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THE INCIDENCE AND NATURE OF OROFACIAL INJURIES IN CHILD ABUSE CASES REPORTED BY SELECTED HOSPITALS IN COOK COUNTY, ILLINOIS

By

JOHN P. KENNEY, B.S., D.D.S.

A Thesis Submitted to the Faculty of the Graduate School
of Loyola University in Partial Fulfillment of
the Requirements for the Degree of
Master of Science

April
1979

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Finally, I wish to give recognition to my wife, Catherine, for her encouragement and support in my new career, and especially in the preparation and editing of this paper.

VITA

John Patrick Kenney was born in Joliet, Illinois, on July 8, 1946. He graduated from Brother Rice High School, Chicago, Illinois, in 1964.

In September of 1964, he entered Christian Brothers College, Memphis, Tennessee, and in May of 1968, received the degree of Bachelor of Science with a major in Marketing. In college he was recipient of the Kiwanis "Circle K Leadership and Service Award." From 1968 to 1972 he was employed as a member of management of American Airlines at Chicago O'Hare International Airport.

In 1972 he enrolled in predental science courses at Loyola University College of Arts and Sciences and in 1973 entered Loyola University School of Dentistry. The author received his D.D.S. in June of 1977. In the fall of 1976 he attended the Armed Forces Institute of Pathology (Walter Reed Army Medical Center, Washington, D.C.) course in Forensic Dentistry. In July of 1977 Doctor Kenney was admitted to Loyola's Graduate Program in Oral Biology as well as post-graduate program in Children's Dentistry (Pedodontics). He received an appointment as Clinical Instructor in Pedodontics in December, 1977. He has served on the Loyola University Medical Center Student Health Committee since 1973 and has been the Dental Consultant to the Loyola Medical Center Child Advocate Team since September of 1977.

Doctor Kenney has lectured on forensic dentistry and child abuse at Loyola and to numerous dental, medical, nursing and community groups throughout the Chicago area. He is a consultant to the Cook County Medical Examiner's Office, and is a member of the Forensic Dental Team at Northwestern University. He is a member of the American Dental Association, the American Academy of Pedodontics, the American Society of Dentistry for Children, and the Chicago Dental Society. The author is also a member of the American Society of Forensic Odontology, and the International Society for Forensic Odonto-Stomatology. He is the author of the chapter on child abuse in the field manual of the American Society of Forensic Odontology (in preparation). The Paul W. Clopper Memorial Foundation of the Illinois State Dental Society provided two grants to Doctor Kenney to support the research presented in this paper. Doctor Kenney has also been in private practice since August of 1977.

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CHAPTER I

INTRODUCTION

The recognition and treatment of child abuse or the "Battered Child Syndrome" has increased tremendously since 1961 when the term was first used to describe repetitive non-accidental injury to children. In 1962, the American Humane Society found 662 cases of abuse nationwide, representing every state, race, and social class.

Physicians, nurses, social workers, school officials and law enforcement personnel have studied the problem of child abuse and reported on it at length. Research into specific types of injuries associated with abuse began as far back as 1906, with Morgan Roch presenting studies of infant x-rays.[1] In 1946, Caffey noted the association of subdural hematoma and long bone abnormalities on x-ray. The significance of orofacial injuries was first noted by Cameron in 1966, and further studies on this type of injury were done by Skinner and Castle in 1969, Tate in 1971, and Becker in 1978.[2] To date, 373 cases have been studied, and in approximately 50 percent of the cases, orofacial trauma has been found.

This paper will present an analysis of 545 cases of child abuse reported by 14 hospitals in Cook County, Illinois, in the year 1977. Unlike previous studies of orofacial injuries which covered only a few cases, [Cameron (1966), Skinner (1969), Tate (1971)], or were

done at one hospital, [Becker (1978)], this research constitutes a much larger and more comprehensive study.

The purpose of this paper is to make the dental, medical and allied health professions aware of the importance of orofacial injuries in child abuse cases, to give those professionals the diagnostic information to recognize child abuse and to outline basic reporting techniques.

HISTORY OF CHILD ABUSE

Perception of what constitutes child abuse has differed with time and culture. For many hundreds of years, discipline, education, placating of gods, or the expulsion of demon spirits was considered justification for the severe physical punishment of children.

As recently as 1971, the Supreme Court of the Commonwealth of Massachusetts reaffirmed the "Stubborn Child Law of 1654"; under the law, children have no right to dissent against the reasonable and lawful commands of parents or legal guardians. It was finally repealed in 1973.

The Roman concept of _Patria Protestas_ dates to 700 B.C. This law allowed the father to sell, abandon, sacrifice, devour or otherwise dispose of his offspring as he saw fit. In 450 B.C., the law was modified so that a son could only be sold three times![1] The mythological founders of Rome, Romulus and Remus, were abandoned to die, but were found and raised by the she-wolf, Lupus.

Biblical references to abuse and infanticide are frequent. The Book of Judges tells the story of Jepthah's victory over the Ammonites. Before battle, Jepthah promises that if his forces win, he will sacrifice the first person he meets on his return. Victorious, he is met on his return by his only daughter, who is sacrificed.[3] The _Bibliotheca Scholastica_ reaffirmed the biblical rule of sparing the rod and spoiling the child.

On Innocents Day in many Christian countries, children were

whipped to make them remember Herod's massacre of the infants.[1] Even the reformer Martin Luther ordered mental defectives to be drowned because he thought that they were the instrument of the devil.[1]

Just as child abuse itself has a long tradition, so do laws proscribing types of abuse and infanticide. The Code of Hammurabi (18th Century, B.C.) for example dictated that if a nurse allowed a suckling to die in her hands and substituted another, her breast would be amputated.[4]

Through the growing influence of Christianity, edicts against murdering children and child slavery were issued by Constantine between the years 315 A.D. and 321 A.D.[1] In approximately 588 A.D., the Council of Constantinople compared infanticide to homicide and prescribed the death penalty as punishment.

In Prussia at the time of Frederic the Great (1770), "sacking" or placing the abuser in a sack filled with stones and throwing it into the river, was the prescribed punishment. Frederick felt that to be inhumane, and decreed that those that abused their children to the point of death should be decapitated.[5]

Mutilation of children to increase their appeal as beggars or freaks was common. Cephalic deformation is perhaps the best documented form because skeletal remains clearly show the results of small boards or other flat objects being pressed against the infant's skull. The ancient Maya indians considered cross eyes

beautiful, and induced the condition by hanging an object between the baby's eyes. In China, from the time of the T'ang Dynasty up to the early 1900's, female children had their feet tightly bound to produce the "golden lily feet."

Although throughout history children had always assisted parents with farming and household chores, the onset of the Industrial Revolution forced many children to work 16 hour days, with disease and suicide being the only way out of the Dickensian nightmare.

In Puritan Colonial America, the belief in physical punishment is typified by this passage from Hawthorne's The Scarlet Letter (1850), where he recalls the harshness of an earlier period:

> The discipline of the family, in those days was, of a far more rigid kind than now. The frown, the harsh rebuke, the frequent application of the rod, enjoined by Scriptural authority, were used, not merely in the way of punishment for actual offences, but as a wholesome regimen for the growth and promotion of all childish virtues.[6]

At about the same time, Charlotte Bronte wrote of the trials of a young girl growing up in England, Jane Eyre (1857):

> My first quarter at Lockwood seemed an age, and not the golden age either; it comprised an irksome struggle with difficulties in habituating myself to new rules and unwonted tasks. The fear of failure in these points harassed me worse than the physical hardships of my lot, though these were no trifles.
>
> During January, February, and part of March, the deep snows, and after their melting, the almost impassable roads, prevented our stirring beyond the garden walls, except to go

> to church, but within these limits we had to pass an hour every day in the open air. Our clothing was insufficient to protect us from the severe cold; we had no boots, the snow got into our shoes, and melted there; our ungloved hands became numbed and covered with chillblains, as were our feet...Then the scanty supply of food was distressing: with the keen appetites of growing children we had scarcely sufficient to keep alive a delicate invalid.[7]

In the 19th Century, small children were used as chimney sweeps, and contracted severe pulmonary diseases as well as "sweep's cancer" or cancer of the scrotum.

One Mid-Victorian schoolmaster kept track of the disciplinary actions he meted out during his career and recalled: 911,527 strokes with a stick, 124,000 lashes with a whip, 136,715 slaps of the hand, and 1,115,800 boxes of the ear.[8]

In the United States as early as 1825, a House of Refuge was established in New York. Although it was primarily for delinquent children, the legislature also requested that neglected and abandoned children also be admitted. In Boston, the City Council stated that parents who neglected their children through "drunkeness or other vices" would have their children committed to the House of Reformation.

The concept of Parens Patriae was invoked in 1838, by the Pennsylvania Supreme Court. It stated that under certain circumstances the common guardian had the right to take custody of the child in preference to the parents.

The famed "Mary Ellen" case of 1874 led to the founding of the first society for the prevention of cruelty to children in 1875. In this case, a nurse heard of the plight of a nine year old New York girl who was being maltreated by her parents. The girl was found chained to a bedpost in her parent's apartment. There was bodily evidence of routine beatings by her parents and acute undernourishment from a diet of bread and water. When these facts were brought to the attention of the police, the nurse found out that there was no law to cover the child. "The parents, excercising their absolute right to bring up their child in the manner of their choosing, literally had the whip hand."[9] The nurse, in desperation, appealed to the SPCA on the grounds that the child was a member of the animal kingdom. An angered group of church workers were instrumental in Mary Ellen's rescue, and the founding of the Society for the Prevention of Cruelty to Children.

The 1890 edition of the Encyclopedia Britannica summarized infanticide as follows: "...In all of them [infanticide] is closely connected with illegitimacy in the class of farm and domestic servants. The crime is generally committed by the mother...concealment of shame...in order to escape the burden of her child's support. The paramour sometimes aids in the crime, which is not confined to unmarried mothers."[10]

Literature throughout history is replete with examples of maltreatment of children. Jonathan Swift, in his essay "A Modest

Proposal," advocates that children be sold as food for "persons of quality and fortune throughout the kingdom." He describes in detail:

> I have been assured by a very knowing American of my acquaintance in London, that a young healthy child well nursed is at a year old a most delicious, nourishing and wholesome food. Whether stewed, roasted, baked or boiled, and I make no doubt that it will equally serve in a fricasse, or a ragout.[11]

Swift uses the essay for its shock value, for he feels that it would be better for a child to die at one year than to suffer poverty and maltreatment throughout his life.

