بسمه تعالی

آقای ۳۵ ساله کارمند بانک با شکایت کمر درد به درمانگاه پزشکی خانواده مراجعه است.مشکل ایشان از یک هفته پیش

به صورت ناگهانی و در هنگام کار شروع شده است.از ساعت ۸ صبح لغایت ۴ بعد از ظهر ساعت کاری ایشان می باشد.سابقه درد مشابه

در گذشته نداشته است و اولین تجربه کمر درد در ایشان می باشد.سابقه ابتلا به بیماری خاصی را ذکر نمی کند.

در معاینات آقای ۳۵ ساله به دلیل کمر درد مقداری آژیته به نظر می رسد.سر و گردن نرمال است.سمع قلب و ریه نرمال است.در معاینه

کمر تندرنس روی ستون فقرات ندارد .تست لازک منفی می باشد.

BP=100/70 , RR=17 , T=36.5 , PR =76, W=85 KG , L = 168 CM

Evaluation of low back pain in adults

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INTRODUCTION

up to 84 percent of adults have low back pain at some time in their lives

acute period (four weeks)

subacute back pain (lasting between 4 and 12 weeks)

chronic back pain (persists for ≥12 weeks)

EPIDEMIOLOGY

In 2010, back symptoms were the principal reason for 1.3 percent of office visits

Spinal disorders accounted for 3.1 percent of diagnoses in outpatient clinics.

Prevalence

more than one day was 12 percent and the one-month prevalence was 23 percent

Risk factors

smoking, obesity, age, female sex, physically strenuous work

sedentary work, psychologically strenuous work

low educational attainment, Workers'Compensation insurance,

job dissatisfaction, psychologic factors such as somatization disorder , anxiety ,

and depression

Differential diagnosis of low back pain

Mechanical low back pain	Nonmechanical spine disease	Visceral disease
Lumbar strain	Neoplasia ■ Multiple myeloma ■ Metastatic carcinoma ■ Lymphoma and leukemia ■ Spinal cord tumors ■ Retroperitoneal tumors	Pelvic organs ■ Prostatitis ■ Endometriosis ■ Chronic pelvic inflammatory disease
Degenerative disease ■ Discs (spondylosis) ■ Facet joints (osteoarthritis)	Infection ■ Osteomyelitis ■ Septic discitis ■ Paraspinous abscess ■ Epidural abscess	Renal disease ■ Nephrolithiasis ■ Pyelonephritis ■ Perinephric abscess
Spondylolisthesis	Inflammatory arthritis (often HLA-B27-associated) ■ Ankylosing spondylitis ■ Psoriatic spondylitis ■ Reactive arthritis ■ Inflammatory bowel disease	Aortic aneurysm
Herniated disc	Scheuermann disease (osteochondrosis)	Gastrointestinal disease ■ Pancreatitis ■ Cholecystitis ■ Penetrating ulcer
Spinal stenosis	Paget disease	Fat herniation of lumbar space
Osteoporosis		
Fractures		
Congenital disease ■ Severe kyphosis ■ Severe scoliosis ■ Possible type II or type IV transitional vertebra*		
Possible spondylolysis		
Possible facet joint asymmetry		

Nonspecific back pain

(>85 percent) will have nonspecific low back pain

- Many of these patients may have musculoskeletal pain.
- Non specific back pain improve within a few weeks.
- **Serious etiologies**
- **Spinal cord or cauda equina compression**
- **Metastatic cancer**
- **Spinal epidural abscess**
- **Vertebral osteomyelitis**
- **Less serious etiologies**
- **Vertebral compression fracture**
- **Radiculopathy**
- **Spinal stenosis**

Other etiologies

Axial spondyloarthritis

Osteoarthritis

Scoliosis and hyperkyphosis

Psychologic distress

Etiologies outside the spine

Piriformis syndrome

Sacroiliac joint dysfunction

Bertolotti's syndrome

INITIAL EVALUATION

History

- Location , duration, and severity of the pain, details of any prior back pain,
- and how current symptoms compare with any previous back pain.

