes, headache, visual blurring, rainbow vision. Visible changes in the eye are also very scarce. Dilation of anterior ciliary arteries (cobra's symptom) may develop, biomicroscopy detects dystrophy of iris and integrity breach of pigment edges of pupil. Gonioscopy shows open angle. Closed-angle glaucoma develops due to blockage of eye chamber anterior angle by iris root. It is characterized by patients' complaints of pain in the eye and headache, visual blurring, rainbow vision and stagnation in anterior segment of the eye. Sometimes the disease starts with acute or subacute attack, accompanied by intense pain in the eye and headache, general indisposition, sometimes nausea and vomiting. Intense injection of anterior ciliary arteries is registered. Edema of cornea, chamber is small, mydriatic pupil. Edema of iris, development of synechia and goniosynechia are possible. Gonioscopy shows that angle of chamber is completely closed. Intraocular pressure rises to 60-80 mm. Eyesight worsens greatly.

## PAPILLOMATOSIS

Papillomatosis is caused by Human papilloma virus (HPV) – is a quite numerous genus, including types pathogenic for humans and animals. Causative agents are characterized by evident tropism to skin surfaces and mucous tunics; DNA hybridization method allowed to single out more than 70 types of HPV virus genotypes. Oncogenicity of papillomavirus is quite variable, for example, some papillomaviruses of human cause benign warts, i.e. proliferation of skin surface tissues, at the same time other types of viruses may lead to development of malignant carcinomas (as the result of cellular transformation). Percentage of infected people is quite high and equals to 20-60%, in majority of cases a causative agent is transmitted through micro wounds of skin during contact, at sexual intercourse and by perinatal way. Clinical manifestations: first of all HPV 1, 5, and HPV of types 2, 3, 4, 7, 10, 12, 14, 15, 19-24, 26, 27, 29, 57 are responsible for development of various types of warts. HPV 1, 2, 3, 4 – is responsible for plantar warts, which resemble clavius in appearance. HPV of types 5, 10, 28, 49 manifest themselves as flat warts. Some types of papillomas, such as HPV 27, are responsible for development of common warts and “butcher's warts”.

## BACTERIA

### BRANHAMELLA (NEISSERIA)

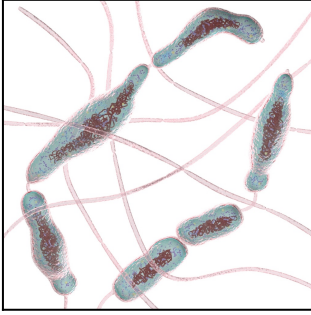


It belongs to so-called "false neisseria". According to the modern classification it belongs to MORAXELLA. They are aerobic rods or coccuses. They are present in the microflora of mucosas of human subjects and poikilothermal animals. Causes both manifestative, and opportunistic infection contaminations of human subjects and animals. Causes inflammation of the upper respiratory channels.

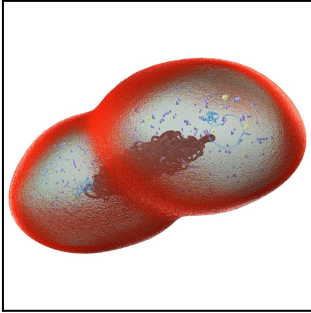
### ENTAMOEBIA GINGIVALIS



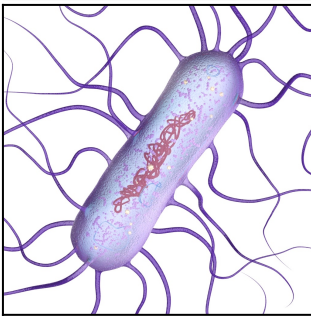
It is eurytrophic. The host is a human being, though some cases of detection in dogs, cats and monkeys were noted. It does not form bladders. The parasite is localized in oral cavity between teeth, on their edges, on gingivae and the odontoliths. It can cause a contagious tonsillitis and a pyorrhea in a human subject.

**AEROMONAS HYDROPHILA**

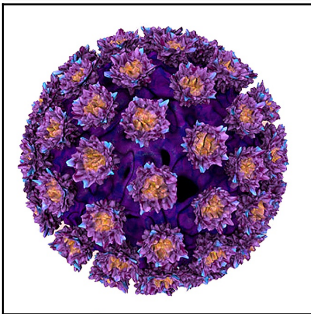
*Aeromonas Hydrophila* - heterotrophic, gram-negative, rodlike bacterium, dwelling in regions with a warm climate. It survives both in aerobic and anaerobic environment. It is resistant to majority of widely spread antibiotics. It has a capsule and polar flagellum. It produces cytotoxic aerolizine. It is considered an opportunistic microorganism, rarely infecting healthy people. It causes gastroenteritis, inflammatory cellulitis, myonecrosis and eczema.

**STREPTOCOCCUS PNEUMONIA**

*Pneumococcus* is one of the main bacterial pneumonia agents that are registered outside hospitals. Children and old-age people are in the high-risk group. Infection reservoirs are disease carriers, way of infection – contacts, also respiratory way during ictus of disease. Climax of disease takes place in cold seasons. In overwhelming majority of cases, clinical types of infection develop when organism resistance weakens. Streptococcal meningitis is registered in all age groups. In persons with immunodeficiency (for example HIV – infected) or splenectomy patients are marked with hematogenic pneumococcal affections and also sinusitis, mastoiditis, otitis media, endocarditis and peritonitis.

**CLOSTRIDIUM DIFFICILE**

*Clostridium Difficile* – is a type of widely spread bacterium, belonging to *Peptoclostridium* genus - gram-positive, spore-forming, strictly anaerobic bacteria. They are a part of a normal microflora of gastro-intestinal tract. They cause antibiotic-associated diarrhea in patients taking antibiotics in 5 - 25% of all cases. In some cases, they may be a reason of severe pseudomembranous colitis. Even single intake of an antibiotic (ampicillin, most frequently) may be a reason of disease recurrence.

**VIRUSES****HUMAN PAPILLOMA VIRUS HPV (6 /11) Complex.**

Human papilloma virus (HPV) – is a quite numerous genus, including types pathogenic for humans and animals. Causative agents are characterized by evident tropism to skin surfaces and mucous tunics; DNA hybridization method allowed to single out more than 70 types of HPV virus genotypes. Oncogenicity of papillomavirus is quite variable, for example, some papillomaviruses of human cause benign warts, i.e. proliferation of skin surface tissues, at the same time other types of viruses may lead to development of malignant carcinomas (as the result of cellular transformation). Percentage of infected people is quite high and equals to 20-60%, in majority of cases a causative agent is transmitted through micro wounds of skin during contact, at sexual intercourse and by perinatal way. Clinical manifestations: pointed condylomas in uterine cervix are mainly associated with HPV 6, 11, but nevertheless, from the point of view of oncology, these types of HPV are

relatively harmless. Papillomas with low oncogenic risk include HPV 42, 43, 44, 53, 54, 55. However, condylomas and papillomas, developed even because of HPV 6 and 11, should be removed.



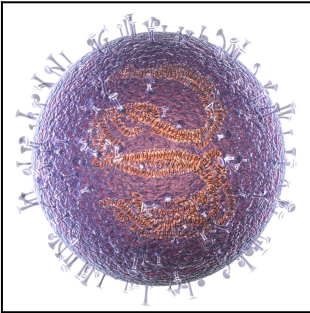
## HUMAN CYTOMEGALOVIRUS - HCMV



Human cytomegalovirus belongs to a family of Beta-herpesviruses (HHV-5). HCMV is widely spread, but it rarely manifests itself clinically. Causative agent is pathogenic for a human only and its cultivation in vitro is possible in human cell cultures only, because no laboratory animal is vulnerable to this infection. Usually HCMV-infections are registered in children under 2 years and elderly people, which is due to disorders or inconsistency of immune responses. More often local and generalized processes are detected in patients suffering from neoplastic processes, AIDS, after transplantation of organs or intake of steroids. Transmission of infectious agent is possible through placenta, through contact – when fetus goes through maternal passages, at breastfeeding, at blood transfusions, sexual contacts, some authors believe that CMV may be transferred by air or with urine. Perinatal infestation is registered in 1% on newborns, often it manifests itself

sub-clinically, in rare cases a severe clinical course, frequently with lethal outcome, is registered. Acute form is characterized by lesions of many internal organs, including brain, kidneys, liver and blood-forming organs. Atypical interstitial pneumonia is a typical lesion at subacute form. It causes infectious mononucleosis, retinitis, sialoadenitis.

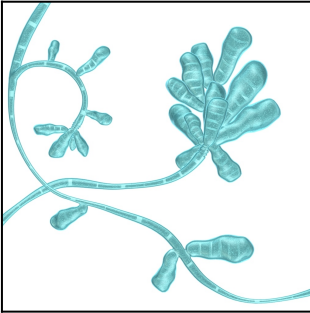
## ROTAVIRUS



Rotaviruses cause acute enteritis with neonates and infants. The pathogens can be found everywhere, they give rise to gastroenteritis with 25% babies, with about 60% 1-3 years old with about 40% four- to six-year olds, with older children the disease occurs far more rarely. All currently known human rotaviruses belong to the same antigen group.