Dickens' David Copperfield is a classic example as well:

> "Mr. Murdstone! Sir!" I cried to him. "Don't! Pray don't beat me! I have tried to learn, sir, but I can't learn while you and Miss Murdstone are by. I can't indeed."[12]

Children's fables and verse such as "Hush a bye baby," "Lady Bird, Lady Bird," "Old woman in a shoe," and "Humpty Dumpty" all tell of mistreatment of children by their caretakers. A new verse was created for the Humpty Dumpty's Magazine for Little Children. Ironically, it reads:

> But an American Doctor with patience and
> glue put Humpty together - better than new;
> And now he is healthy and back on the scene,
> Busily editing this magazine!

From a forensic medical standpoint, two discoveries are worthy of note. The first was by Swammerdam in the year 1667. He

determined that if an infant was found dead, and the lungs would not float, it indicated that respiration had not taken place, and therefore the child was stillborn rather than murdered.[1] Tardieu in 1860 reviewed the cases of abused and neglected children and described a condition with the same features that Kempe would use 100 years later to diagnose his "Battered Child Syndrome." However, it was not until the early 1960's that the first comprehensive child abuse laws were being passed in the United States. In 1961, at a seminar before the American Academy of Pediatrics, Kempe coined the term "Battered Child Syndrome." By 1973, all 50 states had abuse reporting laws. Nevertheless, lack of knowledge and uniformity of the laws made it difficult to successfully treat the problem and protect the children.

Also in the year 1973, Senator Walter Mondale, and Congressman John Brademas conducted a series of hearings throughout the United States which showed numerous deficiencies at the state and local levels in dealing with the problem of child abuse. They found that as many as 75 percent of the children who died as a result of probable abuse were known previously to local welfare and police authorities.[13] In 1974 Public Law 93-274, "The Federal Child Abuse Prevention and Treatment Act of 1974" or the "Mondale Act," was passed unanimously. It created the National Center on Child Abuse and Neglect, and mandated it to work to improve state and local abuse and neglect services. Current estimates of abuse and neglect across the nation are in the vicinity of one million children per

year, with 100-200,000 children being physically abused, 60-100,000 being sexually abused, and 700-800,000 being neglected. Each year it is estimated that more than 2,000 children die as a result of abuse or neglect.[13]

STATEMENT OF THE PROBLEM AND METHODOLOGY

The problem of child abuse is one that has been with us since the beginning of time. Although there have been scattered attempts to legally prohibit abuse, it was not until very recently that the problem has been systematically approached as a medical and psycho-social problem. Through the dedicated work of Doctors Helfer, Kempe and others here in the United States, the subject has been brought out into the open and an organized effort made to identify and treat both the victims and the perpetrators of child abuse.

Because of the dissemination of the results of Helfer and Kempe's research, the medical profession is becoming aware of its responsibility to report suspected cases, as are state and local welfare agencies, as well as the police and school officials.

One of the cardinal signs of child abuse is that the parent will hospital or doctor "shop", taking the child to a different treatment center, which may include the dental office, each time. In the United States, there are some 120,000 practicing dentists, who, along with physicians, social workers, law enforcement and school officials, are mandated by the laws of the various states to report suspected cases of child abuse. Because the average child will be seen by a dentist more frequently than by a physician, the role of the dental profession is of primary importance in the identification and reporting cases of suspected child abuse. Many of these cases may present in the dental office as a new patient

emergency visit, with injuries such as a split lip, avulsed or fractured tooth, etc., or as the routine checkup patient who shows signs of possible physical abuse. The end result of "The Incidence and Nature of Orofacial Injuries in Child Abuse Cases Reported by Selected Hospitals in Cook County, Illinois", would be to help these dentists, dental auxiliaries, and the medical profession more readily recognize child abuse, and specifically, the distinctive orofacial injuries that are in Cameron's words, "almost pathognomonic."[14]

In three earlier studies, 125 cases of abused children were reviewed by researchers in England: Cameron, Skinner, and Tate. Their studies, as well as that of Doctor David Becker, conducted at Boston Children's Hospital from 1970 through 1975, demonstrated that approximately 50 percent of physical abuse cases present with orofacial injuries. In Cook County, Illinois, there is a very heterogeneous population, with a large number of child abuse cases reported to the Department of Children and Family Services each year. In 1977, some 4,800 cases were reported in Cook County alone, with over 8,000 cases being reported statewide. With the volume of cases and population mix represented here, the current research can contribute significantly to the general understanding of child abuse. This study represents a research population 109 percent greater than the largest study of orofacial injuries to date, which was done by Doctor David Becker. The cases studied in this paper represent the 1977 records of reported suspected child abuse cases from 14 major

hospitals in Cook County. The following hospitals participated in this study:

Cabrini
Children's Memorial
Columbus
Cook County
Holy Cross
Illinois Masonic
Loyola - Foster G. McGaw
Lutheran General
Mercy Hospital
Mount Sinai
Rush Presbyterian St. Lukes
St. Francis (Evanston)
St. Mary of Nazareth
West Suburban

The hospitals studied serve a wide range of populations in Cook County. They were all members of the now defunct Child Advocate Association, whose role has been assumed by the Juvenile Protective Association. These hospitals, through their child protective teams, demonstrate a commitment to properly report and follow up on any cases that present at their institution. Cases were included from the records of the hospitals cited if they had been reported to the Illinois Department of Children and Family Services in the year 1977 as a case of suspected child abuse or neglect. Many cases of suspected abuse are reviewed by child advocate teams in these hospitals and are not reported for lack of sufficient evidence.

Initial contacts to the various hospitals were made by telephone, through either the Departments of Pediatrics or Social Work, or to a member of the hospital's Child Advocate Team. Permission was requested to review their medical records of reported cases of child

abuse in the year 1977. Upon receipt of the institutional approval, the director, accompanied by a research assistant, visited the hospitals in person to collect the data. In most cases this entailed 3 or more visits, and in one case, 10 visits.

Initially, the copies of the state report form were reviewed, to obtain on overview of each case. It was then necessary to request the medical record of the victim pertaining to the incident of abuse. The history and physical examination was evaluated to determine the nature of the injury. The social history relating to the incident of abuse was also reviewed if available in the chart or in the records of the social service department of the hospital. Injuries were categorized using the International Classification of Diseases coding. All of the information collected on each case was recorded on a data sheet of the researcher's own design (Illustration 1). Information included on the data sheet included: 1) A sequential file number (1-545); 2) The hospital number (1-14); 3) A sequence number consisting of the hospital number, the case number within that hospital, and the month, day and year of the victim's birth. 4) Hospital patient identification number; 5) Date of the incident; 6) Sex of the victim; 7) Age of the victim in months; 8) Race of the victim; 9) Identification zone of the victim using the Standard Metropolitan Statistical Area Zones 1-76 for Chicago, and a 900 series numbers for the suburbs [researcher's own code]; 10) Suspected Abuser(s) (Father, Mother, Step-father, Step-mother, Boyfriend, Girlfriend, Paternal Grandparent, Maternal Grandparent, Sibling,

ILLUSTRATION 1

John P. Kenney, D.D.S.
LUMC
2160 S. First Avenue
Maywood, Illinois

FILE # ________________

HOSPITAL #________ SEQ. # ___-_____-___-___-___
H S M D Y

P.I.N. #________________DATE OF INCIDENT__________TREATED__________

SEX M____F____ AGE______ PHOTOS Y N R XRAYS Y N R

RACE________________

ADDRESS______________________________________ID ZONE_______________

SUSPECTED A #1 F M SF SM BF GF PGP MGP SIB_____OTHER____
#2 F M SF SM BF GF PGP MGP SIB_____OTHER____

AGE OF A #1________ #2________ ETHNIC HX OF PT______________________

RACE OF A #1________ #2________ OCC/PROF OF A #1__________#2__________

CONTRIB. MED. HX-RET______ HANDC______ OTHER______

CONTRIB SOC. HX.____

BIRTH POSITION__________OF__________ # OF LIVING CHRN______________

AGES OF SIBS____

PREV ADMIT DATE__________________ FOR________________________________

____

DESCR. OF FINDINGS:

and Other); 11) Age of abuser(s) if known; 12) Race of abuser(s) if known; 13) Contributory medical history (Retarded, Handicapped, or Other); 14) Contributory social history; and finally, 15) Description of findings using the International Classification of Diseases Code. Several other categories of data were included on the data sheet, but were recorded only sporadically, depending on whether the information was readily available. The specific analysis of this data is covered in Chapter 3 of this paper.

CHAPTER II

REVIEW OF THE LITERATURE

MEDICAL LITERATURE

Publication of true diagnostic information regarding the "Battered Child Syndrome" began with Ambroise Tardieu in the year 1860 with his article "Etude medico-legale sur les services et mauvias traitments excerces sur des enfants."[15] He reviewed a study of 32 cases of battered children, and described a series of medical, social, psychiatric, and demographic findings that were nearly identical with the findings of Kempe some 100 years later.[16]

It was not until shortly after World War II that a radiologist by the name of John Caffey would report on "Multiple fractures in long bones of infants suffering from chronic subdural hematoma." It had for many years, according to Caffey, puzzled radiologists. "In not a single case was there a history of injury to which the skeletal lesions could reasonably be attributed, and in no case was there clinical or roentgen evidence of generalized or localized skeletal disease which would predispose to pathological fractures."[17]

Caffey felt that the caretakers of these children either did not recognize severe injury to long bones, or denied the observation of the injury. He further stated that "the motive for denial has not been established."[17]

Of the cases he studied, none showed recurrence of the problem while the child was hospitalized; however, in two cases, unexplained fresh fractures occurred shortly after the child was discharged from the hospital.

