



UNIVERZITET U TUZLI
MEDICINSKI FAKULTET

BOLAN KUK U DJEČIJOJ DOBI

Nedim Smajić

Koliko znamo o bolu, on line seminar
ZOOM platforma, 09.06.2021. god.

Project number: 585927-EPP-1-2017-1-RS-EPPKA2-CBHE-JP (2017 – 3109 / 001 – 001)

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Anatomija



Dječiji kuk



Odrasli kuk

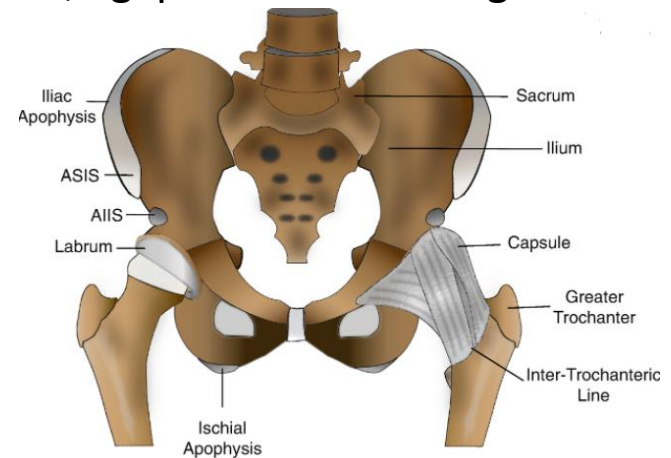
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ANATOMIJA

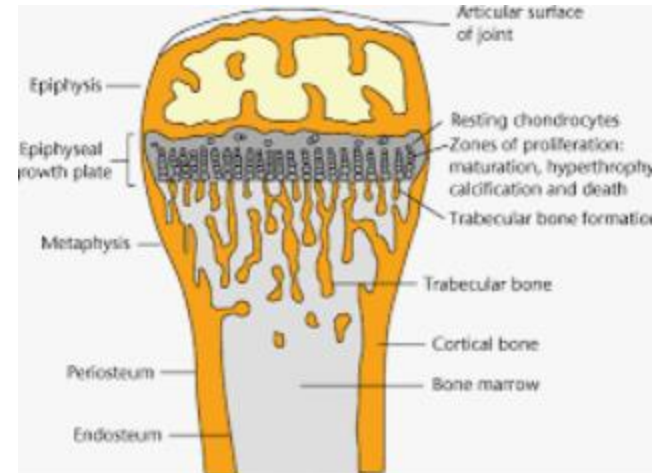
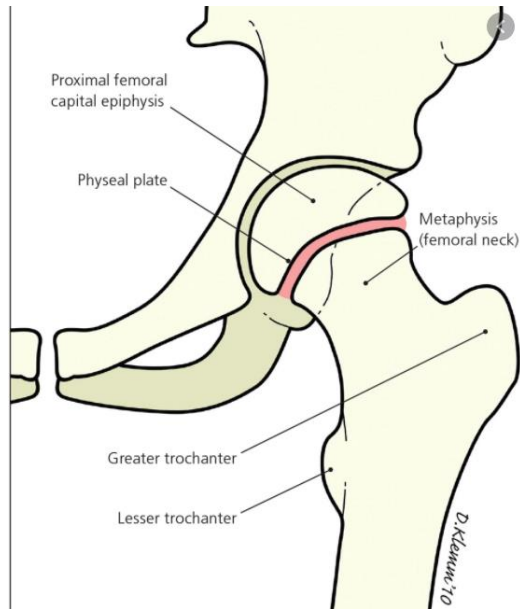
- **Zglob kuka (*articulatio coxae*):**

- kuglasti zglob: - dio karlične kosti (acetabulum čašica) kao konkavni
- glava bedrene kosti kao konveksni dio
- zglobna čahura: - membrana fibroza (spoljna)
- membrana sinovialis (unutrašnja)
- U fibroznoj opni su tri veze: lig.iliofemorale Bertini, lig. pubofemorale i lig. Ischiofemorale
- Sinovijalna tečnost
- Ligamentum cap. femoris



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ANATOMIJA

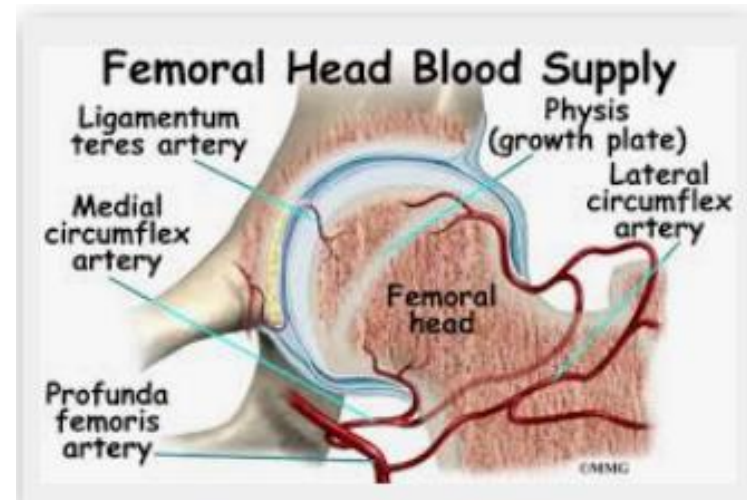


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VASKULARIZACIJA

- Potiču iz a. Femoralis i njenih grana a. Profunde femoris i a.circumflexe femoris lat. I med
- A.iliaca – a. Obturatoria

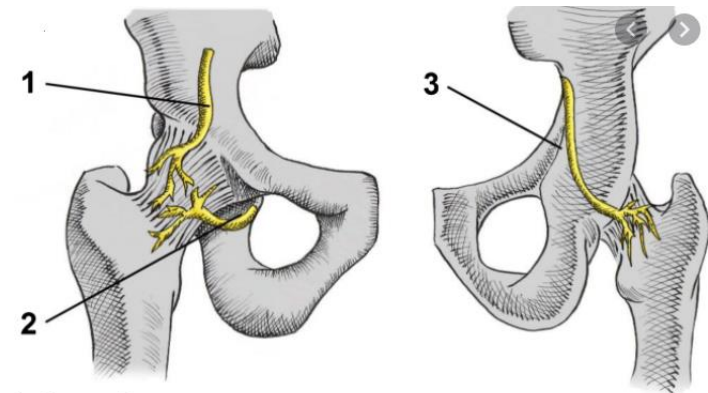


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INERVACIJA

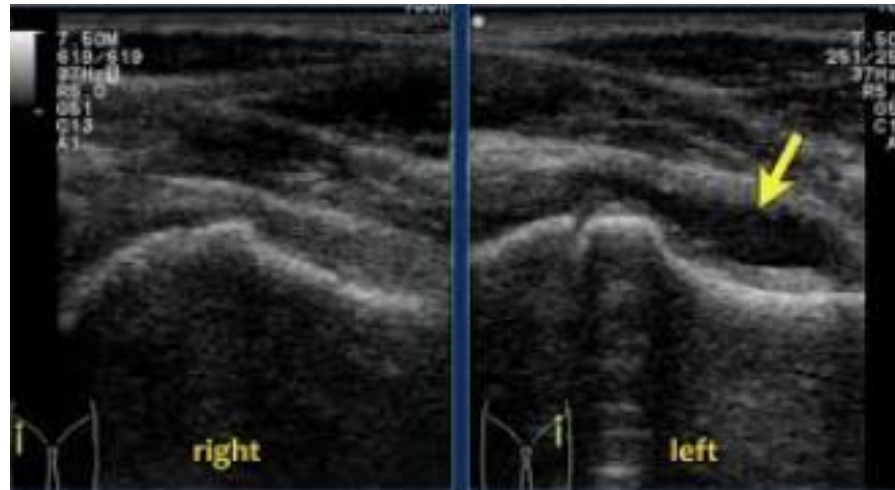
- Prednju stranu zgloba inerviše grane n. Femoralis
- Od n. Obturatoriusa dvije grane za kuk, r.acetabularis zajedno sa a.acetabularis
- Zadnju stranu grane od pl. lumbalis