## FUNGI

## EPIDERMOPHYTON FLOCCOSUM



The skin fungous disease agent  
parasites in a counual layer of epidermis

## CANDIDA ALBICANS



*Candida albicans* is a constituent of the microscopic flora of the human organism. In the early 20s candidiasis occurred rather rarely but in the 40s, with the use of antibiotics it became far more frequent and the number of cases has steadily been going up since. Now candidas are the most widespread pathogens of opportunistic mycosis. It may cause mucous and cutaneous lesions and systemic diseases as well. Generally candidiasis has endogenous origin, it results from dysmetabolic disorders and dysfunctions of the immune system. There are over 150 species of mycosis pathogens. Over 90% lesions are caused by *C. albicans*. Any dysfunctions of immunocompetent cells or normal microbial cenosis initiate the disease. Babies are infected when passing through the paturient canal or during breast feeding. Urogenital candidiasis is transmitted sexually. Cutaneous injuries, increased perspiration and maceration promote candidiasis development. Excessive

growth of *C. albicans* is caused by the microbial cenosis disturbance as a result of disproportional use of broad spectrum antibiotics or a change in the surrounding microflora composition. Metabolic or hormonal disorders such as diabetes mellitus, pregnancy and peroral contraceptive administration also promote candidiasis. Immunodeficiency or the use of immunodepressant (such as glucocorticoids) can cause speedy forms or chronic candidiasis affecting the skin or mucosa. Surface candidiasis develops where high temperatures and dampness are present (for example in skin folds) or where there is cutaneous maceration resulting from a repeated contact with water. The manifestations of candidiasis intertrigo are an erythematous rash or a vesicular-pustular rash with signs of maceration (generally around skin folds with children) which leads to erosion. Most often mucocutaneous candidiasis emerges in a cavity or in the vagina. The disease develops with metabolic disorders in the background or with abnormal microbial cenosis. Candidiasis of mouth (mycotic stomatitis) is a typical consequence of treating with broad-spectrum antibiotics and of immunodeficiency conditions. The typical manifestations are white and yellowish agmina on the mucosa surface. The lesions are often combined with diffuse erythema and extremely dry mucosa. The vulvovaginitis caused by *C. albicans* is very common with women who take perorative or intrauterine contraceptives or are in their last trimester of pregnancy (the condition accounted for by the immunodepressive effect of factor associated with serum alpha-globulin). Disseminated candidiasis is a result of invasion of pseudohyphae into parenchymatous organs, which results in microabscesses in those organs with an occasional granulomatous inflammatory reaction. Cases without medication end up fatally. Deep mycosis develops as a result of organ transplantation, heart surgery, long-term venous catheterization, prosthetic implantation, overeating, long-term glucocorticoid or immunodepressant administration. Dissemination of surface candidiasis occurs quite rarely. Most common are lesions of kidneys, eyes, encephalon and heart. Multiple nidi are mostly revealed in the case of continuous contamination, for example through a catheter.

## ANTIBACTERIAL PREPARATIONS

## MEROPENEM

MEROPENEM (it is a component of the following preparations: GENEM, MEREXID, MERONEM, MERONOXOL, MEROPENABOL, MEROPENEM, MEROPENEM JODAS, MEROPENEM SPENCER, MEROPENEM-ALKEM, MEROPENEM-VEXTA, MEROPENEM-VERO, MEROPENEM-VIAL, MEROPENEM-DEKO, MEROPENEM-LEXVM, MEROPENEM-PLETHIKO, MEROPIDEL, NERINAM, PENEMERA, PROPINEM, SAIRONEM)

It is an antibiotic of carbapenems group. It has bactericidal effect because of bacterium cell wall synthesis prevention. It is active against majority of aerophilous and gram-positive and gram-negative bacteria.

It is resistant to  $\beta$ -lactamases effect.

Indications:

For intravenous administration: treatment of infectious-inflammatory diseases with severe clinical course, caused by one or several meropenem-sensitive causative agents: pneumonia, including hospital-acquired pneumonia; infections of urinary ducts, abdominal cavity, small pelvis organs (including endometritis), skin and soft tissues, meningitis, septicemia; at assumption of bacterial infection with pyretic episodes at the backgrounding neutropenia (empiric treatment).

For intramuscular administration: aggravation of chronic bacterial bronchitis, non-complicated infections of urinary ducts.

## NIFUROXAZIDE

NIFUROXAZIDE (it is a component of the following preparations: ADISORD, MIROFURIL, NIFUROXAZIDE-RICHTER, STOPDIAR, ECOFURIL, ENTEROFURIL, ERSEFURIL)

It is an antimicrobial remedy of a broad spectrum for treatment of gastrointestinal tract infections (intestinal antiseptic), a derivative of nitrofurantoin. When administered in high doses it causes bactericidal effect, in lesser doses - bacteriostatic.

It is active against gram-positive bacteria: *Staphylococcus* spp., *Streptococcus* spp.; gram-negative bacteria: *Salmonella* spp., *Shigella* spp., *Proteus* spp.

It is almost not absorbed in gastrointestinal tract. It acts in lumen of the intestine.

Indications:

Acute diarrhea of a bacterial genesis (when there are no assumptions of invasion).

## METRONIDAZOLE

METRONIDAZOLE (it is a component of the following preparations: BACIMEX, KLION, METROVAGIN, METROGIL, METROLAKER, METRON, METRONIDAZOLE, METRONIDAZOLE NIKOMED, METRONIDAZOLE-AKOS, METRONIDAZOLE-ALTPHARM, METROSEPTOL, METRONIDAL, NIRMET, ORNIDAZOL, ROZAMET, ROZEX, SIPTROGIL, TRICHOBROL, TRICHOPOL, TRICHOSEPT, FLAGIL, EDGIL, EFLORAN, VAGISEPT, VAGIFERON, GINALGIN, GITERNA, DENTAMET, KLION-D 100, KLONEGEL, METROGEX, METROGIL DENTA, METROGIL® PLUS, METRODENT, METROMICON-NEO, NEO-PENOTRAN, NEO-PENOTRAN® FORTE)

## Intruder

It is an antiprotozoal remedy. It is active against *Trichomonas vaginalis*, *Gardnerella vaginalis*, *Giardia lamblia*, *Entamoeba histolytica*, and also against obligate anaerobic bacteria (including *Bacteroides* spp., *Fusobacterium* spp.).

In combination with amoxicillin it is active against *Helicobacter pylori*.

Indications:

*Trichomonas* vaginitis and urethritis in women, trichomonad urethritis in men, lambliosis, amebic dysentery, anaerobic infections, caused by metronidazole-sensitive microorganisms, combined therapy of severe mixed aerophilous-anaerobic infections. Prevention of anaerobic infections at surgical interventions (especially on organs of abdominal cavity, urinary ducts). Chronic alcoholism.

In combination with amoxicillin: chronic gastritis in an acute stage, stomach and duodenum ulcer in an acute stage, associated with *Helicobacter pylori*.

For external and local application: treatment of acne erythematosus and acne vulgaris, bacterial vaginosis, treatment of repositent wounds, trophic ulcers.

## FURAZIDIN

FURAZIDIN (it is a component of the following preparations: UROFURAGIN, FURAGIN, FURAGIN-ACTIFUR, FURAGIN-LEKT, FURAMAG, FURASOL)

It is an antimicrobial remedy of a broad spectrum, it belongs to a group of nitrofurans.

It is active against gram-positive cocci: *Streptococcus* spp., *Staphylococcus* spp.; gram-negative rods: *Escherichia coli*, *Salmonella* spp., *Shigella* spp., *Proteus* spp., *Klebsiella* spp., *Enterobacter* spp.; animalcules: *Lamblia intestinalis* and other microorganisms, resistant to antibiotics.

Furazidin, in comparison with other nitrofurans, is more active against *Staphylococcus* spp., *Escherichia coli*, *Aerobacter aerogenes*, *Bacterium citrovorum*, *Proteus mirabilis*, *Proteus morganii*.

Indications:

For oral administration: urogenital infections (acute cystitis, urethritis, pyelonephritis); gynecological infections; skin and soft tissues infections; severe infected burns; for prevention during urologic surgical infections (including cystoscopic examination, catheterization).

For external and local application: Infectious and inflammatory diseases of mouth cavity and throat, infected wounds.

## CIPROFLOXACIN

CIPROFLOXACIN (it is a component of the following preparations: BASIGEN, BETACIPROL, VERO-CIPROFLOXACIN, IFICIPRO, QUINTOR, NIRCIP, PROCIPRO, ROCIP, CEPROVA, CIPRINOL, CIPRINOL® SR, CIPROBAI, CIPROBID, CIPRODOX, CIPROLAKER, CIPROLET, CIPROLON, CIPROMED, CIPROPAN, CIPROFLOXABOL, CIPROFLOXACIN, CIPROFLOXACIN-ACOS, CIPROFLOXACIN-PROMED, CIPROFLOXACIN-TEVA, CIPROFLOXACIN-FPO, CIPROFLOXAL, CIPRAN, CIPRAN OD, CIPRACID, ECOCIFOL, COMBINIL®-DUO, CIPROLET® A, CIPRAN ST)

It is an antimicrobial remedy of a broad spectrum of fluoroquinolones group. It causes bactericidal effect.