These two occurrences, coupled with the fact that the mother of one child admitted to not wanting the child, led Caffey to the suspicion that these injuries had been intentionally inflicted.

In 1953, Doctor Frederic Silverman cited three cases with findings very similar to Caffey's.[18] The history of trauma was either unrecognized or denied by the parents in all three cases. In one case the child was being followed clinically for about two months post-discharge. Shortly thereafter, the child died, supposedly of bronchiopneumonia.

In none of these cases was there history given that would have prompted radiographic study of the child. However, clinical observations of swellings on various portions of the child's body that had gone unrecognized by the parent resulted in the radiographic survey of the child. The results of those films prompted pointed questioning of the parents. Laboratory and clinical studies ruled out systemic or neoplastic causes of the fractures. Silverman goes on to state that the diagnosis of the true cause of the problem carries "severe pragmatic implications and are charged with severe emotional reaction for the patient's family."[18]

Lester Adelson, writing in the New England Journal of Medicine,

describes 46 homicides of children from Cuyahoga County (Cleveland), Ohio, over a period of 17 years. Forty-one perpetrators were responsible for the 46 deaths. Like most homicides, very few of the assailants (eight cases) were unrelated or unknown to the child. Frank psychosis of the perpetrator was the single most common factor in all of the cases. Doctor Adelson summarized his article by stating that it is "advisable to perform complete autopsies on all children who are said to have been found dead without adequate reason or who present bizarre clinical pictures, not completely explained by natural disease syndromes."[19]

The following month, in the Journal of the American Medical Association, the first truly comprehensive article on child abuse appeared. It was authored by Doctor C. Harry Kempe et al.,[20] who had studied the problem at length, and defined the medical condition, "The Battered Child Syndrome" at a meeting of the American Academy of Pediatrics in 1961. He described the syndrome as one where young children have received serious physical abuse. He stated that the "unrecognized trauma" described by Caffey and others, is an important part of the "Battered Child Syndrome."

Seventy-one hospitals and 77 District Attorneys across the United States participated in the study. The hospitals reported 302 cases of abuse, while the district attorneys reported 447 cases. Common features in all the cases included: 1) Marked discrepancy between the history related and the clinical findings; 2) No new

lesions of bone or soft tissue occurred while the child was hospitalized; and 3) Frequent subdural hematoma.

In social terms, Kempe described the typical abusing family as one where there is "alcoholism, sexual promiscuity, and minor criminal activity."[20] Abusive parents were not, however, confined to the lower social classes. Like other authors, Kempe believed that it was possible that abusing parents were abused themselves as children.

Kempe stated strongly that in instances of subdural hematoma, multiple unexplained fractures at different stages of healing, failure to thrive, soft tissue swelling and bruisings or where the clinical picture and history are at odds, a "high suspicion of child abuse should be kept."

From a radiologic standpoint, Kempe mentioned that unless gross fractures or dislocations occur or epiphyseal separations, no signs of bone injury are immediately apparent. Reparative changes will show up 12 to 14 days later. In summary, he stated that "the battered child syndrome is a frequent cause of serious injury and even death."[20]

In 1964, in the New York Journal of Medicine, Vincent J. Fontana, writing on the "Maltreatment of Children Syndrome" repeated earlier theories about the relationship of social factors to child abuse, including the relevance of family discord and financial stress. He also stated that abusing parents will bring their child

to a number of treatment centers in an attempt to conceal the possibility of abuse.[21]

In 1968, Doctors Helfer and Kempe edited a book entitled The Battered Child.[22] It is a comprehensive text giving the background of child abuse, diagnostic tools and responsibilities, pathologic findings, psychiatric observations of abusing parents, and the role of the social worker and law enforcement agencies in dealing with child abuse. It also contains a state by state summary of child abuse legislation.

Helping the Battered Child and His Family is the second book by Helfer and Kempe.[23] The book is broken down into four major areas of study:

> Parents: Their need and desire for help
> The Child: His need for help
> The Setting: Where help can best be given
> The Court and the Law: A positive role

The best place, it is felt by the editors, for the case to be handled is through the "Medical Center Child Abuse Consulting Team," since most reports of child abuse from the medical profession are generated from these comprehensive health care facilities, rather than the private practitioner's office. According to Harriet Delnero, the author of the chapter "The Medical Center Child Abuse Consultation Team" the key person in this team is "the team coordinator" who must "bring into common action and direction those persons who are working on the case so that they work in a smooth concerted manner." The coordinator must maintain communication between the social worker,

pediatrician, hospital administration, welfare agency, and last but not least, the family.[24]

British medical literature is also a source of significant findings in the area of abuse and potential abuse. In a study by Katherina Dalton at University Hospital, London, it was found that nearly 1/2 (49 percent) of 100 children's hospital emergency admissions occurred during the mother's paramenstruum, ie., premenstruum and early menstruation.[25] During this period women are typically affected by premenstrual tension. The child's admission occurred when 28 percent (23) mothers were in their first four days of menstruation and 21 percent (17) mothers were expecting their period within four days. The probability of this occurring was calculated by the author to be less than 1 in 1,000. Of 26 admissions as a result of accident, 62 percent occurred in the paramenstrual period. The menstrual history was elicited as part of an overall health history taken from each mother so that it was felt unlikely that the parent would suspect the true nature of the questioning. It is unfortunate that a further specific breakdown of the type of injuries that were involved with the accidental admissions was not made. Nonetheless, this is a significant study in light of the fact that physiological and psychological tension is known to be a precipitating factor in abuse.

J. Malcolm Cameron, in an article in Nursing Mirror[26] agrees with and quotes Kempe's statement that "every parent is a potential

baby basher!" Doctor Cameron goes on to describe clinical aspects of the syndrome by stating that "Human teeth marks are not infrequent among the bruises. Bruising about the face, especially the cheeks and chin and in particular, laceration of the frenulum (50 percent of abuse cases) should always arouse suspicion." There seem to be five common explanations for the injuries: "1) Bumped head against cot; 2) Bruises easily; 3) Fell downstairs; 4) Fell off of bed; and 5) Swing hit him in tummy."

Surface marks on the child will consist of bruises of varying ages. Cameron believes laceration of the maxillary frenulum, sometimes with tearing of the lip from the alveolar margin of the gum, to be caused by a blow to the mouth in an attempt to silence a screaming child.

Skeletal exam will reveal multiple lesions of varying ages of repair. Traction and torsion forces will cause epiphyseal separation and periosteal shearing, while transverse fractures of long bones are the result of direct trauma, and greenstick and oblique (spiral) fractures are caused by indirect trauma. Visceral injuries are frequently fatal. Rupture of the liver and viscera will occur with tearing of mesentery, but if the abdominal wall was relaxed when struck, no external mark may be left.

From a social standpoint, Cameron feels that "battery can and does occur in well to do families." It is worth noting, however, that the more well to do families have escape valves, vacations in

mid-winter, babysitters, servants, and other surrogates and emotional supports, so that they have a greater opportunity to relieve some of the tension.[27]

In a transcript of the Rigler Memorial Lecture appearing in Radiology, Doctor Frederic Silverman quotes Gil, who found that about 25 percent of the victims of abuse were under two years, and 50 percent under six, with the sexes being affected equally. Deviations from the normal family structure played "an important role." If the family contained four or more children, it had a 2:1 greater chance of abuse, and in addition, unemployment was a "potent factor."[16]

As the recognition of child abuse became more prevalent, more sophisticated articles were written, delineating specific findings and diagnostic criteria. O'Neill et al. reported in the Journal of Trauma on 110 cases of abused children that were seen at Vanderbilt University Medical Center, Nashville, Tennessee. He states that "The victim of child abuse is so frequently injured about the face and head that such injuries constitute a high percentage of the trauma received."[28]

Helfer et al.[29] studied injuries resulting when small children fall out of bed. This was done in an attempt to correlate the frequent history for serious injury that "my child fell out of bed." Of 161 patients five years of age or less surveyed in a private pediatrician's office, 219 incidents of falls were noted. There was no observable injury in 176 of these cases. One hundred sixty-nine of these were from sofas or beds 90 cm. or less in height. Five were

from 120 cm., and 2 were from 150 cm. Thirty-seven other incidents had injuries of a nonserious nature such as bumps, and bruises. Six injuries considered serious did occur, three fractured clavicles, two skull fractures, and one fractured humerus. In none of these cases was the injury of a life-threatening nature! In a further study of 85 in-hospital incidents, 57 cases showed no apparent injury, 17 cases of small cuts, scratches, and bloody noses, 20 cases of bumps or bruises, and 1 skull fracture with no complications. It should be noted that the hospital falls were from a distance of approximately 90 cm., and usually on to a hard terrazzo or tile floor, rather than a floor with some type of covering. It is most significant to note that of 246 cases studied where the child fell off of a sofa or bed, no life-threatening injury occurred.

An important diagnostic tool for the practitioner is the ability to estimate the age of cutaneous lesions. E.F. Wilson[30] writing in Pediatrics summarized five previous articles describing the relationship between color and age of the contusions. In general, the bruise will be reddish blue/black/violet at the outset, changing to bluish brown at one to three days. By the end of the first week it will be greenish, brown to yellow at two weeks, and disappearing at two to four weeks. If photographs are made of the bruise or other injury, it is important to place a standard color separation guide (Eastman Kodak # Q-13 "Nine Color Kodak Color Control Patch") as well as a millimeter scale in the frame of the photograph, so that a true color

and size comparison can be made.

Forty-three burn injuries were reviewed by Lenoski and Hunter[31] in the Journal of Trauma. They proposed four major types of burns: 1) Immersion burns; 2) splash burns; 3) flexion burns, and 4) contact burns. Immersion burns show a clean demarcation line or "high water" mark. The second type, a splash burn will show irregular borders, with multiple sites of burning. At the runoff site, an "arrowhead" will be present indicating the attitude and position of the victim in relation to gravity. Flexion burns will have areas of protected skin due to the flexion of the joints. They are sometimes called "zebra burns." The final type is the contact burn. If it is a forcible burn, it will be uniform in all directions.

