

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

1. History

2. Examination

3. Diagnostic imaging

4. 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

Allergy

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 pain

10 - the worst, intractable pain

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

Examination

General

- head, neck, chest, abdomen, extremities

St. orthopedicus generalis

St. orthopedicus localis

Posture and walking

Aspexis

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

Nourishment

cachexia, normal nourishment,
obesity

Aspexis

Skin

Nails

Subcutaneus nodes

Lymphatic nodes

Deformity

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

Malalignment (varosity, valgosity,
ante-curvature, recurvature)

Deformity of the spine (kyphosis, scoliosis,
lordosis)

Swelling

Localised – infection, lymphostatic, venostatic
tumor, bursa

Generalised (cardial, renal, hypoproteinemic)

Anasarca

Decollement

Effusion in the joint

Serous

Serofibrinous

Gelly

Septic

Haemarthrosis



Tenderness

- superficial
- deep

Measurement of the length of the extremity

Measurement of the circumference of the extremity

Function

Passive and active movements

Range of motion – levels of **SFTR**

Sagittal

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

- hypertrophic
- eutrophic
- hypotrophic
- atrophic

Muscle test

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

Posture

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, alkaline phosphatase, acid phosphatase, U-pyridinolin and deoxypyridinolin, parathormon
- Markers in bone tumors

Joint effusions

- Cytology
- Microscopic examination
- Biochemical examination
- Bacteriological examination
- Immunological examination
- PCR