It is highly active against majority of gram-negative bacteria: *Pseudomonas aeruginosa*, *Haemophilus influenzae*, *Escherichia coli*, *Shigella* spp., *Salmonella* spp., *Neisseria meningitidis*, *Neisseria gonorrhoeae*.

It is active against *Staphylococcus* spp. (including strains, producing and non-producing penicillinase, methicillin-resistant strains), some strains of *Enterococcus* spp., *Campylobacter* spp., *Legionella* spp., *Mycoplasma* spp., *Chlamydia* spp., *Mycobacterium* spp.

Indications:

Infectious and inflammatory diseases, caused by ciprofloxacin-sensitive microorganisms, including diseases of respiratory ducts, abdominal cavity and organs of small pelvis, bones, joints, skin; septicemia; severe infections of ENT-organs. It is used for treatment of post-operative infections. Also for prevention and treatment of infections in patients with decreased immunity.

For local application: acute and subacute conjunctivitis, blepharoconjunctivitis, blepharitis, bacterial corneal ulcers, keratitis, keratoconjunctivitis, chronic dacryocystitis, meibomitis. Infectious affections of eyes after traumas or debridements. Also for pre-surgery prevention in ophthalmosurgery.

## AMIKACIN

AMIKACIN (it is a component of the following preparations: AMIKABOL, AMIKACIN, AMIKACIN-VIAL, AMIKACIN-FEREIN, AMIKACIN SULPHATE, SELEMYCIN)

Pharmacological action:

It is a semisynthetic antibiotic of amino glycosides group with a broad-spectrum. It has bactericidal effect.

It is highly active against gram-negative aerophilous bacteria: *Pseudomonas aeruginosa*, *Escherichia coli*, *Shigella* spp., *Salmonella* spp., *Klebsiella* spp., *Enterobacter* spp., *Serratia* spp., *Providencia stuartii*.

It is also active against some gram-positive bacteria: *Staphylococcus* spp. (including strains, resistant to penicillin, methicillin, certain cephalosporins), some strains of *Streptococcus* spp.

Indications:

Infectious and inflammatory diseases with severe clinical course, caused by amikacin-sensitive microorganisms: peritonitis, sepsis, sepsis of newborns, CNS infections (including meningitis), bones and joints infections (including osteomyelitis), endocarditis, pneumonia, pleural empyema, pulmonary abscess, purulent skin and soft tissues infections, infected burns, frequently recurrent infections of urinary ducts, bile passages infections.

## ANTIVIRAL PREPARATIONS

### ORVITOL NP



**ORVITOL NP**

It is an antiviral preparation, it causes immunomodulating and anti-influenza effect, it specifically suppresses viruses of influenza A and B, severe acute respiratory syndrome (SARS).

It has interferoninducing properties, it stimulates humoral and cell-mediated immunity responses, phagocytal function of macrophages, it improves organism's resistance to viral infections.

It prevents development of post-influenza complications, decreases frequency of chronic bacterial diseases aggravations.

Indications:

Prevention and treatment in adults and children:

- influenza A and B, acute respiratory viral infections (including complicated with bronchitis, pneumonia); secondary immunodeficient disease, severe acute respiratory syndrome (SARS);
- complex therapy of chronic bronchitis, pneumonia and recurrent herpetic infection;
- prevention of post-operative infectious complications and normalization of immune status in adults;
- as a part of a combined therapy of acute intestinal infections of rotaviral etiology in children above 3 years old (50 mg) and children above 6 years old (100 mg).

**OXOLIN****OXOLIN**

It is an antiviral preparation for outward application. It has a virucidal action against influenza virus at direct contact with a virus-containing material; it prevents a virus reproduction in cells.

Indications:

A cream for outward application – treatment of warts (common, flat condyloma and pointed condyloma). Earlier it was used for treatment of shingles, contagiosum epitheliale, Duhning's disease and psoriasis (as a part of a combined therapy).

Nasal cream is used for prevention of influenza and treatment of viral rhinitis.

Eyes cream is used for treatment of viral affections of eyes.

**INGAVIRIN****INGAVIRIN**

It is an antiviral preparation.

It is efficient against influenza viruses of type A (A/H1N1, including "pig" A/H1N1 pdm09, A/H3N2), A/H5N1)) and type B, adenovirus, parainfluenza virus, respiratory syncytial virus; in pre-clinical examinations of: coronavirus, metapneumovirus, enteroviruses, including Coxsackie virus and rhinovirus.

It promotes quick elimination of viruses, decreasing of life duration, decreasing of complications duration development.

Indications:

- Treatment of influenza A and B and other acute respiratory viral infections (adenoviral infection, parainfluenza, respiratory syncytial infection) in adults;
- Prevention of influenza A and B and other acute respiratory viral infections in adults;
- Treatment of influenza A and B and other acute respiratory viral infections (adenoviral infection, parainfluenza, respiratory syncytial infection) in children from 7 to 17 years old.

**ANTIFUNGAL PREPARATIONS****FLUCONAZOLE**

FLUCONAZOLE (it is a component of the following preparations: VERO-FLUCONAZOLE, DISOREL-SANOVEL, DIFLAZONE, DIFLUKAN, MAYKONIL, MEDOFLUKON, MYCOMAX, MYCOSYST, MYCOFLUKAN, PROKANAZOLE, FANGIFLU, FLUCOZAN, FLUCOZIDE, FLUCOMABOLE, FLUCONAZOLE, FLUCONAZOLE SANDOZ, FLUCONAZOLE STADA, FLUCONAZOLE-OBL, FLUCONAZOLE-LEXVM, FLUCONAZOLE-TEVA, FLUCONORM, FLUCORUS, FLUCOREM, FLUCOSTAT, FORCAN, CISCAN, VAGISEPT, VAGIFERON, SAFOCIDE)

It is an antifungal preparation, a derivative of triazole.

It is active against causative agents of mycoses, including *Candida* spp., *Cryptococcus neoformans*, *Microsporum* spp., *Trichophyton* spp., *Blastomyces dermatitidis*, *Coccidioides immitis* and *Histoplasma capsulatum*.

Indications:

Cryptococcosis, including cryptococcal meningitis and infections of other locations (for example lungs or skin), including in patients with a normal immune response and in AIDS patients, recipients of transplanted organs and patients with other forms of immunodeficiency; supporting therapy in order to prevent recurrent cryptococcosis in AIDS patients.

Generalized candidosis, including candidaemia, disseminated candidiasis and other forms of invasive candidal infection, such as infections of peritoneum, endocardium, eyes, respiratory and urinary ducts, including in patients with malignant tumors, located in ICU and ingesting cytotoxic or immunosuppressed remedies, and also with other factors, predisposing development of candidosis.

Candidosis of mucous tunics, including mucous tunics of mouth cavity and pharynx, esophagus, non-invasive bronchopulmonary infections, candiduria, mucocutaneous and chronic atrophic candidosis of mouth cavity (related to wearing of dental prosthesis), including in patients with normal and suppressed immune function; prevention of recurrent oropharyngeal candidosis in patients with AIDS.

Genital candidosis; acute or recurrent vaginal candidosis; prevention in order to decrease frequency of recurrent vaginal candidosis (3 and more attacks per year); candidal balanitis.

Mycoses of skin, including mycoses of feet, body, inguinal region, scaly skin disease, onychomycosis and dermatic candidal infections.

## Intruder

Deep endemic mycoses in patients with normal immunity, coccidioidomycosis, paracoccidioidomycosis, sporotrichosis and histoplasmosis.

Prevention of fungal infections in patients with malignant tumors, predisposed to development of such infections as a result of cytotoxic chemotherapy or radiation therapy.

### KETOCONAZOLE

KETOCONAZOLE (it is a component of the following preparations: DERMAZOLE, KETOCONAZOLE, KETOCONAZOLE DS, KETOCONAZOLE-ALTPHARM, LIVAROLE, MYCANISAL, MYCOZORAL, MYCOKET, NIZORAL, ORONASOLE, PERHOTAL, SEBOZOLE, FUNGINOK, KETO PLUS)

It is an antifungal preparation. It causes fungicidal and fungistatic effect.

It is active against causative agent of pityriasis versicolor - *Malassezia furfur*, causative agents of some dermatomycoses (*Trichophyton*, *Epidermophyton floccosum*, *Microsporum*), causative agents of candidosis (*Candida*), and also causative agents of systemic fungal infections (*Cryptococcus*).

It is also active against gram-positive cocci: *Staphylococcus* spp., *Streptococcus* spp.

