

**Appendix 3:****Competence list required for obtaining the M.D. degree  
at Hungarian Medical Schools**

*(University of Debrecen, Faculty of Medicine, University of Pécs, Faculty of Medicine, Semmelweis University of Budapest, Faculty of Medicine or University of Szeged, Faculty of Medicine)*

<b>Skills for each specialization</b>	<b>Required level of knowledge: Theoretical knowledge (TK) Seen (S) Participated (P)</b>
<b><i>Obstetrics-gynecology skills</i></b>	
<i>Physical examinations</i>	TK,S,P
History of previous illness	TK,S,P
General physical examination	TK,S,P
Examination of the external organs	TK,S,P
Examination with speculum	TK,S,P
Bimanual examination	TK,S,P
Rectal examination	TK,S,P
Rectovaginal examination	TK,S,P
Amin-probe	TK,S,P
Vaginal PH-measurement	TK,S,P
Mikroscopic smear examination	TK,S,P
Cervical sampling	TK,S,P
Onkocitologic sampling	TK,S,P
Colposcopic examination	TK,S,P
Abdominal-pelvic ultrasound examination	TK,S
Vaginal ultrasound examination	TK,S
Curettage	TK,S
Abortion	TK,S
Surgical abortion	TK,S
Endometric-aspiration	TK
Diagnostic laparoscopy	TK
Infertility work-up	TK,S
Basal-temperature measurements and evaluation	TK,S,P
Physical examination of the cervical secretion	TK,S,P
Postcoital-test execution and evaluation	TK,S
Hysterosalpingography	TK
Chromohydrotubatio	TK
Self breast examination- education	TK,S,P
Diaphragm insertion	TK
Foley-catheter insertion	TK,S,P
Cervical electrocoagulation	TK
Operative laparoscopy	TK,S
Counselling on contraception	TK,S,P
IUD insertion	TK,S
Laparoscopic sterilization	TK
<i>Obstetrics</i>	
Preconceptional education	TK,S,P
Early pregnancy risk assessment	TK,S
Biochemical screening for aneuploidy	TK
Serological screening in pregnancy	TK

Haematological screening in pregnancy	TK
Screening for diabetes in pregnancy	TK,S
Estimated date of delivery by Naegele's method	TK,S,P
Correction of the EDD by Naegele's method according to the length of cycle	TK,S,P
EDD according to CRL	TK,S,P
EDD according to the first fetal movement	TK,S,P
Examination in early pregnancy	TK,S,P
Counselling on diabetes	TK,S
Counselling with positive haematological screening result	TK,S
Counselling with positive blood-group serological screening test	TK,S
Counselling with positive lues serology screening result	TK
Examination in 2nd and 3rd trimesters	TK,S,P
Leopold-maneuvers	TK,S,P
Determine lie and presentation by abdominal examination	TK,S,P
Determine gestational age by measuring sy-fu distance	TK,S,P
Determine gestational age by measuring abdominal circumference	TK,S,P
Auscultation of fetal heart sounds	TK,S,P
Defining cervical-index	TK,S,P
Performing and evaluating of CTG	TK,S,P
Performing and evaluating of NST	TK,S,P
Ultrasound examination in early pregnancy	TK,S
Amniocentesis	TK
Ultrasound examination in midterm pregnancy	TK,S
Chorionic biopsy	TK
Ultrasound examination in 3rd trimester	TK,S
Evaluating of oxytocin contraction test	TK,S
Observation patient during labour	TK,S,P
Obstetrical physical examination	TK,S,P
Bishop-score calculation	TK,S,P
Rupture of the amniotic-sac	TK
Perineal protection methods	TK,S
Anaesthesia of the perineum	TK,S
Epidural anaesthesia	TK,S
Episiotomy	TK,S
First duties with the newborn	TK,S
Suction of the newborn's nose and pharynx	TK,S
Apgar staging	TK,S,P
Conduction of the placental stage	TK,S
Examination of the placenta and the umbilical cord	TK,S,P
Calculating the blood loss during delivery	TK,S
Suturing the episiotomy	TK,S
Delivery induction with medications	TK,S
Spontaneous vaginal delivery conduction	TK,S
Fetal scalp blood sampling	TK
Instrumental delivery	TK,S
Caesarean-section	TK,S
Physical examination in puerperium	TK,S,P
<b>Paediatric skills</b>	
Acquiring history from parents	TK,S,P
Infant bathing, changing diapers and clothes	TK,S
Feeding the infant (also with feeding-bottle)	TK,S
Preparing the infant's vegetables	TK,S
Preparing the formula (infant nutrition)	TK,S
Calculations of infant's calorie-needs	TK,S,P

