

## Ewing's family of tumors

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( Ewing's family of tumors )  
( Ewing's sarcoma )

(  
1921 ( James Ewing )  
( osteosarcoma )

( extraosseus Ewing's )

primitive neuroectodermal tumor PNET )  
(

. % 80 ( Ewing's family of tumors EFT )

( small-cell osteosarcoma )  
( Rhabdomyosarcoma )

( neuroblastoma )

( )

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.( extraosseus Ewing's )

( primitive neuroectodermal tumor )  
( peripheral neuroepithelioma )

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- 
- 

( Askin's tumor )



ورم يورينغ بالعظم ، و يلاحظ مدى التهتك بجسم العظم

( Risk factors )

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( deoxyribonucleic acid DNA )

( genes )

( chromosomes )

23

( Tumor suppressor genes )

( oncogenes )

( )

( mutations )

:

( Translocation )

•

( inversion )

•

(  
.( 7 + ) )

( addition )

•

( deletion )  
7-

•

(  
)  
)

( )  
( )  
( )  
( )

( ( Computed tomography scan ) Magnetic resonance imaging )

( lactate dehydrogenase LDH )

( biopsy )

( Bone marrow biopsy )

( )

( staging )

:

( Extrasosseous Ewing's )

.( Rhabdomyosarcoma )

.(

)

( Localized )

( Metastatic )

( Recurrent )

---

( stem cell transplant )

( Bone marrow transplant )

( )

)

(

)

( ( ) )

( Limb-salvage surgery )

( prosthesis )

( thoracotomy )

( )

( ionizing radiation )

( external ) ( Internal )

( neoadjuvant therapy )  
( adjuvant therapy )

:

( )

( systemic )

( Neoadjuvant )

.( adjuvant )

:

( catheters )

.( Ommaya reservoir )

( )

( )

( vincristine )  
( ifosfamide )

( cyclophosphamide )

( doxorubicin )  
( etoposide )

.( )

)

(

( Stem cells )

( )

(

)

( Bone marrow transplant )

( Stem cells transplant )

(

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( Autologous )  
( Allogeneic)

( human leukocyte antigens HLA )

( peripheral stem cells )

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<http://www.cancer.gov/cancertopics/treatment/childhoodcancers>
- American Cancer Society, *Ewing Family of Tumors*. 2004  
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- Gorlick RG, Toretsky JA, Marina N, Wolden SL, Randall RL, Gebhardt MC, Teot LA, Bernstein M. *Bone tumors*. In: Kufe DW, Pollock RF, Weischelbaum RW, Bast RC Jr, Gansler TS, Holland JF, Frei E III, eds. *Cancer Medicine*. 6th Ed. Hamilton, Ontario: BC Decker; 2003.

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