Indications:

For outward application: treatment and prevention of mycotic lesions of scalp skin; ringworm of the body; epidermophytosis inguinalis; epidermatomycosis of hands and feet, candidosis of skin.

For local application: treatment of acute and chronic recurrent vaginal candidosis; prevention of fungal infections of vagina at decreased resistance of an organism and during treatment with antibacterial preparations and other remedies disordering normal vaginal microflora.

For oral administration (at impossibility and intolerance to other methods of therapy): blastomycosis, coccidioidomycosis, histoplasmosis, chromomycosis, paracoccidioidomycosis.

### AMOROLFINE

AMOROLFINE (it is a component of the following preparations: LOCERIL, ONIHELP, OFLOMIL LAK)

It is an antifungal preparation for outward application. It has fungistatic and fungicidal effect.

It is active against yeast fungi of genus *Candida* spp., *Pityrosporum* spp., *Malassezia* spp., *Cryptococcus* spp., dermatophytes (*Trichophyton* spp., *Microsporum* spp., *Epidermophyton* spp.), mold fungi (*Alternaria*, *Hendersonula*, *Scopulariopsis*), fungi *Dematiaceae* (*Cladosporium*, *Fonsecaea*, *Wangiella*), dimorphic fungi (*Coccidioides*, *Histoplasma* spp., *Sporothrix*) and actinomycetes.

Indications:

Onychomycosis, caused by dermatophytes, yeast and mold fungi (including cases when not more than 2/3 of a nail plate is damaged). Prevention of mycotic lesions of nails.

## PATENTED MEDICAL PREPARATIONS

BAGOMET - Argentina, BAGO GROUP COMPANY - antihyperglycemic agent

Bagomet (metformin hydrochloride) - hypoglycemic preparation from biguanide group. Slows the process of gluconeogenesis in liver, lowers intestines glucose absorption, strengthens glucose peripheral utilization and also increases tissue sensitiveness to insulin. Bagomet lowers low-density lipoproteins and triglyceride level in blood. Causes light anorectic effect which helps patients to keep to a diet, stabilizes or lowers mass of a body.

Indications: type 2 pancreatic diabetes patients without disposition towards ketoacidosis in cases of dietotherapy inefficiency (especially patients with adiposity).

SALAMOL - the Czechia/Great Britain, GALENA A.S./NORTON HEALTHCARE

Salamol (Salbutamolum) - an aerosol for inhalations. Pharmacological action: bronchodilative. It stimulates beta - 2-adrenergic receptors.

Indications: cupping and prophylaxis of bronchial asthma attacks; bronchites, pulmonary emphysema and other diseases accompanied with a bronchospasmodic syndrome.

SPIRIVA - Germany, BOEHRINGER INGELHEIM PHARMA GmbH & Co.KG - broncholytic preparation

Spiriva (tiotropium bromide) - it is a broncholytic preparation, m-cholinergic antagonist of prolonged action. High affinity to receptors and slow release from connection with them cause intense and prolonged bronchodilative effect of patients with chronic obstructive pulmonary disease (COPD).

Indications: as a supporting therapy of patients with COPD including chronic bronchitis and emphysema (supporting therapy at continuing shortness of breath and for exacerbation prevention).

DOXIUM - LAB. O. M. , Switzerland

Doxium (dobezilat of calcium) is angioprotector, it suppresses permeability and fragility of capillars, improves microcirculation, reduces viscosity of blood.

Indications: infringement of vascular permeability and disorder of microcirculation, including: diabetic angioopathies (retinopathy, glomerulosclerosis); venal insufficiency (varicose symptom-complex, superficial phlebitis, postthrombic syndrome, stagnant dermatoses, hemorrhoids); peripheral stagnant edemas of non-cardiogenic etiology, at edemas associated with disorder of lymph drainage.

OFTAN TIMOLOL - Finland, SANTEN

Oftan Timolol (Timololum) - ophthalmic drops. Pharmacological action: anti-glaucoma. It blocks the beta-adrenoreceptors and reduces production of intraocular fluid.

Indications: open angle glaucoma, secondary glaucoma (uveal, aphakic, posttraumatic), hypertension of eye, state after operation for a cataract.

TRANEXAM - Russia, MIR-FARM Company - angioprotective preparation

Tranexam (tranexamic acid) – it is a hemostatic preparation. It is an inhibitor of fibrinolysis. It has local and system hemostatic action at bleedings, related to increasing of fibrinolysis (platelets pathology, menorrhagia).

Indications: bleeding or risk of bleeding development associated with generalized increasing of fibrinolysis; bleeding or risk of bleeding development associated with local increasing of fibrinolysis; hereditary angioneurotic edema; allergic diseases, including eczema, allergic dermatitis, nettle-rush, drug and toxic rash; inflammatory diseases of mouth cavity and throat; operative interventions on urinary bladder; surgical manipulations at system inflammatory reaction.

PANZYNNORM FORTE-N - Slovenia, KRKA d.d. - enzymatic preparation

Panzynorm Forte-N (pancreatine) – it is an enzymatic preparation. It compensates the insufficiency of pancreas exocrinous function.

Indications: insufficiency of pancreas exocrinous function (including chronic pancreatitis, mucoviscidosis); chronic inflammatory-dystrophic diseases of stomach, intestines, liver, gall-bladder; conditions after resection or radiation treatment of these organs that accompanied by digestion disorders, wind, diarrhea (as a part of combined therapy); for improvement of digestion function of patients with stable gastrointestinal function in cases of errors in nutrition; preparation for rontgenological and ultrasonic research of abdominal cavity organs.

AIRONYL SEDICO - Egypt, SEDICO

Aironil Sedico (terbutaline). Broncholytic. It excites beta - 2-adrenergic receptors, increases activity of adenylate cyclase and lesion cyclic adenosine monophosphate, reduces concentration of endocellular calcium and relaxes the unstriated musculation. It relaxes longitudinal muscles of bronchuses, reduces ropiness of bronchial secret, stimulates displaceability of ciliae of ciliated epithelium. It stabilizes membranes of mast cells and inhibits the release of allergy mediators.

Indications: bronchial allergy, chronic obstructive bronchitis, pulmonary emphysema and other bronchopulmonary diseases accompanied by bronchobstructive syndrome.

AVANDIA - Great Britain, GLAXO SMITH KLINE

Avandia Hypoglycemic. It increases sensitivity of receptors to insulin (it is the PPAR-gamma nuclear receptor's selective agonist) in adipose tissue, sceletal musculation and liver. It reduces the level of glucose, insulin and free fatty acids in blood, improves metabolic processes.

Indications: non insulin dependent diabetes mellitus (II type): monotherapy at inefficiet diet and an adequate exercise stress or in combination with derivants of sulfonyl urea and Metforminum in order to improve the control of glycemia.

XALACOM - Belgium, PHARMACIA HV/SA - antiglaucoma

Xalacom – it is an antiglaucomic combined preparation.

Indications: for lowering of increased intraocular tension of patients with open-angle glaucoma and increased ophthalmotone.

KREON 10000 - Germany, SOLVAY PHARMA

Kreon 10000 (Pancreatinum). Pharmacological action: supplying deficit of enzymes of pancreas. It compensates failure exocrinous function of pancreas, improves gastrointestinal digestion.

Indications: failure of eccrine functions of pancreas: mucoviscidosis, chronic pancreatitis, pancreatectomy, total gastrectomy, particulate resection of stomach (Billroth I/II), obstruction of pancreat ducts or general biliary duct as a result of a neoplasm; pain in the area of pancreas; serotinal transplantation pancreatitis.

LINEX - Slovenia, LEK d.d. - probiotic

Linex – it is a preparation, regulating intestinal microflora balance. One capsule of the preparation contains at least  $1.2 \times 10^7$  degree of active frozen-dried lactate bacteria: Lactobacillus acidophilus, Bifidobacterium infantis, Enterococcus faecium.

Indications: prophylaxis and treatment of dysbacteriosis. Dysbacteriosis is shown by diarrhea, dyspepsia, constipation, wind, sickness, vomiting, belching, stomach pains; allergic reactions are possible.

CUSIMOLOL - Switzerland, ALCON

Cusimolol (Timololum) - eye drops. Pharmacological action: anti-glaucoma. It blocks beta - adrenoreceptors, reduces formation of intraocular fluid.

Indications: glaucoma (secondary open-angle), ophtalmohypertension.

## HOMEOPATHY

### CONIUM

Cough, gland induration. Senile impotence, hypochondria, paresthesia. Cerebral sclerosis. Muscular feebleness. Neoplasms of different localization. Depression. Pruritus. Emphysema.



**THUJA**

Skin diseases, mucosa diseases; digestion disorders, rheumatism, depression; liability to proliferation (warts, polyps, etc.), and well as morbid states caused by focal toxcosis. Gastroenteric disorders. Dejected mood. Speech disturbance.

**STAPHYSAGRIA**

Cerebral accidents. Chorea. Condyloma. Connective tissue disease. Cystitis. Dentition. Depression. Enuresis. Headache. Haemorrhoids. Insomnia. Multiple sclerosis. Orchitis. Peptic ulcer. Post-surgical pain. Psoriasis. Strabismus. Styes. Tics.