Measurements of weight, length, chest- and head-circumference in infants	TK,S,P
Use of percentile-tables and evaluation	TK,S,P
Body-surface calculation	TK,S,P
Temperature measurements in infants	TK,S,P
Applying cooling bath	TK,S
Umbilical cord management in newborns	TK,S
Local treatment of oral sore	TK,S,P
Evaluation of mental and motoric development	TK,S,P
Use of Dubowitz-score	TK,S,P
Use of Apgar-score	TK,S
Use of RDS-score	TK,S
Physical examination of the newborns and prematures	TK,S,P
Physical examination of the infant	TK,S,P
Physical examination of the children	TK,S,P
PB measuring on infant	TK,S
BP measuring on children	TK,S
Documenting ambulatory patients	TK,S
Filling the chart	TK,S
Continuous upgrade of the flow-chart	TK,S
Urine examination with test-tube probe and stix	TK,S,P
Examination of the urine sediment	TK,S,P
WBC, PLT counting	TK
Qualitative blood analysis	TK,S
Performing reticulocyte-count	TK
Blood group analysis	TK,S
Stool examination macroscopically	TK,S
Examination of the epiglottis with laryngoscope	TK,S
Preparing an EKG, evaluation	TK,S
Blood sampling from fingerstick	TK,S
Blood sampling by venous approach	TK,S
Blood-gas analysis	TK,S
We preparing	TK,S
Po. medication administration	TK,S
Suppository administration	TK,S
Ic. injection (Mantoux) administration	TK,S
Sc. injection administration	TK,S
Im. injection administration	TK,S
Iv. injection administration	TK,S
Infusion administration, assembling	TK,S
Evaluation of the function of VP shunt	TK,S
Neuroevolutionary examination on infants	TK,S
Habilitational training for infants	TK,S
Detecting the stage of dehydration	TK,S,P
Repositioning inguinal and umbilical hernia	TK,S
Inserting Foley's-catheter	TK,S,P
Gastric lavage	TK,S
Administrating enema	TK,S,P
Po. and parenteral rehydration planning	TK,S,P
Preparing the plan for correction of electrolyte and acid-base disturbances	TK,S,P
Applying digitalis	TK,S,P
Treatment of status asthmatics (life threatening exacerbation of bronchial asthma)	TK,S,P

Treatment of status epilepticus (life threatening exacerbation of seizure)	TK,S,P
Preparing the plan for antibiotic treatment	TK,S,P
Differential diagnosis of furred-throat	TK,S
Differential diagnosis of infectious diseases with exanthemas	TK,S
Growth hormone test evaluation	TK
Evaluation of glucose tolerance test	TK,S,P
Evaluation of the chest x-ray in newborns	TK,S
Evaluation of the chest x-ray in pneumonia	TK,S
Lumbal-puncture, analysis of liquor	TK
Puncture of the ventricles	TK
Intubation	TK
CPR	TK
Setting parameters for mechanical ventilation	TK
Intensive monitoring	TK
Catheterisation of umbilical vein or artery	TK
Transfusion	TK
Diagnosis and treatment of pneumothorax	TK
Haemodialysis	TK
Plasmaferesis	TK
Haemoperfusion	TK
Coronary angiography	TK
Biopsy of the intestines	TK
Bone-marrow puncture	TK
Foreign body removal with bronchoscope	TK
Inserting central venous canule	TK
CVP measurements	TK
Cranial ultrasound examination	TK,S
Abdominal ultrasound examination	TK,S
Echocardiography	TK,S
Fluoroscopy of the thorax for detecting foreign bodies	TK
Evaluation of irrigoscopic examination	TK
Evaluation of brain CT	TK
Evaluation of cystography	TK
Evaluation of urography	TK
Evaluation of gastro-intestinal passage	TK
EEG analysis	TK
<b><i>Surgery skills</i></b>	
<i>Physical examination</i>	TK,S,P
General physical examination	TK,S
Rectal examination	TK,S,P
Filling the death certificate	TK,S,P
<i>Examination of patients with varices</i>	
Trendelenburg-test	TK,S,P
Perthes-test	TK,S,P
<i>Examination of patients with peripheral vascular disease</i>	
Postural-test	TK,S,P
Reactive hyperaemia test	TK,S,P
Capillary refill test	TK,S,P
<i>Examination of abdominal wall hernia</i>	
Examination of the inguinal region during increased abdominal pressure	TK,S,P
Palpation of hernias	TK,S,P
<i>Traumatology</i>	
First-aid	TK,S,P