Worthy of mention along with physical indicators of abuse are two physical signs that can easily be mistaken for abuse. The first, the "Mongolian Spot" is a birthmark that appears over the lower back, buttocks, trunk or limbs. It is slate grey to blue in color and may have regular or irregular margins. It occurs on about half of all black children, and with decreased frequency on oriental, polynesian and occasionally white children.[32] It will usually resolve itself by the time the child is seven or eight. It is not an inflicted injury.

The second sign is an oriental folkway called Caó Gió (literally, scratch the wind). It was first reported in medical literature as a potential mistaken injury for child abuse by Doctor Nong The Anh.[33] This folk medicine technique involves oiling the back of an adult or

child with a warm balsam, and then using a sharp coin to scribe the person's back along the intercostal spaces and parallel to the spinal column. This creates purpural and petechial lesions, usually bilaterally, of a very striking appearance.

In 1976, Helfer and Kempe edited their third book, Child Abuse and Neglect. The Family and the Community.[34] It is a compendium of recognition and treatment of child abuse from a community standpoint.

The federal government has also published a number of books on the subject of child abuse, including a three volume set entitled Child Abuse and Neglect. Volume I, An Overview of the Problem, Volume II, Roles and Responsibilities of Professionals, and Volume III, Community Team, an Approach to Case Management and Prevention.[35]

The most recent and perhaps exceptionally comprehensive text on child abuse is that edited by Selwyn Smith, M.D., the Psychiatrist-in-Chief at the Royal Ottawa Hospital. It covers diagnosis, radio-ology, pathology, case management and psychological aspects in depth, by an eminently qualified group of contributors, and has a very complete list of references at the end of each chapter.[36]

FORENSIC LITERATURE

Forensic texts and literature have well recognized the Battered Child Syndrome. Fairburn and Hunt in Medicine, Science and the Law report on seven cases of multiple fractures in infants where the cause was determined to be parental violence. They place potentially violent parents into five categories:

1. Adults whose upbringing has resulted in violence being part of their normal behavior;
2. Anxiety-free psychopaths of aggressive of schizoid (cold and unfeeling) types;
3. Irratable, emotionally labile individuals with episodic depressive illness, particularly after childbirth.
4. Large unclassified groups of "problem" families; and
5. Psychotics [37]

In the following issue of the same periodical, Graham Parker describes the problem family more fully, stating that they have "chronic problems of unemployment, inferior housing, food, clothing, mental and physical ill health in both parents and children, marital discord, criminal behavior by the parents, and excessive drinking."[38] He also quotes Merrill as saying that 80 percent of reported cases of abuse and neglect result from complaints by relatives or neighbors. [38]

One of the most comprehensive articles to appear on child abuse appeared in 1966. It was written by Cameron, Johnson and Camps.[2] They conducted a ten year study covering 29 cases of child abuse. Several pertinent observations were discussed in their article.

The average time that elapsed between the time of the injury and the parent bringing the child to a treatment center was 20.3 hours. Males were more frequently abused, and 80 percent of the victims were under two years of age. Cameron goes on to emphasize that a major diagnostic criterion of the syndrome is the marked discrepancy between the clinical findings and the history supplied. The story is often one of a simple fall from the sofa or bed. Studies have shown that serious injuries just don't happen that way.[29] Many times the caretaker will claim not even knowing how the injury occurred, or will fabricate a bizarre tale. In Cameron's study, the pathological findings were as follows: 79 percent scalp injuries, 52 percent injuries to the forehead, and 48 percent, 45 percent, and 48 percent to the cheek, upper lip and lower jaw respectively. Cameron calls these findings "a striking feature of possible significance." He also found that of the 29 cases all but four were the youngest children in the family. Summarizing his article, he mentions three points of diagnosis: 1) Nature of the injury; 2) Time elapsed since the injury occurred and treatment sought; and 3) Recurrence of similar injuries.

In 1969, a study was done by Skinner and Castle, and published in London by the National Society for the Prevention of Cruelty to Children. It was entitled "78 Battered Children, a Retrospective Study."[2] Of the 78 cases reviewed, facial trauma was evident in 43.5 percent of the cases, and consisted of bruises,

lacerations, bites, abrasions, and one fractured mandible. The authors found that only 36 percent of the cases showed trauma to other parts of the body.

Bernard Knight did a series on "Forensic Problems in Practice" in the Practitioner. One section was devoted to infant deaths, and a part of that section was on "Battered Children." He stated that there is a recurrence rate of some 60 percent, with an overall mortality rate of 10 percent. Diagnostic signs include: 1) Repetitive injuries, especially multiple bruises and healing fractures; 2) Inconsistent or vague stories by the parent; 3) Hospital or doctor "shopping"; 4) Nature of the injury, especially skin bruising and fractures; and 5) Bizarre injuries such as cigarette burns, bite marks, needle punctures, and injuries to the lips and mouth, especially a lacerated frenulum.[39]

In the Fall of 1973, Bernard Sims reported on bite marks appearing on three battered children. In two of the cases, it was possible to identify the perpetrator of the abuse through the bite mark.[40] Levine has also reported on a bite mark case where the perpetrator of the fatal incident was identified by his dentition.[41] Bite marks may also be self inflicted by the child in an attempt to stifle his own cries. They are usually found on the forearm.[42] These marks are usually diamond shaped areas of stippled hyperpigmentation with clear centers, or they may have the shape of parentheses.[16] The importance of bite marks in the Battered Child

Syndrome is mentioned by several other authors.[43,44,45,46,47] Gladfelter[43] goes further to say that in a case where the abuse is questionable, and there is a bite mark present, it may be considered presumptive evidence of abuse.

Forensic Medicine, a 1700 page reference work published by W.B. Saunders in 1977 devotes an entire chapter to the subject of "Battered Children." Bernard Knight authored the chapter and he reiterates the significance of bruising around the mouth and lacerations of the inner aspect of the upper lip as diagnostic signals.[47] In the same text, in the chapter on "Forensic Odontology", Woolridge comments on the observation of lip lacerations and discolored teeth as evidence of previous injury as well as the significance of torn labial attachments.[48]

The January 1977 edition of Dental Clinics of North America, was devoted to "Forensic Dentistry." Irvin Sopher wrote a chapter on "The Dentist and the Battered Child Syndrome." He gave a good summary of the orogacial signs of abuse:

> The oral manifestations of the battered or abused child represent an extension of the forces directed at the head and include any traumatic lesion of the dentition, jaw structure, or oral soft tissues. Lip trauma in the form of lacerations or contusions, fractured or avulsed teeth, acute jaw fractures, and tongue injury are common expressions of such violence. The labial frenula may also be lacerated....The presence of discolored, devitalized teeth or radiographic evidence of old jaw fractures may represent past instances of oral trauma as a result of abuse.[49]

DENTAL LITERATURE

In June of 1971, R.J. Tate, reporting the British Journal of Oral Surgery reviewed Cameron's findings[2] and reported on six new cases. He found facial injuries in all of the cases he reviewed. He advocated suspicion when the history offered for the facial injury does not correlate with the clinical findings. He also states that children should be undressed and completely examined when suspicion warrants.[2]

Ten Bensel and King in the Journal of Dentistry for Children present a comprehensive picture of child abuse, its history and identification. They comment on the lack of dental literature on the subject, especially in view of the findings by Cameron[2] and others[39,40,41,42,43,44,45,46,47,48,49] that orofacial lesions are common, and certain types pathogonomonic.[50]

Canadian interest in the subject is reflected in Ontario Dentist where Doctor Hal Kersher relates how children and their parents are interviewed when they come to his office, as well as the dentist's own observations of the parent-child interaction. "Does the child seem frightened of the parent, does his version of the accident differ from what the parent relates? Does the child appear unkept or malnourished?" He states that it is often possible to tactfully question the child as to the cause of the injury with the parent excluded from the operatory.[51]

In September of 1977, Schwartz, Woolridge and Stege's article

in the Journal of the American Dental Association marked the first appearance of the subject in the most widely read journal of dentistry for both clinicians and researchers. They mention "scars to the lips should always alert the dentist to previous episodes of trauma since the lips rarely exhibit scarring." They conclude the article by mentioning the reporting laws in the 50 states.[52]

In an editorial in the Journal of Oral Surgery Laskin succinctly summarizes the recognition of child abuse and cites a number of additional characteristic oral and maxillofacial injuries.

> Abrasions of the corners of the mouth from a gag, facial bruises and septal or auricular hematomas from a slap or blunt trauma.[53]

These findings along with physical and emotional neglect, malnourishment or malnutrition all point the way to a strong suspicion of abuse. Mention is also made by Laskin of a recent decision by the California Supreme Court which ruled that physicians who fail to recognize and report cases of child abuse are guilty of malpractice (Landeros vs. Flood).[54]

The most recent article on the subject is that of Doctor David Becker et al. in the July 1978 Journal of the American Dental Association.[2] They conducted a study at Boston Children's Hospital of 260 documented cases of child abuse over a five year period. They found that facial and intraoral trauma was present in 49 percent of the cases. In an additional 16 percent of the cases there was occurrence of skull fracture, subdural hematoma, contusions and

lacerations of the scalp. In these 260 cases, there were 386 separate injuries. Thirty-three percent were head injuries, 61 percent facial injuries, and 6 percent intraoral injuries. Of the head injuries, 43 percent were fractures, 30 percent subdural hematoma, 8 percent abrasions and lacerations, 18 percent contusions and ecchymosis, and 1 percent miscellaneous. Of the facial injuries, 2 percent were fractures, 28 percent abrasions and lacerations, 66 percent contusions and ecchymosis, 3 percent burns and 1 percent bites. Of the intraoral injuries (14) 28.5 percent were lacerations and abrasions, 43 percent contusions and ecchymosis and 28.5 percent dental trauma. They concluded their findings by stating that they correlated with previous research that had been done.[24] Becker also conducted a survey of practitioners in Massachusetts to determine their sensitivity to the problems of child abuse and their responsibilities for reporting suspected cases. It was determined that oral surgeons and pedodontists are most likely to see cases of child abuse. For the most part, however, dentists were unaware or reluctant to become involved when it came to the detection and reporting of child abuse.