**CINA**

Behavior disorders. Bruxism. Colic. Diarrhea. Fever. Otitis media. Pertussis. Seizure disorders. Worms, especially pinworms.

**COLOCYNTHIS**

Pain spasms and colics in the alimentary tract and hepatolibiary system. Dysmenorrhea, neuritis, including ischias.

**RHUS TOXICODENDRON**

Contact dermatitis, articular rheumatism, backache, lumbago, neuralgia, feverish infections. Respiratory diseases, digestive tract inflammation, inflamed eyes, cephalalgia, nerve pain, paralysis, vertigo. Rheumatic pain in bones, tendons and muscles. Aftereffects of injury and overstrain. Anxiety, fear, depression.

**MEZEREUM**

Anxiety disorders. Asthma. Eczema. Headache, neuralgia. Hearing loss. Herpes Zoster. Peptic ulcer. Psoriasis.

**ABROTANUM**

Arthritis. Bronchitis. Diarrhea. Gout. Failure to thrive. Haemorrhoids. Marasmus. Parotiditis. Respiratory infections. Rheumatic heart diseases. Umbrilicus infections.

**MEDORRHINUM**

Inflammation of urogenital system mucosa, respiratory tract inflammation, digestive tract inflammation, rheumatism, abrupt change in moon.

**CAMPHORA**

Arthritis. Chronic fatigue syndrome. Dermatitis. Dysentery. Fainting. Headache. Influenza. Nephritis. Pneumonia. Sepsis. Sunstroke. Urinary tract infection

**AMMONIUM CARBONICUM**

Allergy and rhinitis. Bronchitis. Chronic fatigue syndrome. Congestive heart failure. Epistaxis. Haemorrhoids. Pharyngitis. Pulmonary edema. Scarlet fever. Sinusitis. Thyroiditis.

**NUTRICEUTICALS and PARAPHARMACEUTICALS****OMEGA 3 EPA - NSP**

Regulates lipid exchange and cholesterol content in blood; balances immune, nervous and cardiovascular systems; provides anti-inflammatory prostaglandins creation; lowers platelet aggregation; increases vigor and capacity for work; it is a structural brain and retina matter, providing its correct functioning.

**BEET WITH PROBIOTICS - BIONORMS**

Alimentary fibers and oligosaccharides of beet are bifidogenic factor as initiate the growth and development of bifid bacteriums. Tablets contain lyophilicly dried bifid bacteriums and a sublimated powder of root crops of beet. Tablets are used for normalization of a microflora gastrointestinal tract, improvement of a condition of immune system. Combination of vitamins in big amount to iron in beet renders a promoting effect on a hemopoiesis. Beet is recommended to people, a suffering by arthritis, an atherosclerosis, a thyrotoxicosis, cardiovascular diseases, diseases of a liver.

**OMEGA 3 EPA - NEWAYS**

Sustains equilibrium of lipids and cholesterol in a blood, sinks arterial pressure, retards coagulation of a blood, improves microcirculation, salutarly influencing on a condition of a skin, a hair and nails. Increases intellectual quotient at children. Shows antioxidant properties. Improves a condition of cellular membranes and a cellular metabolism. Promotes formation of prostaglandins. Ingredients: vitamin E (tocopherol). Indications: a hypertonia, a thrombophlebitis, an atherosclerosis, cardiavascular diseases, a pathology of endocrine system, downstroke of immunity. Contraindications: an angiostaxis, pregnancy.

**HEART OF NORTH**

Biologically active supplement "Heart of North" is a combined preparation, containing herbal and animal components, promoting: increased working capacity; organism resistance to negative aspects of environment; quick restoration after physical and mental stress. Components of "Heart of North": reindeer blood. Lyophilisate of reindeer blood represents composed by the nature itself protein complex with high level of bioavailable iron, and containing a large amount of group B

## Intruder

vitamins and mineral substances. Thanks to its unique composition blood supports our organism in the following directions: antioxidant protection; intensification of blood formation; it is a source of irreplaceable amino acids for proteins synthesis; Eleuterococcus extract. Eleuterococcus has multi-step effect to an organism: it activates central nervous system; increases motion activity and conditioned reflex activity; mental and physical performance; it has adaptogene effect; normalizes blood pressure at hypotension; Cordyceps Sinensis. Cordyceps has active effect to an organism: it suppresses inflammatory processes; activates metabolic processes in hepatic cells; strengthens immunity; it is a source of biologically active polysaccharides.

**OQ patch For my heart - NANO PATCH**

With Q10 & Omega 3. It restores cardiac cells; Improves condition of cardiovascular system; Normalizes blood pressure; Ensures constant energy supply of heart and other organs.

**LECITHIN - NEWAYS**

Increases a making of energy in an organism, normalizes an adipose metabolism, a level of a cholesterol and fatty acids in a blood, moderates surpluses of fats in a liver, improves assimilation of vitamins A, D, E, K and Thiaminum in an intestine, stimulates a bile secretion. Ensures a feed and optimum performance to nervous system (promotes a making of Acetylcholinum), improves functions of a brain and cardiovascular system, stimulates elaboration of erythrocytes and increases a haemoglobin. Ingredients: a lecithine, a soyabean oil. Indications: downstroke of mental and physical efficiency, overwork, syndrome of a chronic fatigue, a memory impairment, defects of a liver and a gall bladder, disorder of an adipose metabolism, an atherosclerosis, an anemia.

**MODIFYLAN - IFS**

The natural balanced sorbent prepared from brown alga of islands of Sakhalin and Kuriles on special technology.

**PULMOCLINX - ARTLIFE**

Renders fortifying, mild anti-inflammatory and expectorating action, promotes a colliquation and an evacuation of a sputum, has mild antibacterial effect. It is recommended as a prophylactic and fortifying remedy at ACUTE RESPIRATORY VIRAL INFECTION, bronchitis, a pneumonia, a bronchial asthma, other morbid conditions of bronchus-pulmonary system. Ingredients: includes the vegetative components widely used in folk medicine and a phytotherapy, it is enriched with beta-carotene, vitamin C, a complex of flavonoids and anthocyanin compounds, having high antioxidant activity.

**CALCIUM WITH VITAMINS C&D - RBC**

This calcium masticator provides the organism with the required quantity of calcium, Ferrum and other minerals, as well as connatural trace substances.

**HGH patch Source of youth - NANO PATCH**

It launches mechanisms of restoration and regeneration of tissues. Internal organs rejuvenate, normal size is restored.

**GASTROCALM - ARTLIFE**

Is the fortifying and feeder remedy, improve functioning a gastrointestinal tract, to increase a general resistance of an organism. Renders mild anti-inflammatory effect on mucosa of GASTROINTESTINAL TRACT, promotes restoration, has mild spasmolytic and anesthetizing action, normalizes acidity of gastric juice, improves digestion.

**CALCIMAX - ARTLIFE**

It is recommended as a prophylactic and fortifying remedy in following events:

- A systemic osteoporosis;
- Fractures of extremities;
- Failure of functions of parathyroid glands;

Reinforcing of an adamantine substance of tooth;

Diseases of joints;

Allergic diseases;

Dermal diseases;

Sugar diabetes.

## MICROELEMENTS

**SILICON (Si) in hair**

Silicon is an important structural component of conjunctive tissue.

High content of silicon in hair may be relates to minor abnormalities of water-salt metabolism with susceptibility to urolithiasis, osteochondrosis, arthrosis, diseases of kidney, hair, nails, bronchial tubes and lungs.

Low content of silicon in hair represents weakness of conjunctive tissue, high susceptibility to diseases of hair, nails, skin, bronchial tubes and lungs, vessels (atherosclerosis, varicosity), joints (arthropathy, dislocations), slow wounds healing, fractures. At deficiency of silicon non-specific diseases including neoplasms resistance is decreased.

Natural sources: rough vegetable food, honeysuckle, kidney bean, lentil, soft tendon, drinkable water.

**BARIUM (Ba) in hair**

Medicine uses ability of barium sulfate to absorb x-rays. Barium belongs to "toxic ultramicroelements".

Average content of barium in hair is 0.2-1.0 mkg/g.

Excessive barium accumulation in organism may cause toxic effect to nervous system, cardiovascular system and affect hematosi.

#### MAGNESIUM (Mg) in hair

It is the most important electrolyte, intracellular element interacting in metabolism processes with K, Ca, Na. Takes part in many enzymatic reactions as an activator.

Significantly increased level of magnesium in hair means increasing of excretion (displacement) if this element from an organism, redistribution of it in tissues, or it may be caused thyroid gland diseases, chronic stresses, overtaking or intoxication by aluminium or beryllium preparations (they increase excretion of magnesium from an organism).

Deficiency of magnesium may result in heart diseases, essential hypertension; it increases risk of thrombus formation, myocardial infarction, immunodeficiency, pancreatic diabetes, pancreatitis, oxaluria, biliary dyskinesia, cholecystitis. Low concentration of magnesium in hair and blood is registered at "chronic fatigue syndrome", pancreatic diabetes, various skin diseases including circumscribed alopecia, emotional disorders.