Evaluation of the mental-stage/orientation with the Glasgow-score	TK,S,P
External chest compression	TK,S,P
Oro-oral and oro-nasal ventilation	TK,S,P
Ventilation with mask	TK,S,P
Intubation	TK,S,P
Evaluating and management of external wounds	TK,S,P
Termination of bleeding	TK,S,P
Transportation of trauma-patient	TK,S,P
Heimlich-manoeuvre	TK,S,P
Transient fixating bandage of traumatic part of body	
Preparation of the surgical area	TK,S
Surgical scrub-in and clothing	TK,S,P
Infiltrational anaesthesia	TK,S
Conductive anaesthesia	TK,S
Incision and drainage	TK,S
Management of infected, necrotic wound	TK,S
Closure	TK,S,P
Stich removal	TK,S,P
Management of burns	TK,S
Applying pressure-bandage	TK,S,P
Reuniting closed fractures	TK,S
Fracture stabilization	TK,S,P
Reduction of dislocation	TK,S
Tranziens fixation of broken extremities	TK,S
Cauterisation of the nail-bed	TK,S
Nail-removal	TK,S
Insertion of nasogastric tube	TK,S,P
Insertion of Foley's catheter in men	TK,S,P
Insertion of Foley's catheter in women	TK,S,P
Suprapubic catheterisation	TK,S
Managing/care of stomas	TK,S
Enema	TK,S,P
Sclerotic treatment of varices via injection	TK
Venous-cannulating	TK,S,P
Pain management	TK,S
Assisting surgical procedures	TK,S,P
<b>Psychiatry skills</b>	
Acquiring psychiatric history, general	TK,S,P
Acquiring psychiatric history, analyzing life-story	TK,S,P
Acquiring psychiatric history, social background	TK,S,P
Acquiring psychiatric history based on heteroanamnesic data	TK,S
Evaluation sense/consciousness	TK,S,P
Evaluation of realization/cognition	TK,S,P
Evaluation of orientation	TK,S,P
Evaluation of intelligence	TK,S
Evaluation of memory	TK,S,P
Evaluation of thought processes	TK,S,P
Evaluation of mood	TK,S,P
Evaluation of the expression of moods/affect	TK,S,P
Evaluation of behaviour	TK,S,P
Evaluation of affection/desire	TK,S,P
General impression of the patient, detailed	TK,S,P
Recognition of the personal reactions induced by the patient itself	TK
Evaluation the risk of committing suicide	TK,S

Revealing problems with the cooperation of the patient	TK,S,P
Revealing problems with the cooperation of the patient and his/her partner	TK,S
Revealing problems with the cooperation of the family	TK,S,P
Revealing problems in the situation of crisis	TK,S
Revealing problems after suicide attempt	TK,S
Revealing problems in groups	TK,S
Presenting psychiatric problems to colleagues	TK,S,P
Evaluation of MMSE	TK,S,P
Family visit	TK
Psychological examination	TK,S
Recurring pattern recognition and interpretation	TK
Making the diagnosis based on the BNO and DSM IV-TR criteria	TK,S,P
Indications for admission to psychiatry ward	TK,S
Attending consults	TK,S,P
Occupational therapy	TK,S
Play therapy	TK,S
Creative therapy	TK,S
Electroconvulsive therapy	TK,S
Consulting	TK,S
Behavioural therapy	TK
Psychotherapy	TK
Applying sleep-deprivation	TK
Pharmacotherapy	TK,S
Psychopharmacotherapy	TK,S
Applying psychopharmacotherapy	TK,S
Recognition and management of drug interactions and side-effects	TK,S
Recognition of intoxications	TK,S
Recognition of somatic disease causing psychiatric symptoms	TK,S
<b>Neurological skills</b>	
History	TK,S,P
Examination of the meningeal signs	TK,S,P
Examination of the 1st cranial nerve	TK,S,P
Examination of the 2nd cranial nerve	TK,S,P
Examination of the 3rd cranial nerve	TK,S,P
Examination of the 4th cranial nerve	TK,S,P
Examination of the 5th cranial nerve	TK,S,P
Examination of the 6th cranial nerve	TK,S,P
Examination of the 7th cranial nerve	TK,S,P
Examination of the 8th cranial nerve	TK,S,P
Examination of the 9th cranial nerve	TK,S,P
Examination of the 10th cranial nerve	TK,S,P
Examination of the 11th cranial nerve	TK,S,P
Examination of the 12th cranial nerve	TK,S,P
Examination of the muscle tone	TK,S,P
Examination of the muscle strength	TK,S,P
Examination of latent paresis	TK,S,P
Examination of involuntary movements	TK,S,P
Examination of tactile sensation	TK,S,P
Examination of pain sensation	TK,S,P
Examination of temperature sensation	TK,S,P
Examination of vibration sensation	TK,S,P
Examination of joint position sensation	TK,S,P
Examination of dermolexia and stereognosis	TK,S,P
Examination of deep reflexes (biceps, triceps, radius, ulna, patella, Achilles)	TK,S,P