1. Femoral nerve
2. Obturator nerve
3. Sciatic nerve

TRANZITORNI SINOVITIS KUKA

Kratkotrajno, prolazno oboljenje dječijeg kuka koje se karakteriše bolom, šepanjem, kao posljedica povećanog nakupljanja zglobne tečnosti usljed upale sinovijalne membrane



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TRANZITORNI SINOVITIS KUKA

- Uzrok nepoznat , nekoliko teorija - aktivna ili preboljela infekcija najčešće krajnika, pretjerana fizička aktivnost
- Rizik da dijete oboli 3%
- Djeca do 10 godine najčešće između 3 i 6 godine

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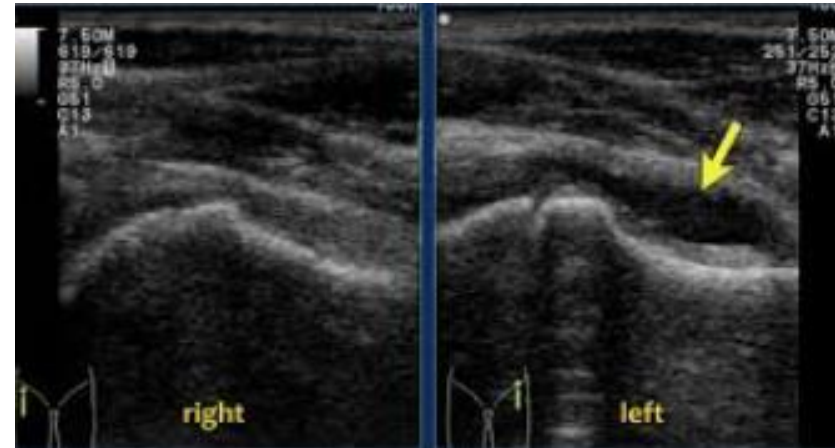
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KLINIČKA SLIKA

- Anamneza: podatak o šepanju unazad nekoliko dana, pretjerana fiz. aktivnost, preboljela ili aktivna upala
- ***Bol koji može biti različitog intenziteta,*** anteromedijalna regija nadkoljenice, širi se ili u koljeno i u slabinski dio
- Klinički se ustanove ograničeni pokreti u kuku (fleksija i unutrašnja rotacija), palpatorna bolna osjetljivost

DIJAGNOZA

- Radiološka -anteroposteriorni snimak karlice sa kukovima
- Ultrasonografija komparacija sa zdravom stranom, signifikantna razlika je 4 do 5 mm, nekada se evidentira i 12 mm, zadebljanje kapsule, lateralizacija glave femura, razlikovati septični artritis i M Perthes
- Lab nalazi, eventualno punkcija zgloba



DIFERENCIJALNA DIJAGNOZA

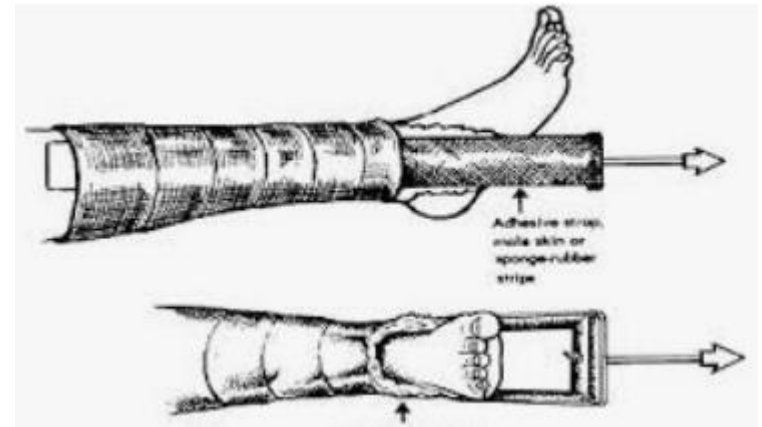
- Gnojna upala kuka
- JAR
- Perthesova bolest
- epifizioliza
- TBC

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LIJEČENJE

- Mirovanje
- Indirektna kutana trakcija sa opterećenjem sa nogom u položaju fleksije u kuku do 30 stepeni narednih 7 dana, a nekada i 2 do 3 sedmice
- Punkcija zgloba
- Antireumatika (brufen, salicilati)
- Nekada kortikosteroidi



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PROGNOZA

- Vrijeme trajanja 2 do 3 nedjelje
- Potrebno UZ praćenje
- Povećan intraartikularni pritisak može vršiti pritisak na krvne sudove i dovesti do aseptične nekroze glave femura, ili povećanja glave femura coxa magna
- Dalje praćenje naredna 3 mjeseca radi UZ praćenja pojave eventualnih znakova Pertesove bolesti

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OSTEOHONDROITIS KUKA MORBUS PERTHES

Razvojni poremećaj osifikacionog jezgra epifize glave bedrene kosti u djece nastao zbog poremećaja cirkulacije , a karakteriše se privremenim prekidom rasta koštanog jezgra u odnosu na hrskavicu koja se i dalje razvija



Epidemiologija

- Incidenca 1:13 000
- Muška djeca u 80% slučajeva
- Dob od 2-14 g. Sa pikom u 5-6 godini
- Djeca nižeg rasta, slabije uhranjenosti,
- Potiču iz ekonomski slabije gradske sredine
- Stariji roditelji
- Djeca bjele rase češće oboljevaju

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Etiopatogeneza

- Uzrok bolesti nepoznat
- Posljedica poremećaja cirkulacije
- Urođeno smanjenje broja i volumena anastomoza a.circumphlexae. posterior
- Najčešće zahvaćen anterolateralni dio jezgre
- Razlikovati od avaskularne nekroze glave femura gdje je zahvaćena cijela glava

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DIJAGNOSTIKA -klinička slika

- Akutni početak bolesti praćen šepanjem, ***pojavom boli i ograničenih pokreta (rotacija, fleksija)***, hipotrofija mišića. Bol u vezi sa povećanom količinom zglobne tečnosti i reakcijom sinovijalne kapsule
- Hronični početak –simptomi identični , ali blažeg intenziteta
- Simptomi traju od nekoliko mjeseci do dvije godine
- Na kraju bolesti noga može biti kraća ograničenih bezbolnih pokreta u kuku

DIJAGNOZA

- UZ kukova koji pokaže izliv u kuku i rane znake subhondralne separacije prije nego uoči rtg
- Lab . nekada povećane vrijednosti leukocita i vrijednosti SE i CRP-a
- Scintigrafija - manjak punjenja indikatorom
- RTG- AP i snimak kukova po Lauenštajnu
- MRI karlice sa kukovima