The subject of facial injuries has, as we have seen, been statistically evaluated in four studies of battered children.[2,52] It is the intent of this paper to review the findings of 545 cases of child abuse reported by 14 hospitals in Cook County, Illinois,

in the year 1977. Unlike the four studies mentioned above, which covered a few cases, or were done at a single hospital, this research constitutes a much larger and more comprehensive study. The purpose of this research is to study the distinct types of injuries, especially orofacial injuries found in child abuse cases. This study will delineate the types of injuries and demonstrate correlations between the various child abuse injuries and other medical and socioeconomic phenomena noted in the study. As Doctor Becker mentioned, dentists are unaware of and reluctant to report child abuse if they do suspect it. It is hoped that this study will alleviate some of that fear and reluctance, by showing through the wide scope of this research, that child abuse can happen anywhere. Cook County encompasses not only Chicago, but a wide variety of suburbs. The population studied will be more heterogeneous as well as significantly larger than any previous studies.

CHAPTER III

ANALYSIS OF DATA

METHODS

The fourteen hospitals selected for this study were chosen because they were members of the now defunct Child Advocate Association. These hospitals all demonstrate a commitment to recognize and report child abuse cases through their child advocacy teams. Letters requesting access to case records were sent, and a form was included for institutional approval. (Illustrations 2 and 3).

Cases were included in this study if they had been reported to the Illinois Department of Children and Family Services in the year 1977.

Data collection was accomplished by the research director visiting the hospitals accompanied by a research assistant. Copies of the state reporting form were reviewed (Illustration 4) to obtain an overview of each case. Patient records were then requested from each hospital's medical record department. The history and physical examination portions of the medical records were reviewed to determine the nature of the injuries. It was necessary to return to each hospital several times to complete the review of the cases.

The social history relating to the case was reviewed if it was

recorded in the chart or in the records of the social service department of the hospital. This information was recorded on a data sheet designed by the researcher (Illustration 1). The injuries were then classified according to the World Health Organization's four digit International Classification of Disease Code.

Information recorded for each case includes: 1) A sequential file number (1-545); 2) The hospital number (1-14); 3) A sequence number consisting of the hospital number, the case number within that hospital, and the month, day and year of the victims birth. 4) Hospital patient identification number; 5) Date of the incident; 6) Sex of the victim; 7) Age of the victim in months; 8) Race of the victim; 9) Identification zone of the victim (Standard Metropolitan Statistical Area zones 1-76 for Chicago, and 900 series numbers for the suburbs [researcher's own code]; 10) Suspected Abusers #1, 2 (Father, Mother, Step-father, Step-mother, Boyfriend, Girlfriend, Paternal Grandparent, Maternal Grandparent, Sibling, and other): 11) Age of abuser if known; 12) Race of abuser if known; 13) Contributory medical history (Retarded, Handicapped, or other): 14) Contributory social history; and finally, 15) Description of findings using the International Classification of Disease Code.

ILLUSTRATION 2

THE INCIDENCE AND NATURE
OF
OROFACIAL INJURIES IN CHILD ABUSE CASES
REPORTED BY
SELECTED HOSPITALS IN COOK COUNTY, ILLINOIS

INSTITUTIONAL AUTHORIZATION FOR ACCESS TO SUBJECTS

SUBJECTS: Patients reported to the State of Illinois Department of Children and Family Services under provisions of "The Abused and Neglected Child Reporting Act" in the year 1977.

NUMBER: All Cases Reported in 1977 AGE RANGE: 0-18

NAME OF OFFICIAL (Print)______________________________

TITLE______________________________TELEPHONE____________________

NAME AND ADDRESS OF
COOPERATING INSTITUTION ______________________________

____

____

____

OFFICIAL SIGNATURE ______________________________

HEW 596 Sec. 6.

ILLUSTRATION 3

2160 South First Avenue, Maywood, Illinois 60153 312 531-3000
Chicago College of Dental Surgery

This letter is to formally request access for research purposes to your hospital's records of child abuse cases reported to the State of Illinois Department of Children and Family Services in 1977.

The purpose of this research is to study the distinct types of injuries, especially orofacial injuries, found in child abuse cases in order to demonstrate types of and correlation between the varied child abuse injuries that could be seen by the dentist and dental auxiliary personnel. The dissemination of these findings will help dentists, physicians and other clinicians to more readily recognize the Battered Child Syndrome.

The scope of this project will be cases of child abuse reported to the Department of Children and Family Services in 1977 from selected hospitals in Cook County. The hospitals selected are members of the Child Advocate Association.

The methodology will be to obtain case information from the social service department of your hospital as well as physical examination findings relating to the abuse. These findings will be categorized by type and location of injury. If photographs of x-rays are available, I would like to duplicate them on your premesis with equipment I will provide.

I would anticipate the time spent at your institution to vary from several hours to two days depending on the number of cases your institution reported in 1977.

In regard to the protection of individual rights of privacy and confidentiality, any information or photographs obtained would be used for research, teaching or professional publication. Identifying features will be blocked out to preclude identification of the victim or family. They will be coded to further protect the identity. Statistical information will also be coded and these codes will be kept in a separate secure location as per Loyola research policy.

Application for funding this project has been made to the federal government under the Child Abuse and Neglect Grants Program, however this project will be accomplished with or without funding.

If your decision on this request is affirmative, I would appreciate your completing the enclosed Institutional Authorization form and return it to me. Finally, if you have any questions regarding this request, please call me at Loyola, 531-3467 or at my home, 824-0078.

Sincerely,

John P. Kenney, D.D.S.
Department of Pedodontics

ILLUSTRATION 4

CFS-242-2
0665

HOSPITAL REPORT - SUSPECTED ABUSED CHILD

NOTE: Hospitals are required by the Abused Child Act to report to the Department all suspected cases of child abuse. The act provides that anyone participating in this report "shall be presumed to be acting in good faith and in so doing shall be immune from any liability, civil or criminal, that otherwise might be incurred or imposed."

Child's Name ______________________

Sex ______________ Age ______________

Address ______________________

______________________ County ______________

Parent's/Custodian's Name ______________________

FOR CFS ONLY

Region ______________

Report received:

Oral ______ / ______ / ______ a.m. p.m.

Written ______ / ______ / ______

Family and Child Number

Address ______________________ County ______________

Where first seen ______________________ Date ______________

Brought in by ______________________ Relationship ______________

Nature of child's condition:

Type of abuse suspected:
Beating ______
Fractures ______
Malnutrition ______
Burns ______
Other ______

Evidence of previous suspected abuse(s):

Reporter's immediate plan for child including whereabouts:

Remarks:

Person presumed to have abused child:
Father ______ Mother ______ Stepfather ______ Stepmother ______ Sibling ______ Other ______

______________________ Hospital Administrator

______________________ Attending Physician

______________________ Hospital

______________________ Address

______________________ Date

(Instructions on reverse side)

MAIL ORIGINAL TO: Nearest Office of State of Illinois, DEPARTMENT OF CHILDREN AND FAMILY SERVICES. Retain Duplicate for Hospital Files.

RESULTS AND DISCUSSION

The names of the hospitals surveyed and the number of cases reported by each hospital is presented in Table 1. The number of reported cases ranged from six at Cabrini to 109 at Children's Memorial Hospital. Table 2 classifies the victims by sex. Two hundred ninety-six or 54.3 percent were female, 245 or 45 percent were male, and in 4 cases (0.7%), the sex of the victim was not reported. The racial characteristics of the victims are reported in Table 3. Negro children made up 55 percent of 300 cases, white children comprised 33 percent or 180 cases, and in 65 cases (11.9%), the race of the victim was unknown. The age of the victim in months is found in Table 4. It is grouped in a number of ways to facilitate comparison with other groups studied by age. Three of the previous studies that had classified the victim by age were reported by Kempe,[55] Cameron,[2] and Gil.[56] A comparison of their findings with this research are as follows:

Kempe	Age	This Research
33%	Under 6 months of age	15.6%
33%	6 months to 3 years	38.3%
33%	3 years and older	46.1%
Cameron		**This Research**
80%	Under 2 years of age	44.6%
20%	2 years and older	55.4%

TABLE 1
FREQUENCY OF HOSPITAL REPORTS

HOSPITAL	CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
Rush-Presbyterian St. Lukes	1.	44	8.1
Loyola-Foster G. McGaw	2.	19	3.5
Mercy Hospital & Medical Center	3.	80	14.7
Columbus Hospital	4.	15	2.8
West Suburban	5.	26	4.8
Children's Memorial Hospital	6.	109	20.0
Cabrini Hospital	7.	6	1.1
Mount Sinai	8.	75	13.0
St. Francis (Evanston)	9.	14	2.6
Lutheran General	10.	11	2.0
St. Mary of Nazareth	11.	56	10.3
Holy Cross	12.	14	2.6
Illinois Masonic Medical Center	13.	30	5.5
Cook County Hospital	14.	46	8.4
	TOTAL	545	100.0

TABLE 2
SEX OF ABUSED CHILDREN

	CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
Unknown	0.	4	0.7
Male	1.	245	45.0
Female	2.	296	54.3
	TOTAL	545	100.0

TABLE 3
RACE OF ABUSED CHILDREN

	CODE	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY (PERCENT)
Unknown	0.	65	11.9
White	1.	180	33.0
Negro	2.	300	55.0
	TOTAL	545	100.0

TABLE 4
AGE OF ABUSED CHILDREN

AGE IN MONTHS	ABSOLUTE FREQUENCY	PERCENT OF TOTAL CASES
0 - 6 months	85	15.6 %
0 - 12 months	147	27.0 %
0 - 24 months	243	44.6 %
0 - 36 months	294	53.9 %
0 - 72 months	395	72.5 %
0 - 144 months	497	91.2 %
7 - 36 months	211	38.3 %
13 - 24 months	96	17.6 %
25 - 36 months	51	9.3 %
37 - 48 months	42	7.8 %
49 - 60 months	35	6.4 ¢
61 - 72 months	24	4.4 %
73 - 84 months	21	3.8 %
85 - 96 months	20	3.7 %
97 - 108 months	17	3.1 %
109 - 120 months	18	3.3 %
121 - 132 months	14	2.6 %
133 - 144 months	12	2.2 %
145 - 156 months	9	1.6 %
151 - 168 months	14	2.6 %

TABLE 4 Continued

AGE IN MONTHS	ABSOLUTE FREQUENCY	PERCENT OF TOTAL CASES
169 - 180 months	11	2.0 %
181 - 192 months	6	1.1 %
193 - 204 months	6	1.1 %
205 - 216 months	2	0.4 %

MEAN 53.550

MEDIAN 35.640

MODE 36.000

STANDARD DEVIATION 53.252

TOTAL CASES 545

Outside of Chicago, suburbs were assigned a number the first time a suburb was encountered. These zones are numbered 901-922. Not all 76 Chicago neighborhoods, nor all of the suburbs of Chicago were encountered in the study. This is not to say that there were no cases from these areas, but that none of the cases were brought to one of the surveyed hospitals.