Natural sources: cooking salt, mineral water, cashew, buckwheat, laminaria, walnut, peas.

#### NATRIUM (Na) in hair

It is an extracellular macroelement, electrolyte, participating in water-salt metabolism, regulation of nervous and muscular activity, kidney functions.

High concentration of this element in hair as a rule reflects water-salt dysbolism, adrenal glands dysfunction, it may be a result of kitchen salt overtaking, pancreatic diabetes, kidney excretory dysfunction, susceptibility to essential hypertension, edemata, neuroses. People, especially kids, with excess of natrium are irritable, impressionable, hyperactive, they may suffer from thirst and hyperhidrosis.

Sometimes natrium accumulation in hair is possible after long-term contact with sea water and some of cleansers.

Low concentration of natrium in human hair is registered rarely, as a rule at neuroendocrinal disorders (hypophysis and adrenal glands dysfunction), as a result of craniocerebral injuries, chronic kidney pathology, chronic intestine diseases.

Natural sources: cooking salt, mussels, lobsters, octopuses, prawns, eggs.

#### COPPER (Cu) in hair

Copper belongs to vitally important microelements, having an important role in control of redox and neuroendocrinological processes, lipid peroxidation, in forming of conjunctive tissue and hematosi.

Increased amount of copper in blood may be an evidence of liver diseases (cholestasis, cholecystitis, hepatitis, risk of cirrhosis development), susceptibility to essential hypertension, increasing of cholesterol in blood, neoplasms (especially in gynaecology), autoimmune diseases, eczema, migraine, epilepsy, and also a presence of inflammatory diseases of joints and vessels, systemic diseases of conjunctive tissue, dis- (hyper-) pigmentation of skin.

Deficiency of copper may result in psycho-emotional exhaustion, development of anemia, leukocytopenia, vitiligo and other skin diseases, diseases of conjunctive tissue, bones, allergic diseases and thyroxin synthesis abnormalities. Deficiency of copper can be found at demyelinating diseases, development delay of psycho-speaking and motor activity, infantile spasmodic, genetic diseases. It has adverse effect on hematosi, may be a risk factor for development of heart diseases, diabetis. It may hamper pubescence of girls or may be a precondition for gynaecological diseases.

Natural sources: sea products, cabbage, potato, nettle, corn, carrot, apples, cocoa beans.

#### CALCIUM (Ca) in hair

This element is generally (about 99%) concentrated in bone tissue. Calcium level in hair reflects provision of an organism with this element; deficiency of calcium in bones and organism correlates with its content in hair. In grey or colorless hair level of calcium may be decreased.

Excess of calcium in hair usually evidences not the excess itself but increased circulation (redistribution) and excretion of this element from organism and thus increasing risk of calcium deficiency and diseases of musculoskeletal system, dysfunction (hypofunction) of thyroid and parathyroid glands, autoimmune thyroiditis. Sometimes excess of calcium may be caused by calcium preparations overdose.

Natural sources: dairy products, processed cheese, white cheese, greens, mustard, oatmeal.

#### IRON (Fe) in hair

Excessive accumulation of iron in child's hair usually associated with irritability of CNS, often with aggressiveness, concentration abnormalities.

In cases with adult patients excessive accumulation of iron in organism usually happen at chronic liver diseases, chronic gastroduodenitis with acidity, stomach ulcer, irritability of CNS, pancreatic diabetes, arthritis.

Iron-deficient condition usually appeared in human organism as anemia, giddiness and head ache, asthenia, undue fatiguability, decreasing of concentration and memory, coverlet paleness, high susceptibility to cold and infectious diseases, bones and nails fragility, cardiac murmurs, dysgeusia, inflammatory and atrophic changes of tunica mucosa of mouth and nose, immunodeficiency states.

Natural sources: pistachio, liver, spinach, lentil, peas, red meat.

#### MANGANESE (Mn) in hair



## Intruder

It is one of the most vitally important microelement. It takes part in regulation of many biochemical processes in organism: synthesis and metabolism of neuromediators (CNS), osteogenesis, immune response, lipid peroxidation, insulin and lipids metabolism.

Relatively permissible level in hair is 30 mkg/g hair.

Excessive accumulation of manganese in organism may result first of all in changes in CNS. Undue fatiguability, drowse, memory deterioration, low activity, sphere of interest narrowing.

Minor increasing of concentration in hair may mean fast excretion of manganese from organism and deficiency of it in tissues and organs of a human.

Manganese deficiency leads to lipid exchange abnormality, development of pancreatic diabetes, osteoporosis, joint diseases. Manganese deficiency in organisms of children is represented by susceptibility to allergoses including respiratory ones, neurotic reactions, convulsive states, scoliosis, etc. Significant manganese deficiency is registered at cerebral spastic infantile paralysis, late mental and speech development. Correction of this deficiency has positive effect at serious disorders of CNS.

Natural sources: rye-bread, bran particles, soy, peas, potato, beet, tomato, blueberry.

## POTASSIUM (K) in hair

It is necessary for "nutrition" of cells, activity of muscles, including myocardium, maintaining of water-salt balance in an organism and neuroendocrinal system functioning.

Excessive accumulation of potassium in hair is often registered at neurocirculatory dystonia, neuroses, hypertension, arrhythmia, pancreatic diabetes or prediabetes, small intestine diseases, celiac disease; it also can be registered in cases of patients with neoplasms, muscle weakness. People with excess of potassium in hair are usually irritable, impressionable, hyper active; they suffer from hyperhidrosis, frequent urination. Increasing of potassium level in hair may represent excessive accumulation of potassium in organism and redistribution of this element among tissues, electrolytes dysbolism or adrenal glands core dysfunction.

Low level of potassium in hair usually evidences asthenia, kidney dysfunction, adrenal glands function exhaustion, risk of myocardial dysbolism and asequence, mitral valve prolapse, BP regulation abnormalities, development of erosive processes in mucous layers. Patients usually suffer from xerodermia, dullness and weakness of hair. Potassium deficiency in woman organism may be related to cervical erosion and increasing of noncarrying of pregnancy or sterility risk. Development of potassium deficiency is usually associated with diseases of kidney, small intestine, endocrine system, overfatigue, overtaking of depletive, diuretic, hypotensive and hormonal preparation, excess absorption of natrium and caesium by organism.

Natural sources: dairy products, meat, cocoa, tomatoes, beans, potato, parsley, apricots, raising, bananas, black tea.

## IODINE (I) in hair

It is a vitally important, but not genotoxic element. It has high physiological activity; it is a vital structural component of thyrotrophic hormone and thyroid hormones of thyroid gland.

Main reasons of iodine excess in organism is iodine dysbolism and excessive accumulation of it in organism, which may cause goitre formation, development of hyperthyroidism and thyrotoxicosis, headaches, undue fatiguability, asthenia and depression. Decreasing of iodine is caused by insufficient amount (10 mkg/day and less) of this element in food and water. It may result in iodine-deficiency states development (endemic goiter, hypothyroidism, distyrosiosis, cretinism, etc.), together with various functional and structural abnormalities.

Natural sources: pineapple guava, sea products, iodine-treated salt.

## SELENIUM (Se) in hair

It is a vitally important ultra microelement (average amount in an organism is 10-20 mg), taking major part in regulation of so-called "antioxidant protection of an organism", toxins detoxication in liver, muscle trophism, formation of skin, hair, nails and cornea. Level of selenium in hair truly correlates with concentration of this element in blood serum and blood cells, liver, cardiac muscle, activity of glutathioneperoxidase enzyme.

High level of selenium in hair often determined by using of selenium containing shampoos (anti-dandruff); also it may be registered at some stages of degenerative and oncological diseases (patholysis), cirrhosis.

Insufficiency of selenium is often represented by diseases of skin, nails, hair, immunodeficiency states, joints inflammations, allergoses, decreasing of protein synthesizing and detoxication functions of liver, dystrophic changes in myocardium and muscles. Insufficiency of selenium may affect synthesis of thyroid gland enzymes, susceptibility to neoplasms, cataract, poor eyesight, regeneration of wounded tissues.

Natural sources: garlic, pork lard, wheat bran, белые mushrooms.

## LITHIUM (Li) in hair

It is an ultra-microelement taking part in regulation of higher nervous activity, influencing immunity and water-salt metabolism.

High concentration of lithium in hair may be registered at abnormality of kidney excretory function, natrium metabolism, overdosing with lithium preparations.

Low level of lithium in hair is registered at mental disorders, kidney diseases, descendants of alcoholics, immunodeficiency.

Natural sources: mineral water, sea-salt, potato, meat, fish, seaweed.

## ARSENIC (As) in hair

Arsenic is both toxic element and conditionally necessary for an organism element (in small doses it stimulates immunity and hematoses).

Evaluation of arsenic level in hair is the most informative analysis in revealing of risk group with susceptibility to intoxication

with this element.

