

22 Phillips St
Neutral Bay 2089
12/7/20

Dear Pete,

Thank you for your email regarding the proposed Bowdens Silver Mine Project in the Lawson Creek Valley 2km from Lue and 30 km from Mudgee. I believe this to be an open cut mine and 41% of the minerals to be mined will be lead.

As a retired Paediatric Orthopaedic Surgeon, I am alarmed and appalled that this lead producing mine will be situated in a heavily populated rural community involved in a variety of agribusinesses providing consumable primary produce for the broader NSW and Australian community.

Lead exposure is a serious health problem especially for foetuses and children. **A safety level of blood lead does not exist¹.**

Bones are a major depository of lead in the body, with about 90% of the total body lead burden existing in the skeleton¹. The half life of lead in bone is 20 to 30 years¹. Lead accumulates in the metaphysis of growing bones, which are the most metabolically active zones. This can be seen as increased density radiologically in the metaphysis adjacent to the epiphysis (growth plate). Lead is an osteoclast poison resulting in abnormal bone remodelling causing the typical Erlenmeyer Flask appearance of the distal femur. Lead hinders growth plate function and prevents skeletally immature individuals from attaining adequate peak bone mass in early adulthood. Lead may also accelerate the rate of bone loss in aging by virtue of its regulation of bone formation and bone resorption, thus inducing a more negative bone balance. This situation can contribute to lead exposed women crossing the fracture threshold at an earlier age. They are thus predisposed to premature osteoporosis².

Clinically, children present with bone and muscle pain and women can present with early onset fragility fractures.

The local community should not be exposed to this toxin and neither should an unsuspecting broader community who will consume lead containing produce from this region.

Kind regards

Pete

Peter Gray
MB. BS. FRACS, FAOrthA.

1). Masayuki Kaji et al. Clinical Paediatric Endocrinology 2006; 15(4):123-128

2). Puzas JE et al (2004) Lead Toxicity in the Skeleton and its Role Osteoporosis. In: Holick M. F., Dawson-Hughes B. (eds) Nutrition and Bone Health. Humana Press, Totowa, NJ