Physical examination

Inspection of back and posture

Palpation/percussion of the spine

Neurologic examination

Straight leg raising

Nonorganic signs (Waddell's signs)

Other

Laboratory studies

erythrocyte sedimentation rate (ESR) and/or C-reactive

CRP may have similar or greater value than the ESR

IMAGING

abnormal findings in adults without low back pain

findings on MRI

Annular fissures (tears)

Schmorl's nodes

Modic changes

Modalities

Advanced imaging

Plain radiographs

Risk assessment for acute back pain

Neurologic deficits

Infection(Moderate to high clinical suspicion for infection)

- immunosuppression
- Current hemodialysis
- Current or recent injection drug use
- Current or recent invasive epidural/spinal procedure
- Current or recent endocarditis or bacteremia

Lower concern for infection

Cancer(Current or recent cancer-Moderate to high risk for cancer-Low risk for cancer)

Compression fracture

Minor trauma

Risk assessment subacute back pain

Radiculopathy or lumbar spinal stenosis

Cancer risk

SUMMARY AND RECOMMENDATIONS

Epidemiology and etiology of low back pain

Initial evaluation

Imaging not indicated for most patients with acute low back pain

Subsequent evaluation for patients with persistent symptoms

Clinical risk factors for fracture

Clinical risk factors for fracture
Advancing age
Previous fracture
Glucocorticoid therapy
Parental history of hip fracture
Low body weight
Current cigarette smoking
Excessive alcohol consumption
Rheumatoid arthritis
Secondary osteoporosis (eg, hypogonadism or premature menopause, malabsorption, chronic liver disease, inflammatory bowel disease)

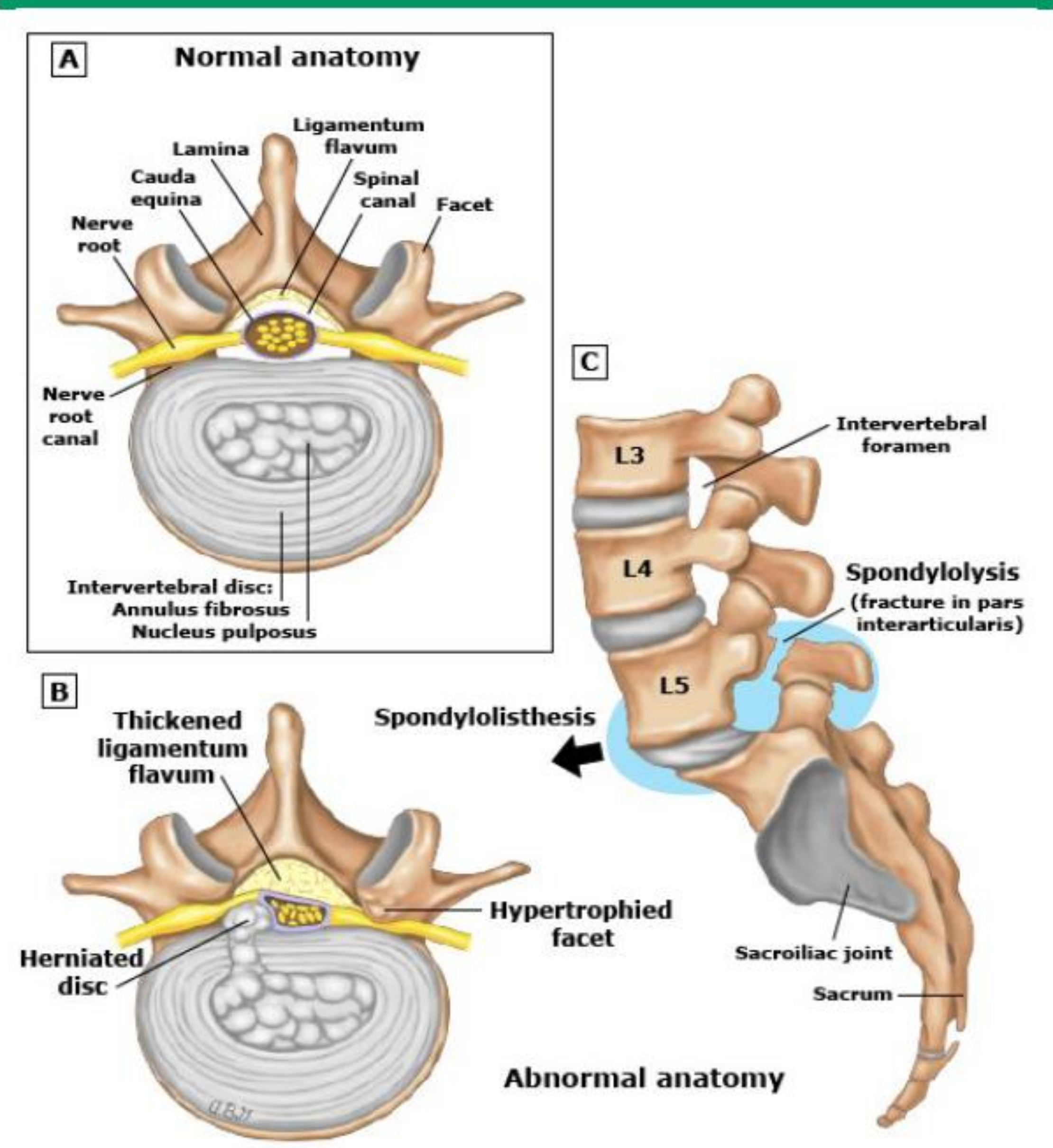
Solitary nerve root lesions of the lumbosacral spine