Background characters of concentration in hair are up to 0.5 mkg/g, biologically permissible - 1.0 mkg/g (for kids), 3.0 mkg/g (for adults).

High amount of arsenic first of all causes liver dysfunction, allergic reactions, skin state alteration, vessels affection, decreasing of hearing ability, CNS irritability, shortness of temper, headaches, suppression of immunity and hematosis. Long-term exposure is a carcinogenic factor – it increases risk of skin, liver and lungs neoplasms development.

#### BERYLLIUM (Be) in hair

It is a toxic ultramicroelement. Depot in organism is in liver, lungs and bone tissue.

Relatively allowable level in hair is 1 mkg/g.

Excessive beryllium accumulation in organism may cause affections of lung tissue (fibrosis, sarcoidosis); in rare cases skin affections (erythema, eczema), also affections of myocardium, liver, bones and erosion in gastrointestinal tract.

#### BORON (B) in hair

In medicine we use boron compounds: boric acid, borax. The following effects of these compounds are used: antiseptic, antiphlogistic and antitumoral. Boron has healing effect at osteoporosis, arthritis and bone fluorosis.

Boron belongs to conditionally essential, immunotoxic elements. Average daily need for boron of a human organism is 1-2 mg.

Natural sources: peeled barley, beans, peanuts, almonds, hazel-nuts, macaroni products.

#### VANADIUM (V) in hair

It is a microelement taking part in regulation of carbohydrate metabolism, cardiovascular system activity, however at excessive accumulation in organism may cause toxic effect, including of carcinogenic character.

Relatively allowable level of vanadium in hair is 0.5 mkg/g.

Excessive vanadium accumulation causes increasing of frequency of bronchopulmonary system and upper airways diseases, neoplasms.

Natural sources: mushrooms, parsley, liver, fatty meat, soy, dill, cereals.

#### COBALT (Co) in hair

It is one of the main microelements necessary for normal hematosis and also for activation of many enzymes, functioning of CNS, regulation of vegetative nervous system and thyroid gland functions, cell division.

Excess absorption of cobalt by organism may cause heart diseases, auditory nerve affection, thyroid gland function decreasing, increasing of blood pressure and lipids in blood.

Deficiency of cobalt in organism may result in anemia, general weakness, fatiguability, loss of sensation, increased presentation of vegetative nervous system dysfunction, late children development.

Natural sources: liver, milk, beet, radish, sprouting onion, cabbage, parsley, lettuce, garlic.

#### CADMIUM (Cd) in hair

This element is very toxic, it can easily enter human organism through gastrointestinal tract or via mother's placenta to foetus.

Mechanism of toxic effect to an organism related both to its direct effect to tissues, protein dysbolism and to expulsion from organism of zinc and to a smaller extent copper, selenium and calcium. These elements are antagonists to cadmium.

Biologically allowable level of cadmium in hair of children and adults is 2 mkg/g hair.

Excessive accumulation of this element in organism may cause dysfunction of kidney, prostate gland, immunodeficiency, skin diseases, anemia, lack of appetite, increased blood pressure, pains in bones and joints, prostate gland dysfunction.

#### LEAD (Pb) in hair

It belongs to heavy metals group; it is widely spread in environment and may cause human diseases.

Excessive accumulation of lead in organism of a child results in hyperactivity, over-aggressiveness, concentration level abnormality, intelligence decreasing and mental development delay. Excessive accumulation of lead in organisms of children and adults may result in anemia, diseases of gastrointestinal tract, bone system, caries, irritability, extremity aches, stomach aches.

Background level of lead accumulation in hair is 2.5 mkg/g for adults, 1.5 mkg/g for children. Biologically accepted level is 10 mkg/g and 9 mkg/g for children, critical level is 24 mkg/g.

#### TIN (Sn) in hair

Tin belongs to heavy metals group with moderate toxic effect and may cause injurious effect to a human organism

Relatively permissible level of tin in hair is 3 mkg/g.

Excess of tin in organism may result in appetite decreasing, tinny taste in mouth, stomach aches, diarrhea, nausea.

#### LITOTHERAPY

## DIAMOND



Diamonds were said to possess health-giving effect. The ancient Indians thought the diamond “vibration” to be positive for various organs, especially heart and brain. In old times it was said that diamonds were able to cure poison. It was also common to think that diamonds protect its owner from diseases, drive away bad dreams, prevent hypochondria, apoplexy and gall-stone formation. The Indians believe in diamond’s ability to lower high temperature, fight off infections, cure skin diseases, remove fatigue, activate metabolism. A diamond ring helps at childbirth. Especially effective green diamonds which are considered as the symbol of motherhood.

Modern lithotherapists do not advise to wear somebody else’s diamond jewelry, or with low quality gems, especially synthetic diamonds. To improve your health they advise to drink “diamond” water every day, this is a water in which diamond jewelry was kept whole night. In this procedure it is not

recommended to use somebody else’s diamonds or low quality gems. Diamonds have good effect at “contact” treatment. Impulsive persons with high blood pressure are not recommended to wear diamond jewelry.

## CORNELIAN



As a healing preparation cornelian was used even by healers of Ancient Egypt who considered this gem as one of the most magic and healing one. Crumbled cornelian was added to mixtures and powders which helped to calm down and restore energy. Cornelian as a healing preparation was used also in Asia – by Chinese, Hun and Mongolian healers. More than usual this gem was honored in India. Ayurveda says that orange cornelian can restore nerve tissue, helps at urogenital and respiratory systems, stimulates endocrine glands activity and improves blood circulation and skin color. In ancient times there was belief that cornelian ornamentations help to deliver a child easily. Modern lithotherapists believe that cornelian possesses projective Yang energy. It stimulates cerebral blood flow, strengthens immune system, removes head ache and helps at skin and thyroid gland diseases. Yellow cornelian can be used at intestine activity disorder, specifically at

constipations; it also helps at kidney diseases. There is specific school of treatment by this gem – corneliantherapy. Maybe healing powers of cornelian, which cannot be negated, are explained by faint radioactivity of some gems. Stimulating effect of small doses of radiation is well known.

## MOISSANITE



Moissanite – is a rare mineral, naturally occurring silicon carbide (SiC). It forms small colorless crystals with brilliant lustre. Carborundum (silicon carbide) is a synthetic analogue and technical product, identical in structure and composition.

Almost every silicon carbide sold in the world, including as moissanite jewelry, is synthetically created; it is a synthesized competitor of a diamond. Moissanite may be found in extremely small amounts in some meteorites, corund deposits and kimberlites.

It is infusible (melting temperature is 2830 °C), chemically resistant, in hardness it yields only to diamond and borazon (boron nitride).

## PHYTOTHERAPY

## POLYGONUM BISTORTA



Other Common Names: Common bistort, snakeweed, poor man’s cabbage, snakeweed, oderwort, meadow bistort, adderwort, osterick, pink pokers, English serpentary, dragonwort, easter mangiants, easter-ledges, easter giants, easternman giants, pudding grass, passion dock, sweet dock, patience dock.

The herb has been used internally to treat diarrhea (especially in children), dysentery, cholera, gastritis, cystitis and heavy menstrual bleeding.

External uses include the treatment of inflamed mucous membranes and skin disorders, burns, sore nipples, gingivitis, bleeding gums, inflammation of the pharynx (pharyngitis), vaginal discharge, hemorrhoids and anal fissures.

To treat diarrhea it may be used with other astringent herbs such as agrimony (Agrimonia

eupatoria), spotted geranium (Geranium maculatum) or English oak (Quercus robur).

Bistort was traditionally used to treat infectious diseases, to stop bleeding and to treat snake bites. The herb is still popular as an herbal medicine, especially for diarrhea and inflammation of the mouth and throat.



## PARIS QUADRIFOLIA



Herb paris should always be used with great caution, as an overdose can be fatal. The leaves and berries have been administered as an allopathic medicine, a method of treating ailments by the use of agents that produce effects different from those of the disease treated. As such it has been used as an antispasmodic remedy for pertussis (whooping cough) and various types of epilepsy. Again, this must be done with great caution because of the plant's toxicity. In small doses the leaves of herb paris are thought to be useful as an herbal treatment for bronchitis, spasmodic cough, rheumatism, colic and palpitations. The plant has also been used to treat headaches and neuralgia, and the juice from the fresh berries are said to be helpful for inflammation of the eyes.

## CAPSICUM ANNUUM



Capsicum, also known as red pepper or chili pepper, is an herb. The fruit of the capsicum plant is used to make medicine.

Capsicum is used for various problems with digestion including upset stomach, intestinal gas, stomach pain, diarrhea, and cramps. It is also used for conditions of the heart and blood vessels including poor circulation, excessive blood clotting, high cholesterol, and preventing heart disease. Other uses include relief of toothache, seasickness, alcoholism, malaria, and fever. It is also used to help people who have difficulty swallowing.

Some people apply capsicum to the skin for pain caused by shingles, osteoarthritis, rheumatoid arthritis, and fibromyalgia. It is also used topically for nerve pain (neuropathy) associated with diabetes and HIV, other types of nerve pain (neuralgia), and back pain.