Thirty-nine percent of the total cases, and 52.5 percent of the cases from within the city came from that portion of Chicago known collectively as the "West Side." The approximate boundaries of this area are North Avenue on the north, Sixteenth Street and Twenty-Second Street on the south, the City Limits on the west, and the Chicago River on the east. Zone numbers 23,24,25,26,27,28, and 29 are included in this area. Six of the 14 hospitals accounted for 46 percent of the cases studied. Racially, the seven "West Side" zones reported 75 percent negro, and 7 percent white victims, while the race of 17 percent was not reported. Table 5 presents a breakdown of the 18 city zones and one suburban zone with the greatest number of cases.

The relationship of the suspected abuser to the victim in each case is recorded in Table 6. Natural mothers were most frequently the abusive parent. In nearly 50 percent of the cases, the mother was among those reponsible for the mistreatment of the child.

The age of the suspected abuser ranged from 2 to 63 years, with nearly 60 percent of the abusers being under 21 years of age. The three ages occurring most frequently were:

TABLE 5
DEMOGRAPHIC INFORMATION

ZONE #	ZONE NAME	ABSOLUTE FREQUENCY	RELATIVE FREQUENCY PERCENT	RACIAL PERCENT UNK	W	NONE
29	North Lawndale	52	9.5 %			100
24	West Town	44	8.1 %	70.5	20.5	9.1
3	Uptown	40	7.3 %	2.5	80	17.5
28	Near West Side	35	6.4 %	5.7	0	94.3
25	Austin	29	5.3 %		3.4	96.6
8	Near North Side	26	4.8 %		11.5	88.5
6	Lakeview	21	3.9 %	4.8	85.7	9.5
27	East Garfield Park	21	3.9 %		14.3	85.7
22	Logan Square	18	3.3 %	44.4	55.6	
26	West Garfield Park	18	3.3 %	5.6		94.4
23	Humboldt Park	16	2.9 %	37.5	18.8	43.7
35	Douglas Park	16	2.9 %			100
38	Grand Boulevard	16	2.9 %	6.2		93.8
61	New City	10	1.8 %	10	80	10
33	Near South Side	10	1.8 %	10	10	80
7	Lincoln Park	8	1.5 %	25	75	
60	Bridgeport	8	1.5 %	12.5	62.5	25
68	Englewood	8	1.5 %		25	75
901	Maywood, Illinois	8	1.5 %	12.5	12.5	75

TABLE 6

RELATIONSHIP OF ABUSER TO CHILD

SUSPECTED ABUSER	CODE	COUNT	PERCENT OF RESPONSES	PERCENT OF CASES
Unclassifiable Relative or Unknown	0	132	20.9	24.2
Natural Father	1	116	18.3	21.3
Natural Mother	2	272	43.0	49.9
Stepfather	3	38	6.0	7.0
Stepmother	4	3	0.5	0.6
Boyfriend	5	40	6.3	7.3
Girlfriend	6	2	0.3	0.4
Paternal Grandparent	7	4	0.6	0.7
Maternal Grandparent	8	5	0.8	0.9
Sibling	9	21	3.3	3.9
TOTAL RESPONSES:		633	100.0	116.1

Age	Incidence	Percentage
18	7 cases	7.4%
19	9 cases	9.6%
20	13 cases	13.8%

Contributory medical history of the victim, ie. retarded, handicapped, premature, or other chronic medical problem, was recorded if available. These groups accounted for 17 of 545 cases, or only 3.1 percent of the total. A seperate category was established to record any contributory social history of the family, such as known criminal activity, alcoholism, or unemployment on the part of a parent. Sixty-six instances were recorded (12.1% of the total cases).

It has been mentioned by some authors that males are more frequently abused under one year of age, and that the abuse is equal from 1 to 12 years by sex. Above 12 years of age, female children predominate.[57] In this study, 30 percent of all male subjects were abused under one year of age, and 23 percent of all female subjects. From one year to twelve, 65 percent of all males and 62 percent of all females were targets. Above 12, only 4.4 percent of all males were victims, while 14.5 percent of all females were victimized. This is believed to be due to the sexual abuse of children.

Correlating the age of the child with the month of occurrence for children of that age group, the following incidence was observed:

Gil	Age	This Research
25%	Under 2 years of age	44.6%
50%	Under 6 years of age	72.5%
50%	Above 6 years of age	27.5%

In both Kempe's and Cameron's study, the victims were younger than those surveyed in this research, while Gil's sample was considerably older.

The mean age of child abuse victims reported in this study was 53.55 months. The median age was 36.64 months and the most frequently occurring age of the victim was 36 months. The variation in the mean and the median is due to the wide range of the victim's ages (0-215 months), and the heavily weighted lower end of the scale (72.5% below 72 months of age).

In the State of Illinois, children must have a dental examination prior to entering first grade. Assuming that this would have been accomplished sometime after the fifth birthday, or 60 months of age, at least 35 percent of the children in this study may have been seen at least once by a dentist. If children four years of age are included, the figure is 38.3 percent, and if three year olds are included, 46.1 percent of the patients in this study could have been seen by a dentist.

To provide demographic information on each case, the Standard Metropolitan Statistical Area Zones 1-76 were utilized within the City of Chicago. (Illustration 5). They correspond to the 76 names that are commonly associated with certain neighborhoods in the city.

ILLUSTRATION 5

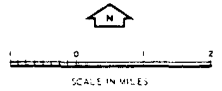
COMMUNITY AREAS

1970

CITY OF CHICAGO

RICHARD J. DALEY
MAYOR

DEPARTMENT OF DEVELOPMENT AND PLANNING
LEWIS W. HILL, COMMISSIONER



JULY, 1973

COMMUNITY AREA NAMES

1 ROGERS PARK
2 WEST RIDGE
3 UPTOWN
4 LINCOLN SQUARE
5 NORTH CENTER
6 LAKE VIEW
7 LINCOLN PARK
8 NEAR NORTH SIDE
9 EDISON PARK
10 NORWOOD PARK
11 JEFFERSON PARK
12 FOREST GLEN
13 NORTH PARK
14 ALBANY PARK
15 PORTAGE PARK
16 IRVING PARK
17 DUNNING
18 MONTCLARE
19 BELMONT CRAGIN
20 HERMOSA
21 AVONDALE
22 LOGAN SQUARE
23 HUMBOLDT PARK
24 WEST TOWN
25 AUSTIN
26 WEST GARFIELD PK
27 EAST GARFIELD PK
28 NEAR WEST SIDE
29 NORTH LAWNDALE
30 SOUTH LAWNDALE
31 LOWER WEST SIDE
32 LOOP
33 NEAR SOUTH SIDE
34 ARMOUR SQUARE
35 DOUGLAS
36 OAKLAND
37 FULLER PARK
38 GRAND BLVD
39 KENWOOD
40 WASHINGTON PK
41 HYDE PARK
42 WOODLAWN
43 SOUTH SHORE
44 CHATHAM
45 AVALON PARK
46 SOUTH CHICAGO
47 BURNSIDE
48 CALUMET HEIGHTS
49 ROSELAND
50 PULLMAN
51 SOUTH DEERING
52 EAST SIDE
53 WEST PULLMAN
54 RIVERDALE
55 HEGEWISCH
56 GARFIELD RIDGE
57 ARCHER HEIGHTS
58 BRIGHTON PARK
59 MCKINLEY PARK
60 BRIDGEPORT
61 NEW CITY
62 WEST ELSDON
63 GAGE PARK
64 CLEARING
65 WEST LAWN
66 CHICAGO LAWN
67 WEST ENGLEWOOD
68 ENGLEWOOD
69 GREATER GRAND CR
70 ASHBURN
71 AUBURN GRESHAM
72 BEVERLY
73 WASHINGTON HGTS
74 MOUNT GREENWOOD
75 MORGAN PARK
76 O'HARE

AGE IN MONTHS	MONTH	(FREQ.)	%	MONTH	(FREQ.)	%	CORRELATION COEFFICIENT
0 - 12	Sept.	(15)	10.2%	Dec.	(15)	10.2%	r = .226
13 - 36	Feb.	(19)	13.6%	June	(19)	13.6%	r = -.546
37 - 72	May	(13)	12.8%	June	(12)	11.9%	r = .070
73 - 144	June	(13)	12.8%	April	(12)	11.9%	r = .070
145 - 215	August	(08)	17%				r = .0217

The greatest number of children being brought to the hospital on any one day was seven. On four consecutive days in April (15th - 18th), 14 children were brought to hospitals, the highest frequency for a four day period. There were four days in 1977 when no children were brought to the hospital, December 24th - 27th. The two months with the greatest overall frequency of incidents were June and August, with 54 reported cases each (9.9%).

Correlating the month of occurrence with the sex and age of the victim indicated that most males were reported in February 28/245 (11.6%). Females were most frequently abused in August 37/296 (12.5%). White children were mistreated most often in November (13.3%) and negro children in April or May (10.7%).

Represented in the 545 cases of reported child abuse or neglect were 322 seperate World Health Organization (WHO) classifications of

physical disease, injury, or cause of injury. There were 1129 seperate physical injuries reported. These injuries are grouped and ranked by frequency in Table 7.