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DIJAGNOZA rtg

Pet stadija

1. Rani znaci-širenje zglobnog prostora, subhondralna seperacija, abnormalnost epif. Hrs kavice

2. Nekroza

3. Fragmentacija

4. Regeneracija

5. Oporavak



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DIFERENCIJALNA DG

- TBC
- Avaskularna nekroza
- Trauma
- Septički artritis
- Transitorni coxitis

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LIJEČENJE

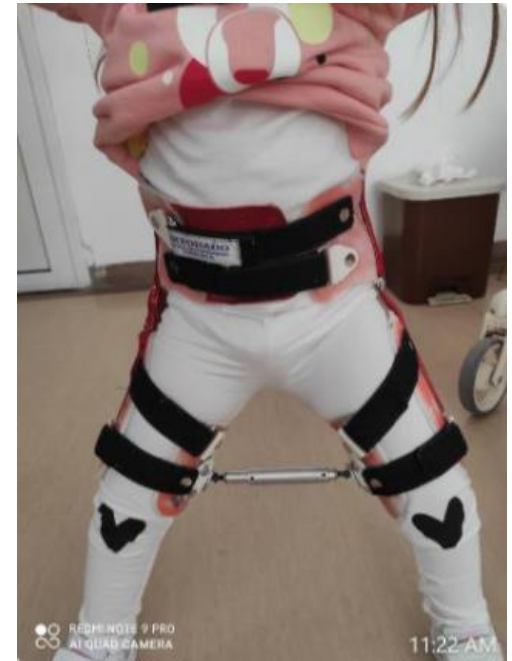
- Dugotrajno –od najmanje 2 g pa i duže. Za cilj nakon završetka, što bolja i bezbolna pokretljivost i deformitete svesti na minimum
- Potrebna saradnja roditelja i djeteta zbog dužine trajanja bolesti
- Ukloniti iritirajuće faktore- noga u abdukciji i spoljnoj rotaciji
- Konzervativno i operativno u zavisnosti od stepena oštećenja osifikacijskog jezgra i dobi djeteta

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Konzervativno liječenje

- Ukoliko rtg ne pokaže subluksaciju i djeca ispod 6 g starosti
- Indirektna trakcija
- Abdukciona ortoza
- Mirovanje
- antireumatici



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Ortoze



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Operativno liječenje

- Djeca starija od 6 godina i čiji rtg nalaz govori o većem oštećenju osifikacione jezgre i subluksaciji glave bedrene kosti
- Varizaciona osteotomija proximalnog dijela bedrene kosti ili osteotomija ilijačne kosti radi boljeg nadkrovljavanja



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Komplikacije bolesti

Deformitet

Šepanje

Artroza kuka što uzrokuje ranu ugradnju totalne proteze kuka (u tridesetoj godini života)

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PRIKAZ SLUČAJA

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Prikaz slučaja

- Dječak dobi 6 godina. U julu 2019 g upućen zbog bola u lijevom kuku i šepanja na lijevu nogu. Simptomi se javili 7 dana prije pregleda. Roditelji ne navode traumu. Učini se uz kukova koji pokaže izliv u lijevom kuku te subhondralnu seperaciju. Nakon RTGa evidentira se patološka promjena osifikacione jezgre. Primljen na OTK radi dalje dijagnostike. MRI kuka potvrđi dijagnozu Pertesove bolesti

Prikaz slučaja

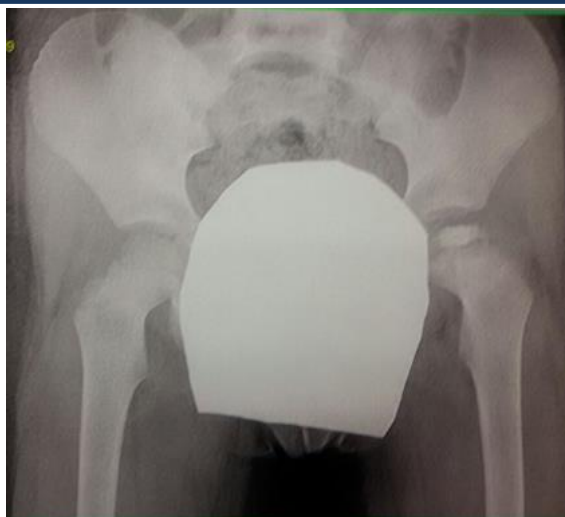
- Obzirom na dob , drugi stepen rtg promjena osifikacionog jezgra terapija konzervativni tretman-mirovanje (ležanje u krevetu sa nogom u abdukciji i spoljnoj rotaciji). Nakon 6 mjeseci pacijent obezboljen, pokreti u kuku ograničeni. Uz kuka ne pokaže izliv. Dječak saraduje po navodima majke ne ustaje iz kreveta. Rtg pokaže nekrozu osif centra sa gubitkom koštanog sadržaja.

Prikaz slučaja

- Novi RTG godinu dana od uspostavljanja dijagnoze pokaže fragmentaciju osifikacione. Snimak nakon 4 mjeseca pokaže znake regeneracije jezgre i zadnji pregled u junu mjesecu ,skoro 2 g od početka bolesti RTG faza oporavka. Klinički blago šepanje pri hodu. Preporuka za plivanjem ,vožnjom bicikla. Narednih 6 mjeseci izbjegavati trčanje i skakanje.

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Početak simptoma



Nakon 6 mjeseci

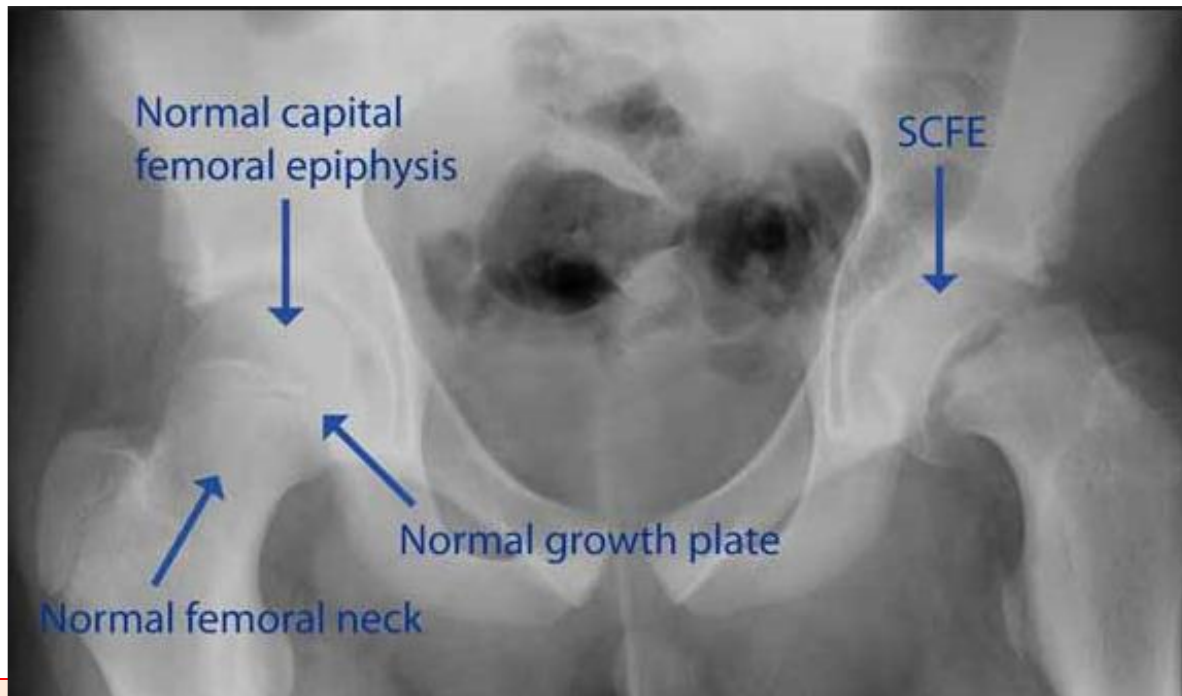


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EPIFIZIOLIZA GLAVE BEDRENE KOSTI