Capsicum is also used on the skin to relieve muscle spasms, as a gargle for laryngitis, and to discourage thumb-sucking or nail-biting.

Some people put capsicum inside the nose to treat hay fever, migraine headache, cluster headache, and sinus infections (sinusitis).

One form of capsicum is currently being studied as a drug for migraine, osteoarthritis, and other painful conditions.

## VERBASCUM THAPSUS



The Mullein has very markedly demulcent, emollient and astringent properties, which render it useful in pectoral complaints and bleeding of the lungs and bowels. The whole plant seems to possess slightly sedative and narcotic properties.

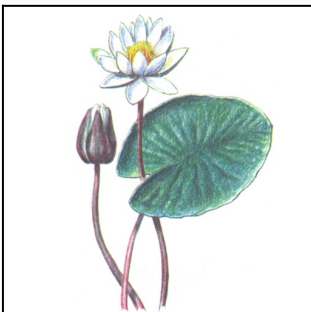
It is considered of much value in phthisis and other wasting diseases, palliating the cough and staying expectoration, consumptives appearing to benefit greatly by its use, being given in the form of an infusion, 1 OZ. of dried, or the corresponding quantity of fresh leaves being boiled for 10 minutes in a pint of milk, and when strained, given warm, thrice daily, with or without sugar. The taste of the decoction is bland, mucilaginous and cordial, and forms a pleasant emollient and nutritious medicine for allaying a cough, or removing the pain and irritation of haemorrhoids. A plain infusion of 1 OZ. to a pint of boiling water can also be employed, taken in wineglassful doses

frequently.

The dried leaves are sometimes smoked in an ordinary tobacco pipe to relieve the irritation of the respiratory mucus membranes, and will completely control, it is said, the hacking cough of consumption. They can be employed with equal benefit when made into cigarettes, for asthma and spasmodic coughs in general.

Fomentations and poultices of the leaves have been found serviceable in haemorrhoidal complaints.

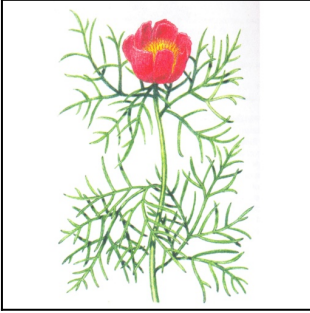
## NIMPHAEA COLORATA (WATER LILY)



The root is astringent, demulcent, anodyne, and antiscrofulous, used in dysentery, diarrhoea, gonorrhoea, and leucorrhoea externally. The leaves and roots have been used in form of poultice to boils, tumours, scrofulous ulcers and inflamed skin; the infusion is used as a gargle for ulcers in the mouth and throat.

A poultice of leaves and roots relieves boils, tumours, ulcers, and inflamed skin. A complete cure of uterine cancer by a decoction and a vaginal injection is recorded.

## PAEONIA



Peony is a plant. The root and, less commonly, the flower and seed are used to make medicine. Peony is sometimes called red peony and white peony. This does not refer to the color of the flowers, which are pink, red, purple, or white, but to the color of the processed root. Peony is used for gout, osteoarthritis, fever, respiratory tract illnesses, and cough. Women use peony for menstrual cramps, polycystic ovary syndrome, premenstrual syndrome (PMS), and for starting menstruation or causing an abortion. It is also used for viral hepatitis, livercirrhosis, upset stomach, muscle cramps, "hardening of the arteries" (atherosclerosis), and to cause vomiting. Peony is also used for spasms, whooping cough (pertussis), epilepsy, nerve pain (neuralgia), migraineheadache, and chronic fatigue syndrome (CFS). People apply peony to the skin for healing cracked skin, especially cracks around the anus (anal fissures) that sometimes occur with hemorrhoids.

## EPHEDRA



Ephedra is an herb. Usually, the branches and tops are used to make medicine, but the root or whole plant can also be used. Ephedra is used for weight loss and obesity and to enhance athletic performance. It is also used for allergies and hay fever; nasal congestion; and respiratory tract conditions such as bronchospasm, asthma, and bronchitis. It is also used for colds, flu, swine flu, fever, chills, headache, inability to sweat, joint and bone pain, and as a "water pill" to increase urine flow in people who retain fluids.

## PANAX GINSENG



Panax ginseng is a plant that grows in Korea, northeastern China, and far eastern Siberia. People use the root to make medicine. Do not confuse Panax ginseng with American ginseng, Siberian ginseng, or Panax pseudoginseng.

Panax ginseng is taken by mouth to improve thinking, concentration, memory, Alzheimer's disease, work efficiency, physical stamina, preventing muscle damage from exercise, and athletic endurance.

Some people use Panax ginseng to help them cope with stress and as a general tonic for improving well-being. They sometimes call Panax ginseng an "adaptogen" when it's used in this way.

Panax ginseng is also used for depression, anxiety, general fatigue and chronic fatigue syndrome (CFS), multiple sclerosis, for boosting the immune system, and for fighting particular infections in a

lung disease called cystic fibrosis. These infections are caused by a bacterium named *Pseudomonas*.

Some people use Panax ginseng to treat breast cancer and prevent ovarian cancer, liver cancer, lung cancer, and skin cancer. Other uses include treatment of anemia, chronic bronchitis, swine flu, prediabetes and diabetes, inflammation of the stomach lining (gastritis), fever, hangover, chronic obstructive pulmonary disease (COPD), HIV/AIDS, fertility problems and sexual dysfunction in men, to increase sexual arousal in women, and asthma.

Panax ginseng is also used for bleeding disorders, loss of appetite, vomiting, intestinal problems, gallstones, bad breath, fibromyalgia, sleeping problems (insomnia), nerve pain, joint pain, dizziness, headache, hearing loss, convulsions, disorders of pregnancy and childbirth, hot flashes due to menopause, common cold and flu, heart failure, high blood pressure, quality of life, wrinkled skin, and to slow the aging process.

## NERIUM



Oleander is a plant. Its use as a poison is well known. In fact, oleander is reportedly a favorite suicide agent in Sri Lanka, where oleander poisonings exceed 150 per 100,000 each year. That's a high number. Approximately 10% of these ingestions are fatal.

Despite the danger, oleander seeds and leaves are used to make medicine. Oleander is used for heart conditions, asthma, epilepsy, cancer, painful menstrual periods, leprosy, malaria, ringworm, indigestion, and venereal disease; and to cause abortions.

A fixed combination of oleander leaf powdered extract, pheasant's eye fluid extract, lily-of-the-valley fluid extract, and squill powdered extract has been used for treating mild heart failure.

Oleander is sometimes applied to the skin to treat skin problems and warts.

## CROCUS



Other Names: Autumn Crocus, Azafron, True Saffron.

Saffron is used for asthma, cough, whooping cough (pertussis), and to loosen phlegm (as an expectorant). It is also used for sleep problems (insomnia), cancer, "hardening of the arteries" (atherosclerosis), intestinal gas (flatulence), depression, Alzheimer's disease, fright, shock, spitting up blood (hemoptysis), pain, heartburn, and dry skin.

Women use saffron for menstrual cramps and premenstrual syndrome (PMS). Men use it to prevent early orgasm (premature ejaculation) and infertility.

Saffron is also used for to increase interest in sex (as an aphrodisiac) and to induce sweating.

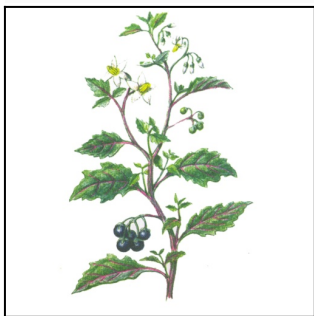
Some people apply saffron directly to the scalp for baldness (alopecia).

## HELIANTHUS TUBEROSIS



Medicinal use of Jerusalem Artichoke: Reported to be aperient, aphrodisiac, cholagogue, diuretic, spermatogenetic, stomachic, and tonic, Jerusalem artichoke is a folk remedy for diabetes and rheumatism.

## SOLANUM NIGRUM



Medicinally Nightshade / Makoi (h) Kakamachi is anti-inflammatory, antihepatic, antioxidant and anti-hyperlipidemic. It is proved that ancient people used this as medicine and drug. The herb is diuretic, diaphoretic, anodyne, expectorant alternative. Solanum nigrum (Makoi (h) Kakamachi) is useful for the treatment of measles. It is useful against cardiac pain. Solanum nigrum / Nightshade is used as a blood purifier. It is helpful in enlargement of organs like liver and spleen. Solanum nigrum is helpful for the treatment of chronic fever. It is used to cure dropsy. It is useful for arthritis. Solanum nigrum (Makoi) has also anti-diarrheal and antipyretic property. It also used to treat weakness to get strength and vigour, and diuretic in nature. Makoi possesses strong narcotic property. This is useful for the treatment of ulcer. It protects liver and fights against jaundice. Useful for asthma, cough and oral ulcer, it also cures an earache.