



## **Arabella I. Leet, M.D.**

Associate Professor

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**RESEARCH GOALS:** I have an interest in bone marrow stromal cells and pre-osteoblasts particularly in diseases where the bone marrow stromal cells fail to differentiate normally—such as osteogenesis imperfecta and fibrous dysplasia. In the laboratory, we are conducting translational projects that use in vitro and in vivo models to study cell function under different conditions. In addition, I am involved in clinical research projects in cerebral palsy, pediatric trauma and fibrous dysplasia.

**RESEARCH SUMMARY AND SIGNIFICANCE:** Currently in the lab we are investigating the effects of bisphosphonates on osteoblasts in patients with osteogenesis imperfecta. The mechanism of this effect may help us understand the recent clinical observations of osteonecrosis of the jaw and non-union of osteotomies in patients with osteogenesis imperfecta.

### **FUTURE DIRECTIONS/AVAILABLE RESEARCH PROJECTS:**

1. Bench top projects using a fracture model of the tibia in a OIM mouse
2. Cell culture projects using a library of cells from all the phenotypes of OI
3. Biomechanical project to study how children with CP load their bones with standing

### **RECENT PUBLICATIONS:**

1. **Leet AI**, Magur E\*, Lee J, Weintraub S, Robey PG, Collins, MT. Fibrous dysplasia in the spine: The prevalence of spine lesions and association with scoliosis. *Journal of Bone and Joint Surgery* 86 (3): 531-537, 2004.
2. **Leet AI**, Chebli C\*, Kushner H, Chen CC, Kelly MH, Brillante BA, Robey, PG, Bianco P, Weintraub S, Collins, MT. Fracture incidence in polyostotic fibrous dysplasia and the McCune- Albright syndrome. *Journal of Bone and Mineral Research* 19 (4): 571-7, 2004.
3. Launay F\*, **Leet AI**, Jacopin S, Juvre J, Bollini G, Sponseller PD. Lateral humeral condylar fractures in children: A Comparison of two approaches to treatment. *Journal of Pediatric Orthopedics* 24 (4): 385-391, 2004.
4. **Leet AI**, Chhor K, Launay F\*, Kier-York J, Sponseller PD. Femoral head resection for painful hip subluxation in cerebral palsy: Is valgus osteotomy in conjunction with femoral head resection preferable to proximal head resection and traction? *Journal of Pediatric Orthopedics* 25 (1): 70-73, 2005.
5. Collins MT, Kushner H, Reynolds JC, Chebli C\*, Kelly MH, Gupta A, Brillante B, **Leet AI**, Riminucci M, Robey PG, Bianco P, Wientraub S, Chen,CC. : A instrument to measure skeletal burden and predict functional outcome in fibrous dysplasia of bone. *Journal of Bone and Mineral Research* 20 (2):219-226, 2005.
6. Launay F\*, **Leet AI**, Sponseller PD. Pediatric spinal cord injury without radiographic abnormality: A meta-analysis. *Clinical Orthopedics and Related Research* 433:166-170, 2005.
7. Register BC, Hansel DE, Hutchins GM, Levey EB, Sponseller PD, **Leet AI**. Post-operative gastric rupture in children with cerebral palsy. *Journal of Pediatric Orthopedics* 25 (3): 280-282, 2005.
8. **Leet AI**, Prichard C\*, Ain MC. Surgical Treatment of femoral fractures in obese children: Does excessive body weight increase the rate of complications? *Journal of Bone and Joint Surgery*, 87 (12): 2609-2613, 2005.

**PAST RESIDENT RESEARCH PROJECTS:** see above, (\*) indicates ortho. Resident/fellow