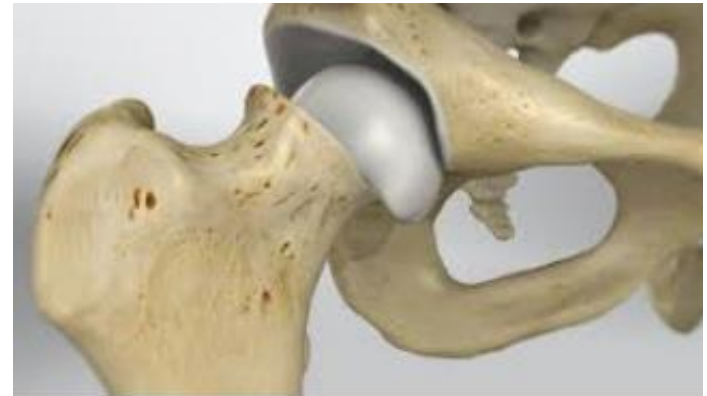
Poremećaj proksimalne femoralne fize koji dovodi do klizanja metafize prema naprijed i gore u odnosu na epifizu, koja ostaje anatomske smještena u acetabulumu



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EPIDEMIOLOGIJA

- Predpubertetska i pubertetska dob
- Incidenca : 10/100 000
- Dječaci : djevojčice – 3:2
 - Dječaci 13-15 god
 - Djevojčice 11-13 god
- Gojazna djeca
- Češće lijevi kuk
- Obostrano 17% do 50% (~25%)
- Nedostaju sekundarne spolne karakteristike



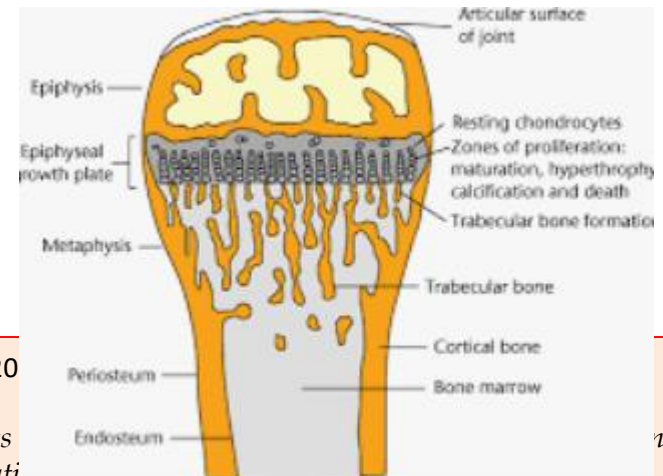
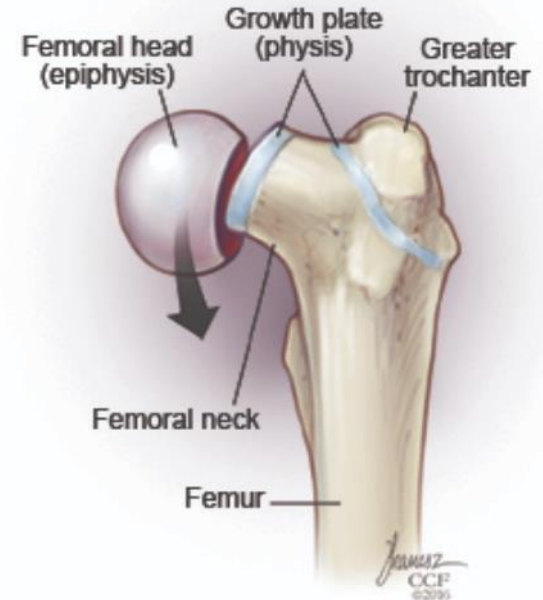
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PATOFIZIOLOGIJA I PATOANATOMIJA

- Nastaje zbog djelovanja mehaničkih sila na osjetljivu epifiznu hrskavicu rasta (hipertrofični sloj)
- Faktori koji povećavaju osjetljivost epifize: **endokrini** (hormon rasta, gonadotropini, steroidni hormoni), **metabolički poremećaji** (K, Ca, P, Mg, Vitamin C i D), **nagli rast, povećanje TT, pojačana fizička aktivnost, predmenstrualni period kod djevojčica**

Slipped Capital Femoral Epiphysis (unstable)



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KLASIFIKACIJA

Prema dužini trajanja simptoma

Akutna	Simptomi traju manje od 3 sedmice
Hronična	Simptomi koji traju duže od tri sedmice
Akutna na hroničnu	Akutna egzacerbacija simptoma koji dugo traju

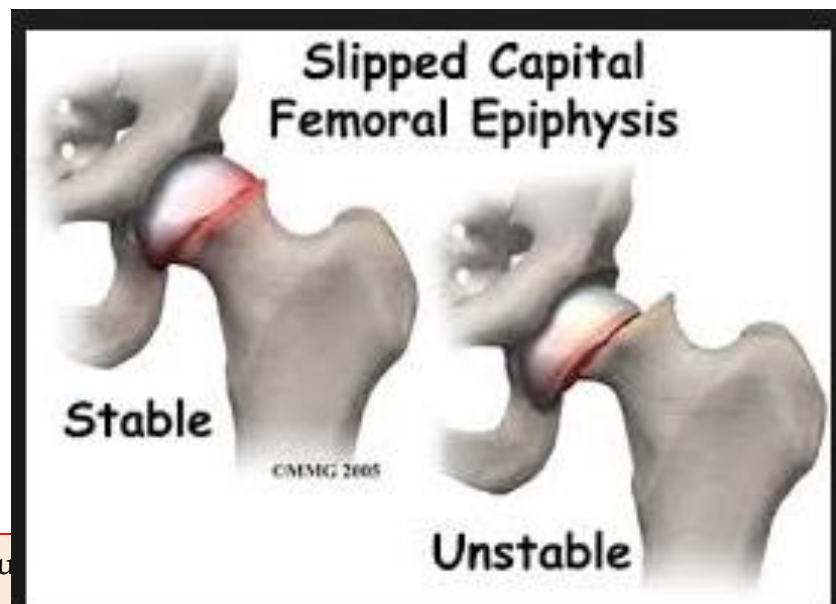
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KLASIFIKACIJA

Loderova klasifikacija

Stabilne	Može da hoda sa ili bez štaka
Nestabilne	Ne može da hoda čak ni sa štakama