Examination of superficial reflexes	TK,S,P
Examination of pyramidal signs	TK,S,P
Examination of liberation signs	TK,S,P
Examination of coordination, finger-nose and heel-knee test	TK,S,P
Romberg position	TK,S,P
Examination of blind walking	TK,S,P
Examination of rebound phenomenon	TK,S,P
Examination of dysdiadochokinesis	TK,S,P
Examination of incontinence and retention	TK,S,P
Examination of sudomotor activity	TK,S,P
Examination of consciousness level - Glasgow-coma scale	TK,S,P
Examination of recalling the patient's personal data, orientation in space and time	TK,S,P
Examination of mood, perception and cognition	TK,S,P
Examination of aphasia, alexia, acalculia, agraphia, apraxia	TK,S,P
Examination of memory - MMSE (mini mental state examination)	TK,S,P
Differential diagnosis of disturbed consciousness	TK,S,P
Complex examination of patient with trauma	
Lumbar puncture	TK,S
Cranial and spine X-ray	TK,S
Cranial and spine CT, CTA	TK,S
Cranial and spine MRI, MRA	TK,S
Myelography	TK,S
Duplex carotid ultrasound	TK,S
Transcranial Doppler ultrasound	TK,S
EEG analysis	TK,S
Polysomnography	TK,S
EMG, ENG	TK,S
VEP, BAEP, SSEP, MEP	TK,S
Examination of the liquor, cell-count, Pándy, modern examinations, ELFO	TK,S
Muscle, nerve, and brain biopsy	TK,S
Micro- and macroscopical neuropathological examinations	TK,S
<b>Internal medicine skills</b>	
<i>History</i>	
Family	TK,S,P
Social	TK,S,P
Self-history	TK,S,P
Previous illness	TK,S,P
Present symptoms (evaluation of symptoms, i.e. change in the habit of defecation, loss of weight, weakness, shortness of breath, fever, etc, listing the diagnostic methods needed to reveal causes/disease)	TK,S,P
Evaluation of the condition of the patient by Karnovsky	TK,S,P
<i>Knowledge/ideas required for up-to-date medical therapy</i>	
The use of electronic databases (i.e. MedSol, Cochrane, PubMed)	TK,S,P
English and/or German fluency (medical, general)	TK,S,P
<i>Physical examination</i>	
General Physical examination	TK,S,P
Examinations of the stature	TK,S,P
Weight, height, BMI and body surface calculation	TK,S,P
Examination of the skin	TK,S,P
Examination of the visible mucus	TK,S,P
Examination of the thorax	TK,S,P
Examination of the heart (palpation, percussion, auscultation)	TK,S,P
Examination of the lungs (percussion, auscultation)	TK,S,P
Examination of the thyroid glands (palpation)	TK,S,P