This research has reviewed 545 reported cases of child abuse and neglect. 97 of these cases did not show physical injury, but were "failure to thrive", medical neglect, or precautionary reports. This leaves 448 cases with some type of physical injury. Of these, 211 had injuries to the head, face, or neck. That equals 47 percent of the physical injury cases studied, and is similar to the figures previously cited in this paper that were reported by Cameron, Skinner, and Becker.[2]

Within the 211 cases were 76 different orofacial injuries. Of these 18 (24.9%) were bruises and contusions to the cheek. Bruises and contusions to the lip occurred 13 times (17% of the total). Nasal trauma and epistasix (nosebleed) was present 12 times (15%). Lacerations to the lip or frenulum occurred 11 times (14%). Burns to the mouth were inflicted six times (8%). The 16 remaining injuries, five were chin bruises (7%), three (4%) were bruises of the jaw, there were three (4%) injuries to the teeth, two (3%) condylar fractures, one tongue laceration, one chin laceration and one bite on the forehead (all 1%).

Table 8 compares these figures with those given by Becker.[2] That comparison indicated that in the Boston study, there were fewer burns to the face, but more intraoral trauma than seen in this

TABLE 7

CLASSIFICATION OF INJURIES

DESCRIPTION	WHO CODE	ABSOLUTE FREQUENCY	PERCENTAGE OF TOTAL PHYSICAL INJURIES
Contusion of face, neck or scalp	920.0	139	12.3%
Contusion of trunk	922.0-922.9	111	9.8%
Contusion of lower limb or other unspecified sites	924.0-924.9	85	7.5%
Contusion of upper limb	923.0-923.9	82	7.3%
Other open wound of head	873.0-873.4	50	4.4%
Open wound of chest, back or buttocks	875.0-877.0	46	4.1%
Fracture of vault, base or other skull bones, Fracture of facial bones	800.0-803.0	43	3.8%
Burn of upper limb	943.0-944.0	40	3.5%
Burn of lower limb	945.0	40	3.5%
Open wound of upper limb	880.0-884.2	39	3.5%
Contusion of eye and adnexa	921.0	38	3.4%
Open wound of lower limb	890.0-894.0	33	2.9%
Superficial injury to face, neck or scalp	910.0-910.9	30	2.6%
Burn of face, head or neck	941.0-941.3	29	2.6%
Fracture of long bones of lower extremity	820.0-823.0	23	2.0%
Fracture of long bones of upper extremity	812.0-813.4	18	1.6%

TABLE 8

OROFACIAL INJURIES

FACIAL TRAUMA

BECKER BOSTON CHILDREN'S HOSPITAL 1970-1975		THIS RESEARCH
Fractures	2%	4.5%
Abrasions and Lacerations	28%	27 %
Contusions and Ecchymosis	66%	54 %
Facial Burns	3%	12.5%
Bite Marks	1%	2 %

INTRAORAL TRAUMA

BECKER 14 Injuries		THIS RESEARCH 28 Injuries
Abrasions and Lacerations	28.5%	42.8%
Contusions and Ecchymosis	43.0%	46.4%
Dental Trauma	28.5%	10.7%

study. The balance of the orofacial injuries seen were similar.

As part of this research, the interrelationship of several of the most frequently occurring orofacial injuries were studied. It was done using the four digit World Health Organization International Classification of Diseases Coding, 1975 Revision. One hundred three (23%) of the 448 physical injury cases had "Contusions of the face, neck or scalp" (WHO Code 920.0). The most frequently concurrent injuries were: Contusions of the trunk (922.0-922.9), 57 injuries (55.3% of the cases). There were 39 contusions of the upper limb and 39 contusions of the lower limb (37.8% of the cases). Fractures of bones throughout the body occurred 27 times (26.2% of the cases). Injuries to the eye were present in 24 cases (23.3%). Burns to the various parts of the body were seen the same number of times (24 cases, 23.3%). Finally, superficial injuries to the face occurred 14.5 percent of the time.

Skull fractures (800.0) accounted for 34 (11.8%) cases. Concurrently occurring were eight contusions of the face, neck or scalp (23.5%), and seven subarachnoid, subdural and extradural hemmorhages following injury (20.6%).

The third category studied was "Superficial injuries to the face, neck and scalp" (910.0). It occurred in 23 (5.1%) of the 448 cases. Contusions of the face, neck or scalp were concurrently present most often (16 times, 70%). Superficial injury to the upper limb was present in six instances (26.0%).

The final facial classification compared was "Open wounds of the face" (873.4). It occurred in 22 (4.9%) of the total physical injury cases. Contusions of the face, neck and scalp, and open wounds of the trunk were each present in 50% of the open facial wound cases.

It is important to maintain a mental attitude that child abuse can and does occur at every age, in every socioeconomic educational and racial group. It has been stated and repeated by several authors that "every parent is a potential baby basher."[2]

According to this research, it has been determined that one third of the victims are five years of age and older, and must, by Illinois State Law, have been seen at least once by a dentist for a preschool examination. Some school districts may require more frequent examinations, as often as yearly. Males are more likely to be the victim of abuse under one year of age. Abuse is about equal by sex from one to twelve years of age. Above 12 years, female children are predominantly abused.

There are several characteristics of abused children that should be mentioned. They appear different physically or emotionally from their siblings or other children. They are usually unduly afraid of their parents, and will often exhibit fears of an unrelated person of the same sex as the abuser. The children show signs of overall poor care, and may have been given inappropriate food, drink or medications. They may appear unduly aggressive, withdrawn, or exhibit

sudden behavior changes.

The child may have been unwanted or unexpected. A case recently presented at Foster G. McGaw Hospital where identical twins were brought in to the emergency room. One twin had signs of severe beatings, while the other twin had but a single mark on his body. When questioned, the mother stated that the more injured twin was the second child born, and was unexpected by the parent.

Children may show signs of previous injury. As was mentioned earlier in this paper, Schwartz states that scars to the lips should alert the dentist to previous trauma since the lips rarely exhibit scarring.

Types of abuse encountered in this study were: Physical, 82.2 percent; Sexual, 12.3 percent; Emotional or Medical/Nutritional Neglect, 17.7 percent of the cases. Of the 545 cases, 15 children died shortly after admission, or were dead upon arrival at the hospital.

Physical Abuse

Physical abuse can be divided into seven categories. 1) Orofacial Injuries; such as torn labial frenum, lip scarring, maxillary or mandibular fractures, and fractures or avulsions of teeth. 2) Fractures; such as spiral fractures of long bones, multiple fractures of varying ages, skull fractures and hand or digital fractures. 3) Bruises or Welts; of varying ages, or of repetitive or patterned shapes, ie. linear parallel marks one to three inches apart caused

by a belt, "U" shaped marks from a wire loop, or outlines of a belt buckle. 4) Lacerations of repetitive shapes. 5) Burns; such as hot water which leave a symmetrical "high water" mark with no splash marks, or a patterned burn from a stove grid or other instrument heated and used to brand the child's body, and finally, cigarette burns which appear as multiple erythematous or punched out lesions approximately 1/2 cm. in diameter. 6) Retinal Hemmorhage; which if bilateral is usually caused by violent shaking of the child that ruptures blood vessels of the eye and those surrounding the brain. 7) Subdural Hematoma, from a direct blow to the head, or from violent shaking of the child causing a whiplash of the head.

Sexual Abuse

Sexual abuse can be divided into a number of categories, several of which are legal terms and the definition may vary state to state. They include: Sexual intercourse, aggravated rape, rape, incest, indecent liberties, and sodomy. Several cases were noted in this research of confirmed gonococcal pharyngitis in children. Clinically, this may appear like a posterior pharyngeal infection, with highly inflammed tonsils or with cryptic hypertrophied tonsils.

Emotional and Medical/Nutritional Abuse

Emotional abuse includes abandonment, confining or restraining a child for a long period of time, witholding physical or verbal contact, or verbally berating a child, as well as apathy towards the

child's needs and emotions. Nutritional deficit or neglect includes malnutrition, obvious need of medical or dental attention, and the failure to thrive syndrome, ie. below the third percentile for height and weight. Ninety-seven cases of failure to thrive or medical neglect were reported in this study. In addition, 16 children were abandoned by the parents.

Who are the abusers? Of the cases reported in this research, over 70 percent were blood relatives, ie. father, mother, paternal or maternal grandparents, or siblings. It is usually the primary caretaker of the child who is the abuser. In this research, the mother was named as an abuser in nearly 50 percent of the cases. Siblings will frequently abuse the child that the parents do since this is an "acceptable" behavior.

It is the responsibility of the health professional to report suspected cases of child abuse. In all states, health care professionals are mandated by law to report, as well as other persons acting in good faith. The report should be made to the state or county social service office, bureau of child welfare, department of family services, or youth officer of the local police department. In most states, failure to report suspected abuse is a misdemeanor, however, recent decisions by the California Supreme Court have held practitioners liable for malpractice for failure to report a case (Landeros vs. Flood).[54]

If a child presents to the practitioners office and abuse is

the suspected etiology for the injury, the following steps should be taken: 1) Take as thorough a history as possible, and obtain it from as many different sources if available. 2) Note the size, shape and location of the injuries. 3) Document the injuries by photograph or x-ray. In the State of Illinois, x-rays or photographs may be taken without the consent of the parent or child in cases of suspected abuse, by state law. In most states there is a "hotline" for reporting suspected abuse. An alternative to this is to get the child to a hospital where there is a Child Advocate Team, and allow them to assist you in reporting.

Diagnostic signs of abuse to watch for include: 1) History conflicts with the clinical appearance of the injury; 2) The history is inconsistent, contradictory or vague; 3) A history of repeated "accidents"; 4) Refusing to cooperate with the practitioner; 5) Hospital or doctor "shopping" ie. never going to the same office or hospital twice; 6) Refusing to consent to diagnostic studies such as blood tests or x-rays; 7) The parent or child behaves inappropriately for the situation.

When the child is brought into the hospital or practitioner's office, the parent is reluctant to give information about the child's injuries. They may be overly critical of the child, seldom touch or look at the child, and in general do not behave as a typical parent would under the same circumstances. They will also fail to bring the child back for routine follow-up care.

