Diagnosis in orthopaedics

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The aim:

To establish the diagnosis To consider the differential diagnosis Suggestion for the management of the disease

History
 Examination
 Diagnostic imaging
 Laboratory tests

History

Family history Previous disorders Pharmacological Social background Working ability Symptoms of the disease Pain analysis

Family history

Genetic disorders Disorders of the parents, of brothers and sisters Delivery, abortion Malignancy Important disorders (diabetes mellitus, blood diseases, neurological disorders, TB etc)

Previous disorders

Delivery (complications, weight) **Psychomotor development** Mental problems Admission to the hospital Trauma, surgery Gynaecologic problems Bleeding Focuses of the infection Alergy Transfusion, hepatitis B, C and HIV **Pharmacological history** Drugs, dosage, effectiveness

Social background Living, marriage, relatives, habits

Working ability The way of manual work Transport

History of the disease

The onset of the symptoms. How oft, how long, progression, alleviation The relation to the physical activity Dyscomfort The ability to walk Localisation Character of problems The way of trauma event

Pain analysis

Intensity, frequency Acute, chronic Localised, referred pain Visceral pain The type- sharp, blunt, burning, stumbling Neuralgia Sciatica Phantom pain Neurogenic claudication

VAS – visual analogue scale

Line with 10 degrees

0 - no pain10 - the worst, intractable pain

Pain of 5 degrees or more- a need for change of analgetics

General - head, neck, chest, abdomen, extremities

St. orthopedicus generalis

St. orthopedicus localis

Posture and walking



Somatic type - asthenic, normosthenic, pycnic, adiposogenital, gigantisms, dwarfism

Nourishment cachexia, normal nourishment, obesity

Body mass index: weight BMI



kg

bellow 20 20-25 25-30 30-35 over 35 - cachexia

- normal

- overweight

- obesity

- severe obesity



Skin Nails Subcutaneus nodes Lymphatic nodes

Deformity

genetic (aplasia, hypoplasia, hyperplasia)acquired (traumatic absence)

Malalignment (varosity, valgosity, antecurvation, recurvation)

Deformity of the spine (kyphosis, scoliosis, lordosis)



Localised – infection, lymfostatic, venostatic tumor, bursa

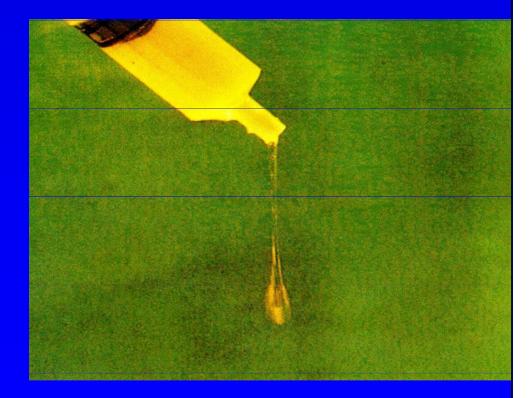
Generalised (cardial, renal, hypoproteinemic)

Anasarca

Decollement

Effusion in the joint

Serous Serofibrinous Gelly Septic Haemarthrosis



Tenderness - superficial

- deep

Meassurement of the lenght of the extremity

Meassurement of the circumference of the extremity

Function Passive and active movements

Range of motion – levels of SFTR

Sagital Frontal Transversal = horizontální Rotation

Stability

- Stable joint
- subluxation
- dislocation

Laxity

Tests- The fifth finger, thumb, elbow, knee

Stiffness

- extraarticular
- intraarticular

Muscle contracture

- acute
- chronic

Muscles

- hypertrofic
- eutrophic
- hypotrophic
- atrophic

Muscle test

0 - no activity	0 %
1 - trace	10 %
- motion without gravity	25 %
3 - motion against gravity	50 %
4 - motion against gravity and slight resistance	75 %
5 - normal activity	100 %



Correct posture Postural kyphosis Flat back Lumbar hyperlordosis Gait analysis Phases 1. heel strike 2. standing phase 3. the heel off 4. swing phase

Normal way of walking Limping Hemiparetic gait Spastic gait Drop foot Parkinson's disease posture and walking

Diagnostic imaging

- X-ray examination
- Contrast radiography- sinography, arthrography, myelography
- Angiography
- Diagnostic ultrasound
- Radionuclide scanning
- Computed tomography CT
- Magnetic resonance imaging MRI
- DEXA dual energy absorptionmetry
- Bone biopsy
- Electromyography

Laboratory examination

- Infection: ESR, leucocytes, CRP, electrophoresis
- Osteopathy: Calcium, phosphorus, alcaline phosphasate, acid phosphatase, U-pyridinolin aand deoxypyridinolin, parathormon
- Markers in bone tumors

Joint effusions

- Cytology
- Microscopic examination
- Biochemical examination
- Bacteriological examination
- Imunological examination
- PCR