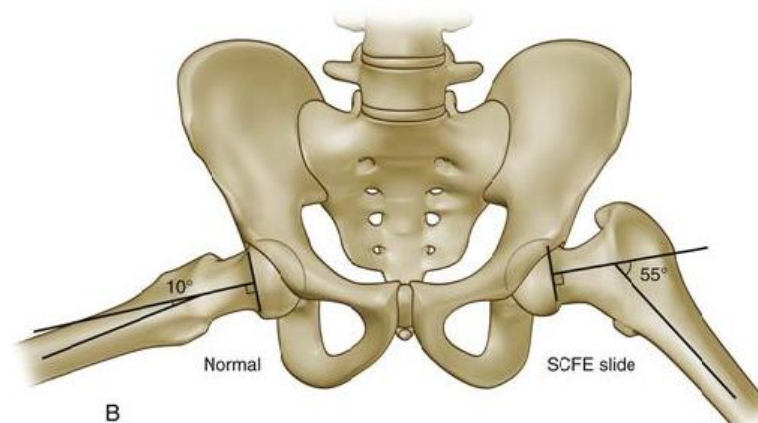
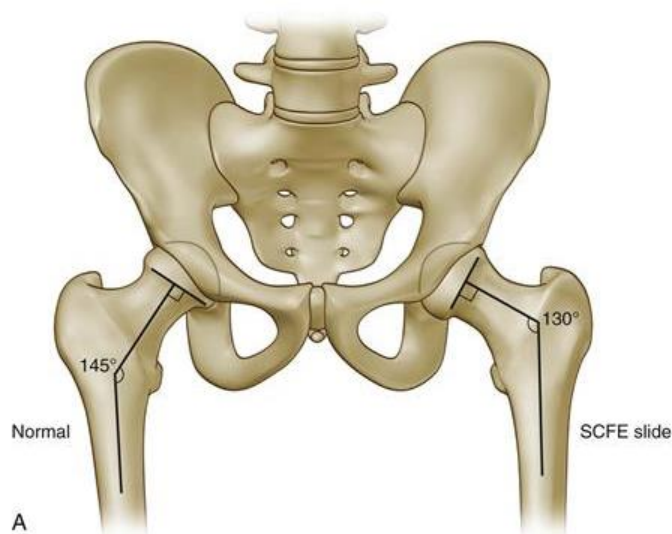
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KLASIFIKACIJA

Prema stepenu pomaka epifize (Southwick)

Blago (Stepen I)	$< 30^\circ$
Umjereno (Stepen II)	$30-50^\circ$
Teško (Stepen III)	$> 50^\circ$



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KLINIČKA SLIKA – RANA DIJAGNOSTIKA

- ***Bol u preponi i bedru sa povremenim šepanjem***
- ***Bol u koljenu*** - 15-50% jedini simptom te otežava dg; nastaje zbog bolnog podražaja n. obturatorius medialis
- ***Antalgičan hod***
- Noga u vanjskoj rotaciji
- Pozitivan Drehmanov znak
- Slabost i hipotrofija nadkoljene muskulature



A 11-year-old boy with unstable SCFE. His affected leg is turned outward and is shorter than the other leg.

Reproduced from Weber MD, Naujoks R, Smith BG: Slipped capital femoral epiphysis. Orthopaedic Knowledge Online Journal 2008; 6(2). Accessed June 2016.

RADIOLOŠKI NALAZ

- RTG oba kuka u AP i Lowenstein poziciji : proširena sklerotična epifizna hrskavica

➤ Klein-ova linija



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TRETMAN

- ***Operativno liječenje***

- Perkutana in situ fiksacija
- Otvorena repozicija i stabilizacija epifize
- Osteohondroplastika
- Proksimalna osteotomija femura
- Profilaktička fiksacija kontralateralnog kuka (obostrana in situ fiksacija)

- ***Konzervativno liječenje***

- Mirovanje
- Indirektna trakcija sa opterećenjem



KOMPLIKACIJE

- Osteonekroza glave femura (4-6%)
- Kontralateralna epifizioliza- najčešće nakon unilateralne hirurške fiksacije (20-80%)
 - rizikofaktori za kontralateralno skliznuće: gojaznost, prvo skliznuće prije 10. godine života, endokrini poremećaji
- Hondroliza (0-2 %)
- Rezidualni deformitet proksimalnog femura i diskrepanca u dužini ekstremiteta
- Progresija skliznuća
- Infekcija (0-2%)
- Hronični bol (5-10%)
- Degenerativni artritis