Root	Pain	Sensory loss	Weakness	Stretch reflex loss
L1	Inguinal region	Inguinal region	Rarely hip flexion	None
L2-L3-L4	Back, radiating into anterior thigh, and at times medial lower leg	Anterior thigh, occasionally medial lower leg	Hip flexion, hip adduction, knee extension	Patellar tendon
L5	Back, radiating into buttock, lateral thigh, lateral calf and dorsum foot, great toe	Lateral calf, dorsum foot, web space between first and second toe	Hip abduction, knee flexion, foot dorsiflexion, toe extension and flexion, foot inversion and eversion	Semitendinosus/semimembranosus (internal hamstrings) tendon
S1	Back, radiating into buttock, lateral or posterior thigh, posterior calf, lateral or plantar foot	Posterior calf, lateral or plantar aspect of foot	Hip extension, knee flexion, plantar flexion of the foot	Achilles tendon
S2-S3-S4	Sacral or buttock pain radiating into the posterior aspect of the leg or the perineum	Medial buttock, perineal, and perianal regions	Weakness may be minimal, with urinary and fecal incontinence as well as sexual dysfunction	Bulbocavernosus, anal wink

Testing for lumbar nerve root compromise

Nerve root	L4	L5	S1
Pain			
Numbness			
Motor weakness	Extension of quadriceps	Dorsiflexion of great toe and foot	Plantar flexion of great toe and foot
Screening examination	Squat and rise	Heel walking	Walking on toes
Reflexes	Knee jerk diminished	None reliable	Ankle jerk diminished

Common pathoanatomical conditions of the lumbar spine



Comparison of symptoms in neurogenic and vascular claudication

Symptoms	Neurogenic	Vascular
Quality	Pain/numbness/tingling/weakness	Pain/cramping/tightness
Increased with walking	Yes	Yes
Relieved walking flexed with a cart	Yes	No
Relieved standing erect	No	Yes
Relieved sitting/lying	Within minutes	Immediate
Increased walking uphill/upstairs	No/less	Yes
Increased walking downhill	Yes/more	Yes
Increased biking/back flexed	No	Yes
Increased biking/back extended	Yes	Yes

