680 L-X-RAY FLUORESCENCE (XRF): A RAPID ASSESSMENT OF CORTICAL BONE LEAD (Pb) IN Pb-TOXIC CHILDREN.
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The current method to determine the need for chelation in Pb-toxic children (blood Pb: 25-55 ug/dl; EP >35 ug/dl) is based on the result of the $CaNa_2EDTA$ provocative test (PbP). The PbP requires an injection and an 8-hour urine collection - difficult to achieve in young children. In this study, a low energy x-ray generator with a silver anode was used to measure Pb L_α XRF from the tibias of 18 children. With the leg immobilized, partially polarized photons were directed at the anteromedial skin surface of the mid-tibia. Based on spectra from a leg phantom and from an amputated adult leg, the nominal detection limit was ∿2 ug Pb/gm of bone, when the skin surface dose reached 1.0 rad. Bone Pb XRF measurements were performed 1 week before the PbP and compared to outcomes on the PbP. The results were:

	PbP Positive	PbP Negative
XRF: >2 ug Pb/gm of bone	6	0
XRF: <2 ug Pb/gm of bone	5	5

A nominal XRF measurement of >2 ug Pb/gm of bone was unerringly predictive of a positive PbP in this group. Undetectable bone Pb by XRF did not discriminate between Pb-toxic children with positive and negative PbP's. In 2 non-Pb-toxic XRF-positive children, the blood Pb levels were 17 and 20 ug/dl. Non-invasive XRF measurements of cortical bone Pb could be a rapid method to determine the need for chelation in large populations of children.

†681 USE OF PENICILLAMINE IN LOW-LEVEL LEAD POISONING.
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We evaluated D-penicillamine (PCN) to determine its efficacy in low-level plumbism (25-40 mcg/dl). Two groups were compared: Cases (n=84) were treated with PCN; controls (n=37) received no chelation therapy. Patients were followed at regular intervals for a mean of 200 days; none had received chelation therapy for 3 months prior to study entry. Mean PCN dose was 27.5 mg/kg/d.

	Cases	Controls
Pre-Che/Observation Pb (mcg/dl)	34	34
Length of Treatment/ Observation	76	119
Post-Che/Observation Pb (mcg/dl)	22	32
Mean Decrease (mcg/dl)	12	2
Significance (p-Value)	.001	NS

In 64 cases (76%) lead levels (LL) were normalized. There were eight cases of treatment failure. Controls had no significant change in LL (mean LL 33± 2 mcg/dl) over the observation period. PCN was associated with an adverse reaction in 33%. Side effects included leukopenia in 10%, rash in 8%, enuresis in 4% and gastrointestinal distress in 2%. Therapy was prematurely terminated in 8 patients due to an adverse reaction. We conclude that PCN is effective therapy for low-level plumbism although it has significant side effects. PCN should be considered a viable treatment option for low-level lead poisoning.

●682 USE OF HAEMOPHILUS VACCINE IN CONNECTICUT.
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Although the vaccine against Haemophilus influenzae type b (Hib) is recommended for all children 24-60 months of age and high risk children 18-23 months of age, there is little information about the extent to which these recommendations have been implimented. To assess the use of the vaccine we randomly selected from the hospital logs 202 (2.5%) of the 8,026 children who were born at Yale-New Haven Hospital and were between 18 and 36 months of age on 2/28/86. Parents of the children were interviewed and their physicians were contacted to ascertain whether the child had received the vaccine. After children were excluded because of: inability to locate them (12%), refusal to participate (4%), having moved out of state (2%), death (2%), prior Hib disease (1%) and refusal of the physician to participate (1%), 157 children (78%) were enrolled in the study. Overall, 75 children (48%) had received the vaccine. The vaccine had been received by 2 of 28 children (7%) between 18 and 23 months of age and by 73 of 129 children (57%) between 24 and 36 months of age.

Among children whose day care status was known, 17/33 (52%) who attended group day care and 35/77 (45%) who did not attend group day care had received the vaccine. Among children between 24 and 36 months of age, 55/87 (63%) who attended private physicians, 14/28 (50%) who attended prepaid health maintenance organizations, but only 4/14 (29%) who attended public clinics (P<0.05) had received the vaccine. Although widespread implimentation of recommendations for universal immunization had begun 10 months after licensure of the Hib vaccine, rates of immunization were lower among indigent patients who are at increased risk of disease.