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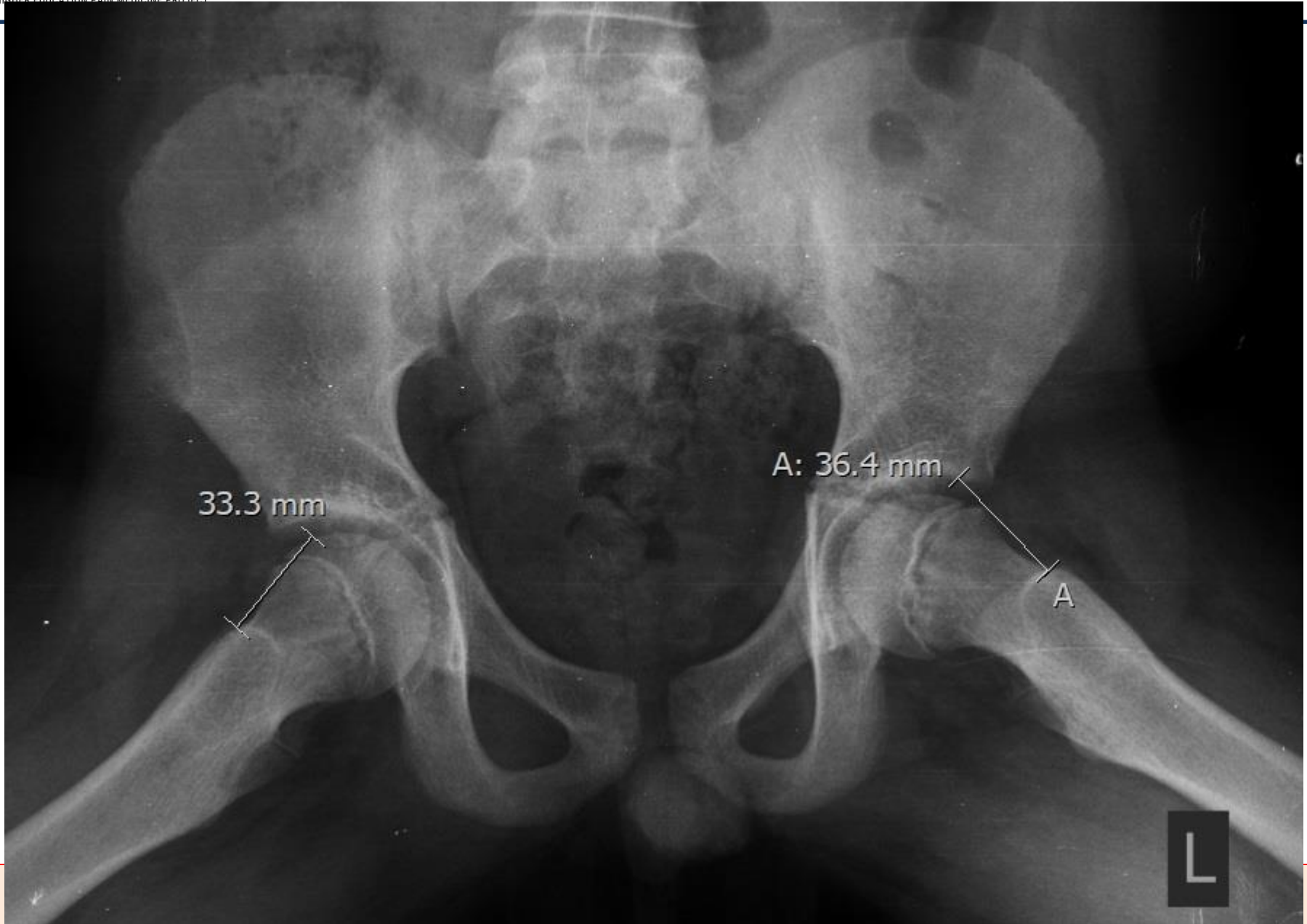
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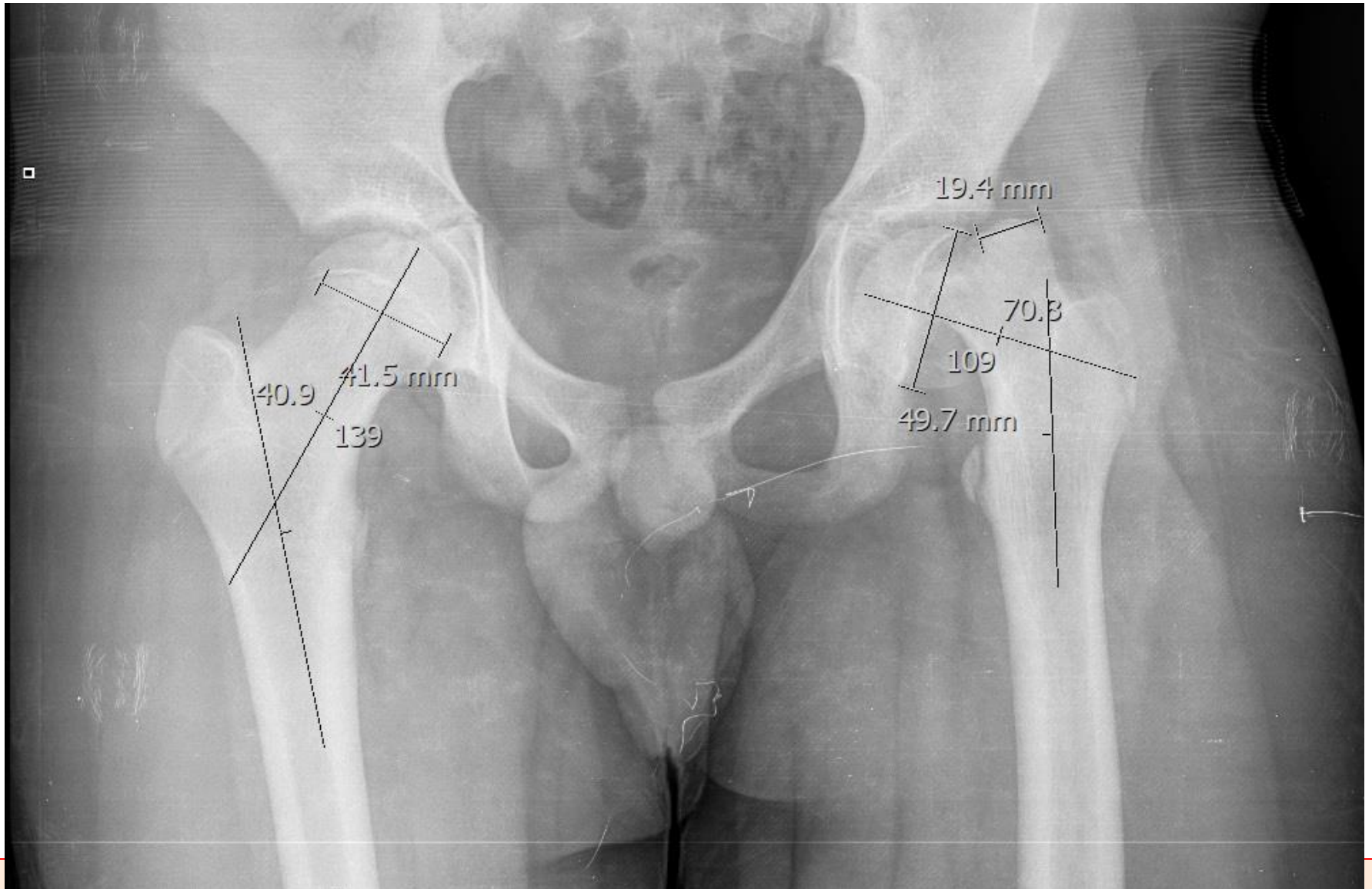
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Slučaj 1

- ZO, 14,5 godina, dječak, TT 52 kg, TV 162 cm
- Pad pri ustajanju iz školske klupe. Jak bol u lijevom kuku. 2 sedmice prije pada osijećao bol i šepao. Javio se ortopedu. Učinjen rtg, nije potvrđeno pomijeranje epifize, mada je postavljena sumnja
- Pri pregledu lijeva noga kraća, u spoljnoj rotaciji, izrazito bolna pri pokretima
- Nisu prisutne sekundarne spolne karakteristike pubertetske dobi
- Rtg snimak prije i poslije pada
- Op u roku 12h od povrede – stabilizacija sa dva kanulirana vijka
- Merle d'Aubigné Hip Score nakon godinu dana – 18 (odličan rezultat)





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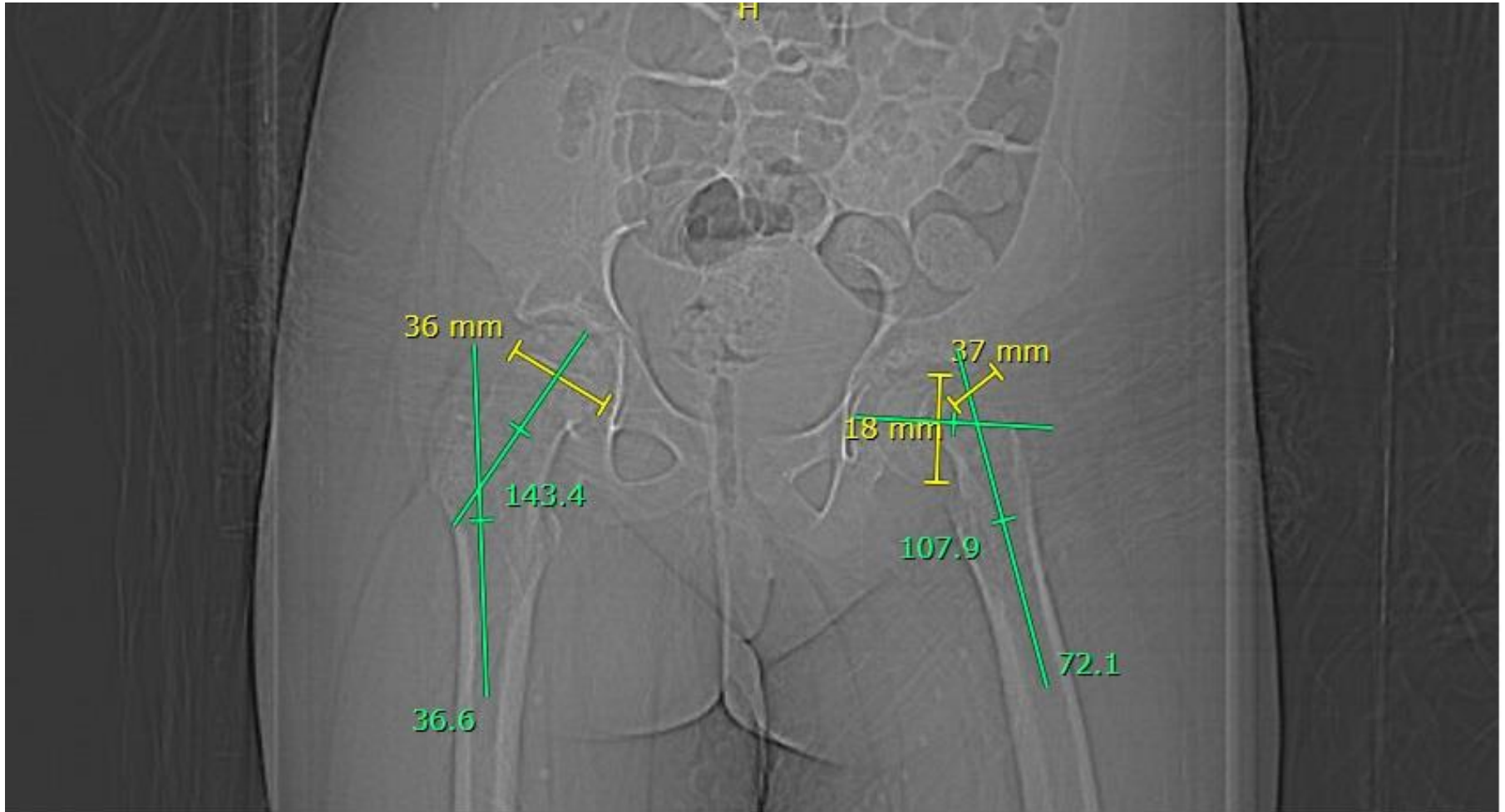
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Slučaj 2