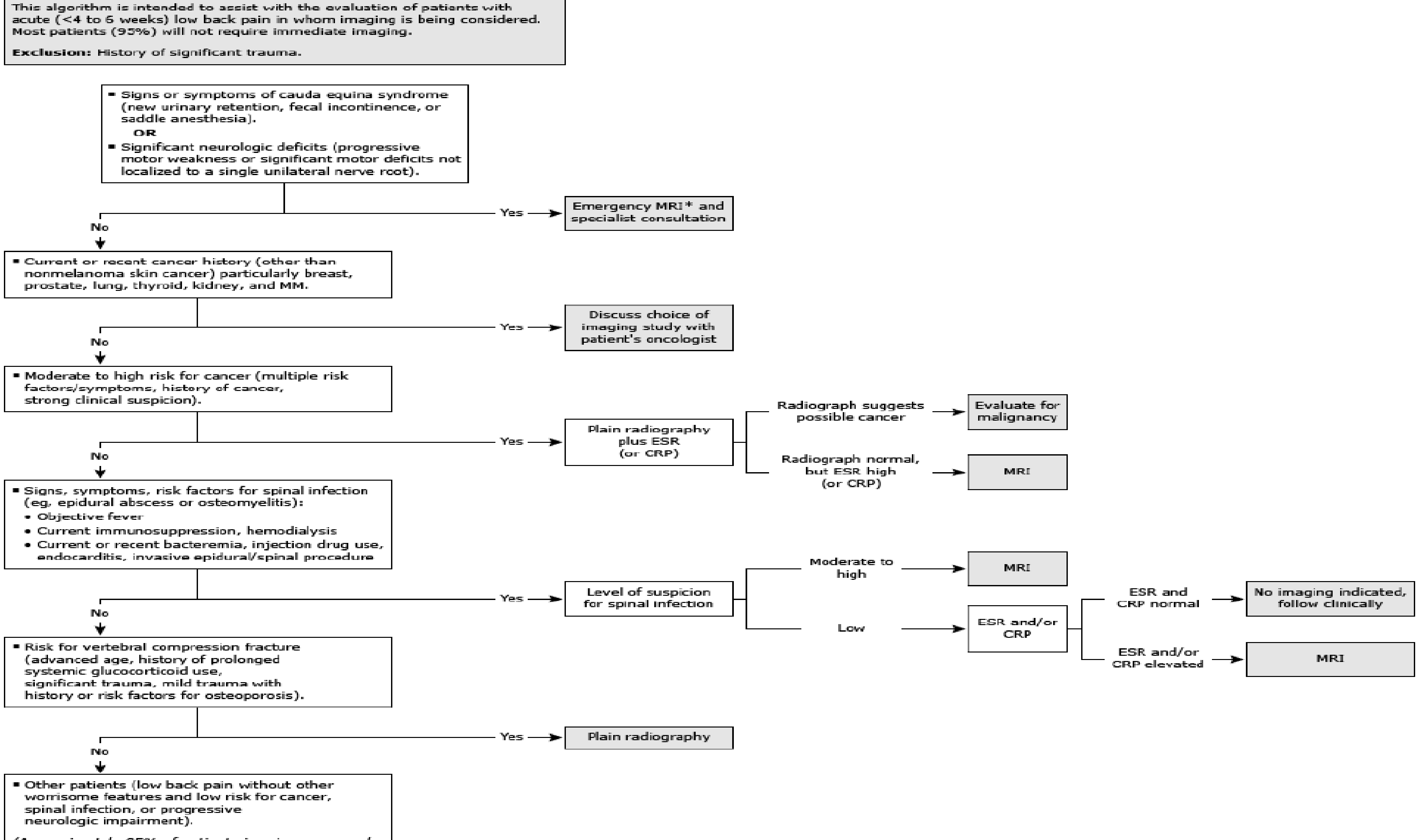
Clinical manifestations of osteoarthritis

