Lead Poisoning _

A. Knowledge

- Lead levels and their clinical significance
- CDC guidelines
- Neurologic, hematologic, behavioral and cognitive effects of elevated lead levels
- Low level lead poisoning
- Demographics of clinically significant exposure
  - 27% of central city children have lead levels > 15ugm/dl
  - 68% of children with family income < $6000/annum inside central cities have Pb levels > 15ugm/dl
- Methods of transmission/routes of absorption
- Seasonal variations and effect of sunshine on Calcium/vit D metabolism/Pb levels
- Sources: paint, air, water, dust, soil, food, folk medicines, cosmetics, batteries, old toys, etc.
- General risk level in the community, i.e., age of housing stock, estimates of percentage that need deleading
- Predisposing factors
  - Pica
  - Sickle cell anemia
  - Young age
  - Malnutrition
  - Nutritional deficiency (iron, CA deficiency)
- Prenatal exposure/effects
- Primary prevention: deleading homes, lead free gas, etc.
- Interaction of Fe deficiency and lead: hematologic, neurologic findings
- Treatment modalities: when to use chelation therapy, po meds such as penicillamine, succimer (DMSA), iron therapy, lead mobilization tests
- Importance of screening programs
  - Whom to screen
  - When to screen
- Laboratory evaluation: use of FEP, ZPP, Pb, Fe, ferritin, CBC, RBC, smear, retic, iron binding, X-ray eval of abdomen and knee
- Laboratory follow up/clinical follow-up
- Reasons for admission
- Neuropsychological evaluation for all Pb poisoned children
- Law currently in effect to prevent/interrupt/respond to lead poisoning

B. Skills

How to assess risk for lead poisoning; home and environmental questions to ask, e.g., pica, sib or playmate with elevated lead, peeling paint, etc.

Patient education techniques - imparting the importance of monitoring lead, simple methods of prevention exposure such as mopping and hand washing

C. Attitudes

Appreciation that parents often feel guilty re: poisoning

Sympathetic attitudes toward parents who feel helpless and victimized

D. Barriers

Economic - high cost of deleading homes and soil for landlords and homeowners

Social - patients are often stuck in a particular housing environment, and not able to decrease their risk

Political - government not willing to or capable of enforcing lead laws or enacting new lead laws

Bureaucratic - not enough inspectors to monitor/manage cases

E. Advocacy

Political: advocate for legal mandate that reporting of elevated Pb be mandatory in all states

Advocate for systematic screening of older homes for lead rather than using children as "bioassay" for elevated lead

In service training of other professionals

Out of hospital training especially for public officials re: epidemiology of Pb

Legal

Appear in court on behalf of child

Lobby for laws mandating deleading of all home Environments

References

U.S. Dept of Health and Human Services, Centers for Disease Control. Preventing Lead Poisoning in Young Children, October 1991.

Needleman H. Why we should worry lead poisoning. Contemporary Pediatrics, March 1988, Vol. 5, No. 3, p. 34.