- ĆA, 11 godina, djevojčica, TT 62 kg, TV 149 cm, BMI 27,9 (gojazna) nije imala menstruaciju
- Anamneza: povreda lijevog kuka pri padu s bicikla (dolazi u UKC Tuzla iz KB Bihać nakon 5 dana od povrede). 10 dana prije povrede osjećala bol u lijevom kuku i koljeno i šepala na lijevu nogu
- Pri pregledu noga u vanjskoj rotaciji, kraća, bolno pokretna
- Rtg poskliz epifize
- Op sedam dana nakon povrede – stabilizacija sa jednim kanuliranim vijkom

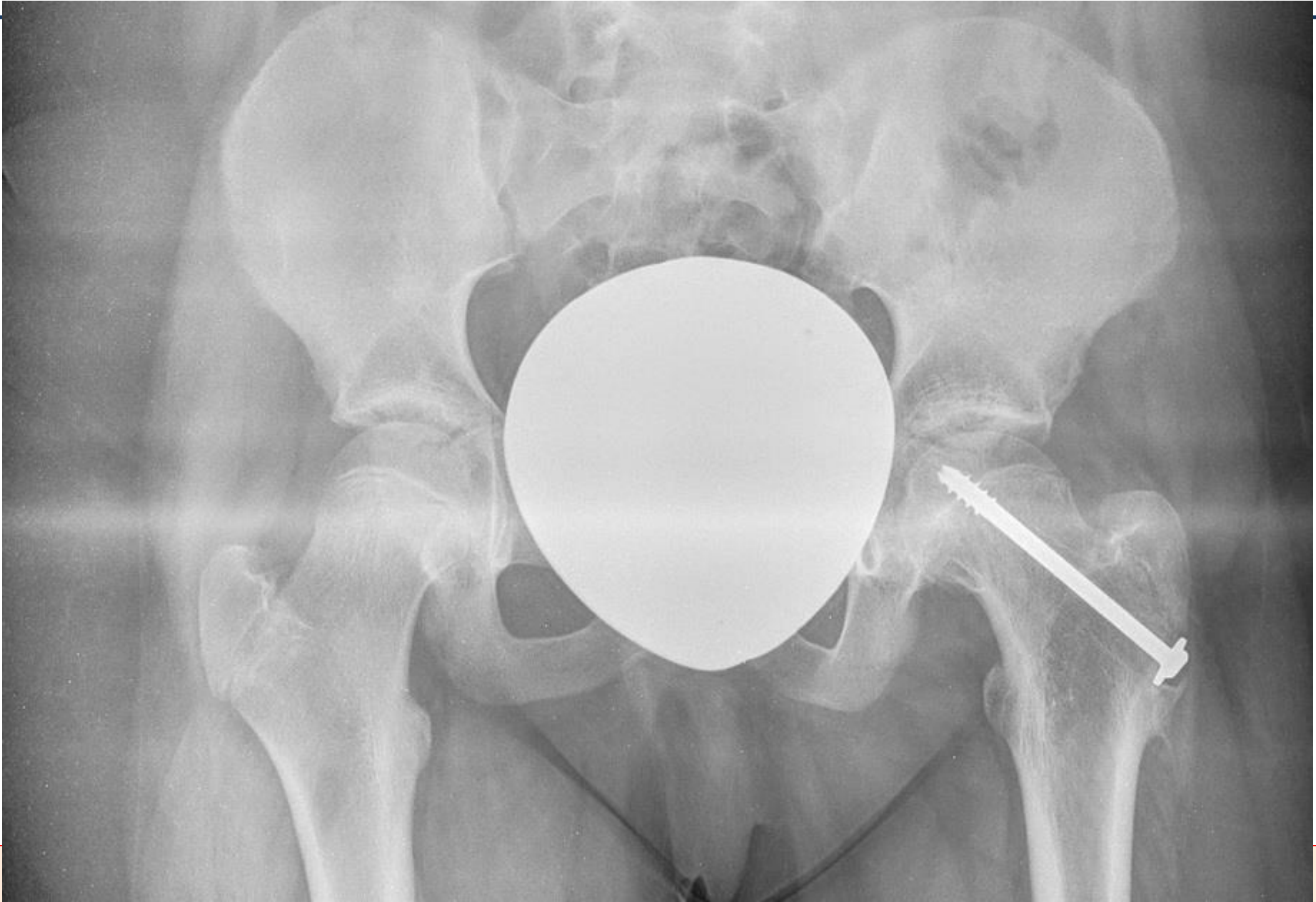
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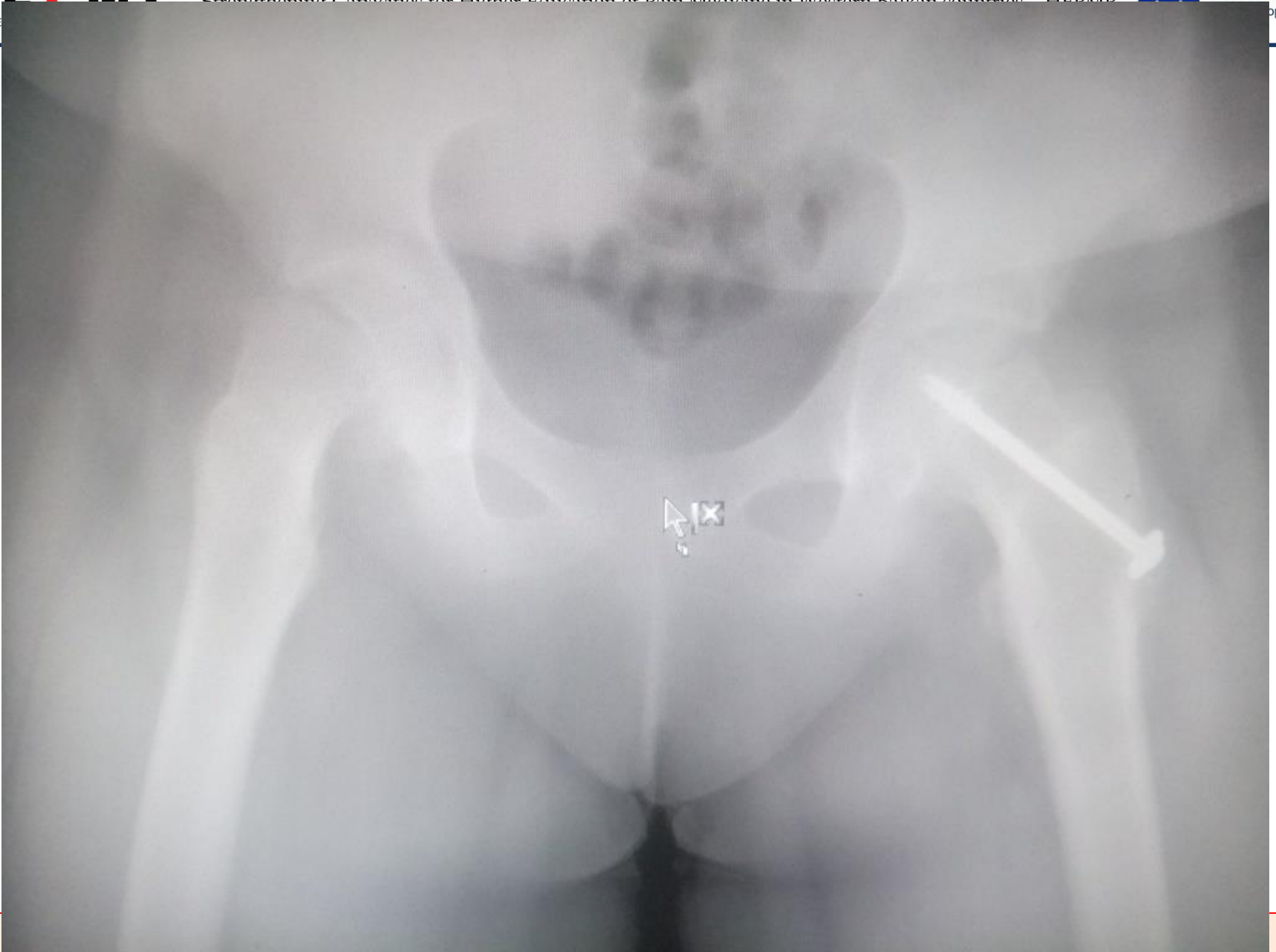
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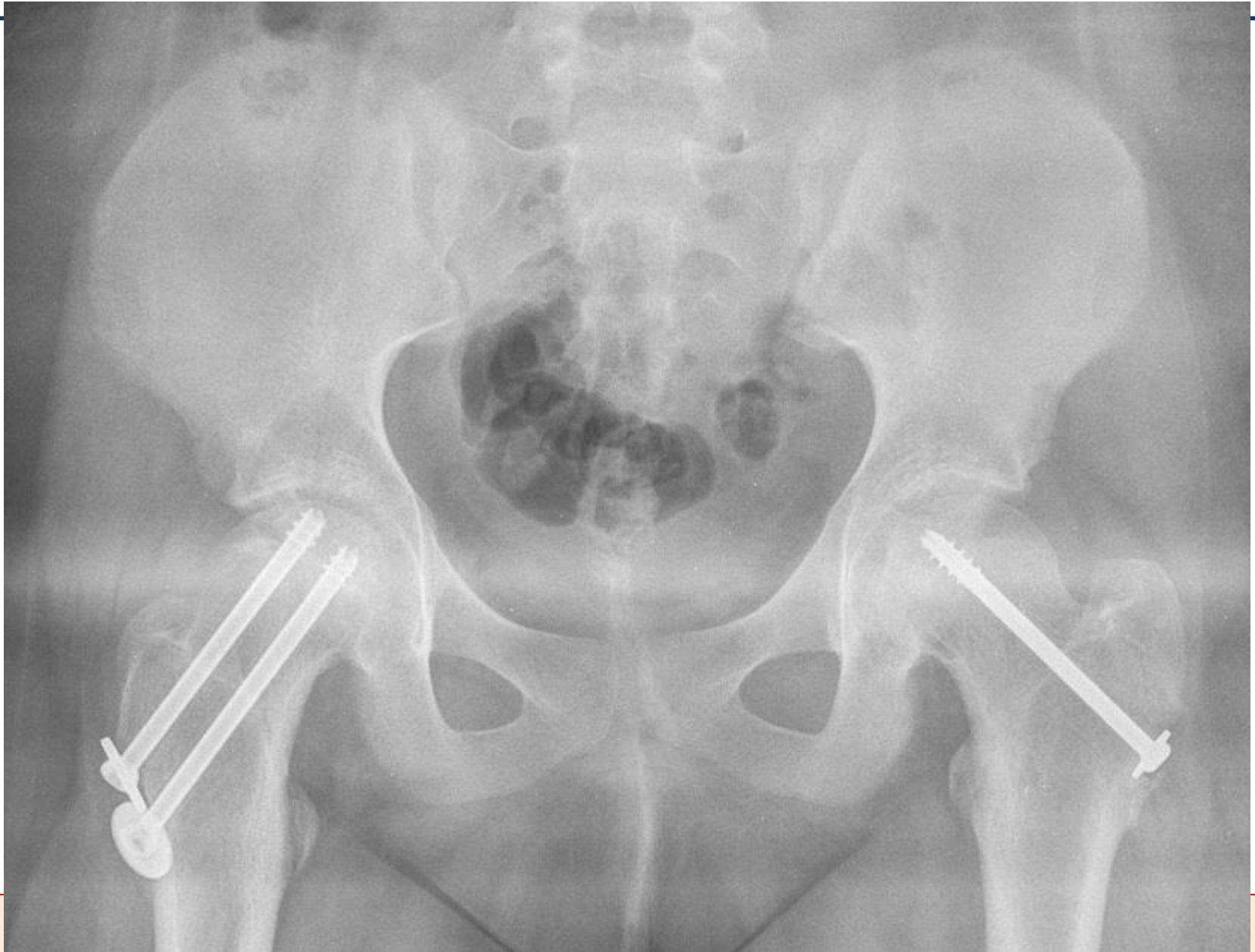
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Slučaj 2

- 14 mjeseci nakon povrede lijevog kuka zadobije povredu desnog kuka pri padu. 7 dana prije pada šepala i osijećala bol u kuku
- TT 72 kg, TV 156 cm, gojazna
- 5 dana nakon povrede učini se op : stabilizacija sa dva kanulirana vijka



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ZAKLJUČCI

- Bol i šepanje relativno česti u dječijoj dobi
- Širok spektar uzroka, simptomatologija slična
- Posljedice po oboljeli kuk od stanja bez posljedica, pa do onih koji ostavljaju trajne sekvele i trajno bolan kuk sa defromitetom
- Ukoliko u ranoj fazi prepoznamo bolest i započnemo liječenje smanjujemo mogućnost pojave i stepen nastalih komplikacija

HVALA NA PAŽNJI