Age of onset
Usually after age 40
Commonly affected joints
Cervical and lumbar spine
First carpometacarpal joint
Proximal interphalangeal joint
Distal interphalangeal joint
Hip
Knee
Subtalar joint
First metatarsophalangeal joint
Uncommonly affected joints
Shoulder
Wrist
Elbow
Metacarpophalangeal joint
Symptoms
Pain without significant swelling or other inflammatory characteristics
Stiffness, if present, worse after effort; may be described as evening stiffness
Findings on physical examination
Crepitus
Bony enlargement
Decreased range of motion
Malalignment
Tenderness to palpation
Synovial fluid analysis
Clear fluid
WBC $<2000/mm^3$
Normal viscosity
Radiographic features
Joint space narrowing
Subchondral sclerosis
Marginal osteophytes
Subchondral cysts
Patterns of presentation
Monoarticular in young adult
Pauciarticular, large-joint in middle age
Polyarticular generalized
Rapidly progressive
Secondary to trauma, congenital abnormality, or systemic disease
Prognosis
Variable, generally slowly progressive

Nonorganic signs in low back pain (originally described by Waddell)

Overreaction during physical examination
Superficial or widespread tenderness
Inconsistent supine and seated (distracted) straight leg raise test
Unexplainable neurologic deficits
Pain on simulated axial load (top of head pressure)

Acute low back pain: Considerations for imaging



Diagnostic tests for cancer as cause of low back pain

	Sensitivity	Specificity
Erythrocyte sedimentation rate		
≥20 mm/hour	0.78	0.67
≥50 mm/hour	0.56	0.97
≥100 mm/hour	0.22	0.996
Anemia (hematocrit <40 percent for men or <38 percent for women)	0.54	0.86
Hematocrit <30	0.09	0.994
White blood cell count ≥12,000	0.22	0.94

Primordial Prevention

Primary Prevention

Secondary Prevention

Tertiary Prevention

Quaternary Prevention

Primordial Prevention

- ۱- اقدام در خصوص ترویج سبک زندگی سالم
- ۲- آموزش در خصوص تشکیل پرونده الکترونیک سلامت جهت تمامی آحاد جمعیت کشور و ارزش و اهمیت انجام مراقبتهای لازم در هر گروه سنی
- ۳- آموزش های لازم در سطح ملی برای آشنایی با علایم بیماری ریسک فاکتورها

Primary Prevention

۱- انجام مراقبتهای دوره ای در هرگروه سنی حسب مورد
۲- شناسایی افراد پر خطر و در معرض ریسک جهت توصیه های لازم بهداشتی در خصوص کنترل وزن انجام فعالیت بدنی و سبک زندگی سالم و ترک سیگار و الکل درمان بیماریهای همراهی که امکان و ریسک ایجاد موارد مثبت را میکنند

۳- آموزش سبک زندگی سالم و افزایش فعالیت بدنی حداقل ۳۰ دقیقه در روز

۴-رعایت ارگونومی میز و صندلی در محیط کار و عدم کار یکنواخت برای طولانی مدت

۵-کنترل وزن و چاقی

۶-انجام غربالگری جهت شناسایی زود هنگام عفونت ها و سرطان ها و ارزیابی مناسب و درمان به موقع جهت جلوگیری از عوارض

۷-درمان به موقع انواع اضطراب و افسردگی و ارجاع به موقع به روانپزشک

Secondary prevention

1-درمان به موقع بیماریهای ستون فقرات و ارجاع به موقع به متخصص ارتوپد و پیگیری درمان مناسب

2-ارجاع به فیزیوتراپیست جهت جلوگیری از پیشرفت بیماریهای ارتوپدی

3-ارجاع به موقه به انکولوژیست جهت درمان انواع سرطان ها و جلوگیری از پیشزفت سرطان و متاستاز به سایر ارگانها

4-مشاوره با کارشناس بهداشت حرفه ای جهت رعایت نکات ارگونومی محل کار و رفع ایرادات

Tertiary Prevention

- 1- درمان بموقع و مقتضی براساس آخرین و جدیدترین مطالعات
- 2- درمان کوموربیدیتی های همراه واقدامات پیشگیرانه جهت کنترل بیماری
- 3-مراقبت و مونیتورینگ بموقع بیماران

Quaternary Prevention

- 1- مونیتورینگ و فالواپ بموقع بیماران و ارایه خدمات درمانی مقتضی
- 2- عدم انجام اقدامات پاراکلینیکی و دارویی که تاثیر خاصی بر پیش آگهی و عوارض بیماری ندارد