683 FUTURE DIRECTIONS FOR PEDIATRIC RHEUMATOLOGY AS AN ACADEMIC SPECIALTY: A SURVEY OF PEDIATRIC DEPARTMENT CHAIRPERSONS.
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National manpower needs, length and clinical/research mix of fellowships, and incentives to attract residents to PR training, and trainees to faculty positions are important issues. We surveyed 142 American and Canadian pediatric chairpersons for their attitudes, and departmental clinical, research and economic needs related to rheumatology. A 28 item questionnaire utilized an educational psychologist, and a biostatistician, to ensure optimal content clarity, completion speed, and statistical design. The response rate was 77% (110/142). 71 departments had a PR, with 75% full- and 25% part-time. The chairs recruiting priority for a new full-time PR was "moderate-high" in 38%. Department size was: 15-25 MD and PhD faculty-24%; 26-40 faculty-26%; 41-75 faculty-34%; ≤76-16%; 39 Departments had 0-10% grant support of faculty salaries; 34 had 12-25%; 23 had 26-50%, and 5 had 51-80%. "Acute" disease trained chairpersons were less than half as likely to support having a PR, when compared to a chronic disease chair 65% of chairs believed an allergist/immunologist could provide rheumatic disease care only 0-25% of the time; 69% felt a rheumatologist gave a needed chronic disease/rehabilitation focus. Of interest, 54% of chairs stated that fellowships should be 3 years; another 17% preferred 4 years; all 71% desired a 50% research commitment: 31% of chairs would full/partial fund a rheumatology fellow to fill a faculty need, and 57% would provide 30-100% of initial faculty salaries (2-3 years). This survey reflects concerns about pediatric subspecialty manpower, training and research issues.

684 PLASMA GLUCOSE VALUES AFTER FIRST FEEDING IN NEONATES.
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To identify the type of feeding that will raise plasma glucose (G) most effectively in the first hours after birth, plasma G was measured before and after first feeding at 4hrs of age. 43 term neonates(NB) were randomized into three groups: 20cc of 5% D/W, 10% D/W or formula (20 cal/oz). Mean±S.D. birth weight was 3158±306gms, length 49.4±1.4cm, head circumference 33.7±1.2cm, gest. age 39.7±1.5wks. Apgar scores ranged from 7 to 9. Six NB were born by C-section and the remaining 37 by vaginal delivery. All infants were healthy and appropriate for gest. age. Plasma glucose was measured prior to and 1, 2, and 4 hrs after feeding and are listed in table:

	PLASMA GLUCOSE (mg/dl)			
TYPE OF FEEDING	PRE-FEED	POST FEED (HOURS) 1	2	4
5% D/W (14)	63±12	75±15*	64±17	65±10
10% D/W (13)	65±13	86±18*	60±19	58±6
FORMULA (15)	66±13	75±13*	68±13	62±12

( ) No. of Neonates *p <0.05

Baseline values prior to feeding were similar in all three groups. A significant rise in glucose values was noted one hour after feeding in all three groups ($p<0.05$); however, among the three groups, the rise in G values was significantly higher with 10% D/W than with formula or 5% D/W feeds ($p<0.05$). No difference in G values were noted at 2 & 4hrs after feeding. In conclusion, 10% D/W is the best choice as the first feed for raising G; however, the rise is transient and within 2 hrs, G values are back to baseline regardless of type of feeding.

685 PASSAGE OF FIRST STOOL IN VERY LOW BIRTH WEIGHT INFANTS.
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Passage of meconium (M) after 24hrs of age in term neonates is considered to be delayed and may require diagnostic and/or therapeutic intervention. However, little is known about the time of passage of first meconium and the clinical implications in premature (P) infants weighing ≤1500gms. Sixty consecutive P born between July 1985-March 1986 were studied; six of the sixty died before passing M. The mean±S.D. birth wt. was 1144±224gms, gestational age 30.6±2.24wks, Apgar score at one minute 4±2 and at five minutes 7±2. Feedings were started at 4.4±2.5 days. Time of passage of meconium is shown:

Age in Hrs	0-1	1-12	12-24	24-48	48-72	72-96	96-120	120-144
No. of Pts	3	15	13	15	3	2	2	1
Cum %	6	33	67	85	91	94	98	100

There was a significant correlation between time of passage of meconium and birth wt. ($r = -0.489$, $p<0.001$) and gest. age ($r = -0.334$, $p<0.01$); no significant correlation was noted with Apgar score, feeding, peak bilirubin levels, phototherapy or electrolytes. Time of passage was significantly longer in P with HMD vs Transient Tachypnea of Newborn (TTNB) (33±30 vs 16±17hrs,$p<0.05$). Only one P had abdominal distension and passed M plug at 47hrs of age; others had no signs of bowel obstruction. In summary, only 2/3 of P pass M by 24hrs of age and the remaining 1/3, even though delayed, do not require diagnostic workup unless associated with other signs of bowel obstruction.