

spective study attempted to differentiate between nosocomial and community-acquired infections caused by *Escherichia coli* on the basis of biotypes, using isolates from 154 clinical specimens. By utilization of the API 20E microtube system for speciation and biochemical analysis, 22 biotypes were established in 106 community-acquired infections; 19 biotypes appeared in 48 nosocomial infections. The total was 32 distinct biotypes. The same 4 biotypes were found most frequently in both groups, comprising 58 percent of the community-acquired and 54 percent of the nosocomial infections. No significant differences were observed in the remaining 28 biotypes, as 22 of these had fewer than 2 isolates per group. The data suggest that the biotype of an organism cannot be used to indicate whether the source of an infection is likely to be nosocomial. Future studies are needed to determine the significance of biotyping in epidemiologic investigations.

### **Autistic children: Preliminary physiologic, structural, and craniosacral evaluations**

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Twenty-five children aged 5 to 18 years who were enrolled at Genesee Intermediate School District's Center for Autism (Flint, Michigan) were evaluated by (1) thorough physical examination, including structural and craniosacral examination; (2) trace mineral analysis of nape hair samples; (3) blood analysis, including serum proteins, lipid panel, isozymes, and T3-4/thyroid-stimulating hormone levels. Physical examination revealed indications of autonomic imbalance, cranial nerve hypofunction, respiratory motion re-

striction, gait irregularities, and overbite with temporomandibular joint malalignment. Detailed structural evaluations indicated restrictions at the thoracolumbar junction in midthoracic and/or lumbar segments. Severe craniosacral restrictions were observed in all students. Trace minerals in single nape hair samples from seventeen students were abnormal from most children studied, without indicating trends related specifically to autism. Craniosacral manipulative therapy, respiratory therapy, and nutritional support are being given to these children. These results suggest structural craniosacral involvements important to the understanding of autism.

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### **Structural analysis of a compound purified from vitamin-free casamino acids which supports the growth of nicotinamide adenine dinucleotide mutants of *Escherichia coli***

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Mutations affecting the biosynthesis of nicotinamide adenine dinucleotide (NAD) may occur at the *nadA*, *nadB*, *nadC*, or *nadR* locus in *Escherichia coli*. Auxotrophs defective in the biosynthesis of NAD are able to proliferate in a minimal medium supplemented with either nicotinic acid or vitamin-free casamino acids (CAA). A compound, which has the same biologic activity as nicotinic acid, was extracted and purified from CAA. This purification procedure involved a combination of ethanol extraction, descending partition chromatography, gel permeation chromatography, and crystallization under vacuum. Each step of the