Examination of the breasts	TK,S,P
Examination of the abdomen	TK,S,P
Examination of the liver (percussion, palpation)	TK,S,P
Examination of the spleen (percussion, palpation)	TK,S,P
Rectal examination (manual)	TK,S,P
Examination of the extremities	TK,S,P
Examination of the circulation	TK,S,P
Detecting pulse qualities	TK,S,P
Palpation of the radial, dors. ped., post. tib. and femoral arteries	TK,S,P
Examination of the oral cavity (without equipment)	TK,S,P
Basic neurological examination (i.e. Romberg, reflexes)	TK,S,P
Mental-state evaluation	TK,S,P
<i>Instrumental, imaging techniques</i>	
BP measuring	TK,S,P
EKG (12-lead)	TK,S,P
Chest X-ray	TK,S
Ultrasound (cervical, abdominal, soft-tissue, color Doppler)	TK,S
Echocardiography	TK,S
CT	TK,S
MRI	TK,S
PET-CT	TK,S
Isotope examinations, scintigraphy	TK,S
Angiography	TK,S
Gastroscopy	TK,S
Colonoscopy	TK,S
Other invasive instrumental examinations (i.e. ERCP, bone marrow and liquor sampling)	TK,S
<i>Labs</i>	
CBC (automatic)	TK,S
(qualitative)	TK,S,P
Urine (test-strip and sediment examination, evaluation)	TK,S,P
Stool bentsidine (examination, evaluation)	TK,S,P
Kidney function	TK,S
Liver function	TK,S
Endocrine function (thyroid, adrenal cortex- and medulla, pancreas, hypophysis, etc)	TK,S
Glucose metabolism (serum glucose, HbA1c, fructosamin, glucose tolerance tests)	TK,S
Blood-gas analysis	TK,S
Inserting Foley's-catheter	TK,S,P
Examination of the electrolyte and acid-base system	TK,S
Investigations for infectious conditions (i.e. haemoculture, serology, PCT, etc)	TK,S
Regular labs (i.e. We)	TK,S
Haemostasis (screening tests, thrombophilia, haemorrhagic diseases, thrombocyte function)	TK,S
Bleeding time	TK,S,P
<i>Interventions</i>	
Arterial bloodless BP measurement	TK,S,P
Im, sc, iv injection	TK,S,P
Blood drawing	TK,S,P
Enema	TK,S,P
Intubation	TK,S,P
CPR	TK,S,P
Setting the parameters for mechanical ventilation	TK,S



Biopsy (i.e. intestines, stomach, crista) and its contraindications, knowledge of preprocedural tests for conducting safe procedure	TK,S
Bronchoscopy	TK,S
Haemodialysis	TK,S
Filling the death certificate	TK,S
Declaration of death	TK,S
<i>Therapeutic skills</i>	
Consultsúing, "education" (ie. diabetes, thrombosis, haemophilia, hypertension)	TK,S,P
Being familiar with diets, consulting	TK,S,P
Nursing patient with disability of self-care	TK,S,P
Nursing skills (i.e. changing diapers, assistance with food intake)	TK,S,P
Signing the informed consent	TK,S,P
Managing allergic reaction	TK,S,P
Recognition of medication side-effects, overdose	TK,S
Preparing discharge summary	TK,S
Being familiar with the most common medications	TK,S
Blood product injection (transfusion, etc.)	TK,S
Preparing therapeutic and diagnostic plans	TK,S,P
<b><i>Joint/associate specialties skills</i></b>	
<b><i>Ear-Otolaryngology</i></b>	
Performing conicotomy in situations with acute suffocation due to upper respiratory tract stenosis	TK,S
<b><i>Oncology</i></b>	
Thoracic tap	TK,S,P
Examination of the kidneys	TK,S,P
Examination of the lymphoid glands	TK,S,P
<b><i>Dermatology skills</i></b>	
History	TK,S,P
Physical examination	TK,S,P
Identifying of basic dermatological changes and giving precise description	TK,S,P
Differentiation of the most common dermatological diseases (papulosquamosus, allergic, bacterial, fungal, viral, STD, autoimmune, vesicular, vascular diseases)	TK,S,P
Fungal examination	TK,S
Applying skin tests for identifying allergies	TK,S
Performing light-probe (MED)	TK
Use of topical medications	TK,S,P
Moist-bandage application	TK,S,P
Ulcus bandage	TK,S
<b><i>Dental and oral diseases</i></b>	
Oral and head/neck region examination	TK,S,P
Identifying pathological alterations of the oral, head and neck regions	TK,S,P
Introducing the examination, treatment and follow-up plans	TK,S
Counselling, education, screening	TK,S
Tooth extraction	TK,S,P