From a liability standpoint, mandated reporters in most states including Illinois are immune from civil, criminal or other liability arising out of the reporting of suspected abuse in good faith. Approximately 5 percent of all reported cases of abuse end up in court where the individual making the physical assessment of abuse injury will have to testify.

For assistance in reporting, and to help families in abuse situations, major hospitals have set up multidisciplinary teams that handle child abuse cases. They can be contacted through the departments of pediatrics or social service at the hospitals. Members of the team may include pediatricians, social workers, pediatric and emergency room nursing staff, a child psychiatrist, juvenile court lawyer, and a representative from the state or county agency. Other members of the team may include a dental consultant, forensic pathologist, chaplain, and "foster grandparents." The team works to protect the child and also to provide treatment for the parent. The most desirable treatment is one that keeps the family together, and provides assistance to the parent in terms of parenting skills, psychiatric counseling, family therapy, and other aid as necessary.

Child abuse is a medico-social problem. Along with the physical indicators of abuse are many psycho-social problems that predispose a parent to abuse.

Abusive parents tend to be lonely, unhappy or depressed, or are under a great deal of stress. They were often mistreated themselves

as children. Most could be considered "normal", but are just worn out by their small children. Only 10 percent of abusive parents are criminal or psychotic. Dalton's research, cited earlier in this paper indicated that females have a greater tendency to abuse their children during the paramenstruum, and also during pregnancy. In many homes, the family culture is one that advocates harsh discipline and believes in the value of physical punishment.

Abusive parents usually are isolated from family, friends and the outside world. In one study done in Ohio, better than 80 percent of abusing parents had no telephone, or had an unlisted number. The abuser has no one to turn to for advice and support, especially today, when the extended family no longer exists.

Little is known why a particular child is the one singled out to be abused. Current areas of study include the unwanted child, the sex of the child, their behavior and health.[9] The child may also evoke a negative associated response in the parent due to the child's look, birth timing, sibling relationship, multiple birth, adoption, mannerisms in times of crisis, or other subtle factors that can and do lead to violence on the part of the parent.[50]

There is frequently a diagnostic triad - a combination of the right child, the right parent and the right day. The child is one that is predisposed to be abused due to birth position, looks, mannerisms, handicaps or such, as has been mentioned earlier. The parent frequently was abused himself as a child. Finally, there is

usually a crisis, unrelated to the child, that causes the parent to strike out at the child with extreme violence.[14] The key to the problem is to break the chain, and get these parents counseling and assistance so that the legacy will not be perpetuated.

During the data gathering portion of this study, an interesting fact was noted at one suburban hospital. There was a rather unusual frequency of fractured fingers without adequate explanation, as well as long delays (24-48 hours) in bringing the child to the hospital. The same trend was noted in checks made of the emergency room summary sheets for December and July of 1977. There were many seasonally related sports injuries, especially football and baseball, but the possibility that intentionally inflicted trauma to children's fingers as a form of "suburban abuse" did occur.

Once the 1980 Census figures are gathered and published, a detailed socioeconomic analysis of abusing families may be possible.

Finally, there exists the possibility of many cross-correlations of the data collected that were not done for this thesis. The possibilities are numerous and the results could be as significant as anything reported in this paper.

CHAPTER IV

SUMMARY AND CONCLUSIONS

This paper is a review of 545 cases of suspected child abuse and neglect reported by 14 hospitals to the State of Illinois Department of Children and Family Services in the year 1977, and is the largest study of orofacial injuries to date. It has been shown that in 47 percent of physical injury cases some form of injury occurs on the face, head or neck, and therefore is visible to the dentist upon routine examination of the child.

Characteristics of the victim classified according to race, sex, age, place of residence and time of occurrence were presented, as well as several characteristics of the perpetrators. Specific data concerning the incidence and nature of orofacial as well as all other physical injuries has been reported and correlated.

In order to orient the reader to the study of child abuse, historical information has been presented, and pertinent current literature has been reviewed. Diagnostic techniques have been outlined and reporting methods have been suggested.

Since a preschool dental examination is required by law in the State of Illinois, it is most likely that at least 1/3 of the population in this study should have been seen in a dental office. 47 percent of the cases studied showed some orofacial injury which

would have been easily recognizable during a head, neck or oral exam if the dentist were educated to the significance of such injuries.

The central role of the dentist in the detection and reporting of child abuse is therefore easily concluded, and the importance of his education about the significance of orofacial injuries in the recognition and treatment of the Battered Child Syndrome is demonstrated. Health care professionals have a moral and legal obligation to recognize and report suspected cases of child abuse. This paper has presented facts and diagnostic tools to make the fulfillment of that responsibility easier.

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APPENDIX A

THE

ABUSED AND NEGLECTED CHILD

REPORTING ACT

(Effective July 1, 1975)

AN ACT creating the Abused and Neglected Child Reporting Act and repealing and amending other Acts.

Be it enacted by the People of the State of Illinois, represented in the General Assembly:

Section 1. This Act shall be known and may be cited as the Abused and Neglected Child Reporting Act.

Section 2. The Illinois Department of Children and Family Services shall, upon receiving reports made under this Act, protect the best interests of the child, offer protective services in order to prevent any further harm to the child and to other children in the family, stabilize the home environment and preserve family life whenever possible. In performing any of these duties, the Department may utilize such protective services of voluntary agencies as are available.

Section 3. As used in this Act unless the context otherwise requires:

"Child" means any person under the age of 18 years.

"Department" means Department of Children and Family Services.

"Local law enforcement agency" means the police of a city, town, village, or other incorporated area or the sheriff of an unincorporated area.

"Abuse" means any physical injury, sexual abuse or mental injury inflicted on a child other than by accidental means by a person responsible for the child's health or welfare.

"Neglect" means a failure to provide, by those responsible for the care and maintenance of the child, the proper and necessary support, education as required by law, or medical or other remedial care recognized under State law, other care necessary for the child's well-being; or abandonment by his parent, guardian or custodian; or subjecting a child to an environment injurious to the child's welfare.

Section 4. Any physician, hospital, surgeon, dentist, osteopath, chiropractor, podiatrist, Christian Science practitioner, coroner, school teacher, school administrator, truant officer, social worker, social services administrator, registered nurse, licensed practical nurse, director or staff assistant of a nursery school or a child day care center, law enforcement officer, or field personnel of the Illinois Department of Public Aid having reasonable cause to believe any child with whom they have direct contact has been subjected to abuse or neglect shall immediately report or cause a report to be made to the Department. In addition to the above persons required to report

suspected child abuse and neglect, any other person may make a report if such person has reasonable cause to suspect a child has been abused or neglected.

This Section applies to cases of a child whose death occurs from suspected abuse or neglect before being found or brought to a hospital. A child whose parent, guardian or custodian in good faith selects and depends upon spiritual means through prayer alone for the treatment or cure of disease or remedial care may be considered neglected or abused, but not for the sole reason that his parent, guardian or custodian accepts and practices such beliefs.

Section 5. Any physician who has before him a child he reasonably believes may be abused or neglected may take or retain temporary protective custody of the child without the consent of the child's parent or guardian, whether or not additional medical treatment is required, if the circumstances or conditions of the child are such that continuing in his place of residence or in the care and custody of the parent, guardian or custodian or other person responsible for the child's care, presents an imminent danger to that child's life or health. The physician taking or retaining a child in temporary protective custody must immediately notify the parents or guardian of the child and the Department. The Department shall promptly initiate proceedings under the Juvenile Court Act for the continued temporary custody of the child. For the purpose of this Section, temporary protective custody shall mean custody within a hospital or other medical facility.

Section 6. Any person required to investigate cases of suspected child abuse or neglect may take or cause to be taken, at Department expense, color photographs and x-rays of the area of trauma on the child who is the subject of a report.

Section 7. The report required by this Act shall be made immediately by phone or in person to the nearest office of the Department; and shall also be made in writing deposited in the U.S. mail, postage prepaid, within 24 hours after having reasonable cause to believe that the condition of the child resulted from abuse or neglect. Such reports may in addition be made to the local law enforcement agency in the same manner. In the event a report is made to the local law enforcement agency, the reporter shall so inform the Department. The Department shall initiate an investigation of each report of child abuse and neglect under this Act, whether oral or written, within 24 hours after the receipt of such report. The Department may delegage to law enforcement officials, other public agencies or to private social services agencies the performance of the investigation.

Section 8. The report required by this Act shall include the name and address of the child and his parents or other persons having

his custody; the child's age; the nature of the child's condition including any evidence of previous injuries or disabilities; and any other information that the reporter believes might be helpful in establishing the cause of such abuse or neglect and the identity of the person believed to have caused such abuse or neglect.

Section 9. Any person, institution or agency, under this Act, participating in good faith in the making of a report, or in the investigation of such a report or in the taking of photographs and x-rays or in the retaining of a child in temporary protective custody shall have immunity from any liability, civil, criminal or that otherwise might result by reason of such actions. For the purpose of any proceedings, civil or criminal, the good faith of any persons required to report, or permitted to report, cases of suspected child abuse or neglect under this Act, shall be presumed.

Section 10. Any person who makes a report or who investigates a report under this Act shall testify fully in any judicial proceeding resulting from such report, as to any evidence of abuse or neglect, or the cause thereof. No evidence shall be excluded by reason of any common law or statutory privilege relating to communications between the alleged perpetrator of abuse or neglect, or the child subject of the report under this Act and the person making or investigating the report.

Section 11. The Department shall maintain a central registry of child abuse and neglect reports.

All reports contained therein shall be confidential. Any person who permits or encourages the unauthorized dissemination of information contained in the central registry of child abuse and neglect is guilty of a Class A misdemeanor. The Department shall, by regulation, regulate the entry and retention of child abuse and neglect information and access thereto.

Section 12. "An Act for the reporting of certain cases of physical abuse, neglect or injury to children, and to make an appropriation in connection therewith," approved March 31, 1965, as amended is repealed.

APPROVAL SHEET

The thesis submitted by John P. Kenney, D.D.S. has been read and approved by the following committee:

Doctor Eugene R. Grandel, Director
Professor and Chairman, Pedodontics, Loyola

Doctor Gerald R. Guine
Assistant Dean, and Director
Advanced Education, Dental School, Loyola

Doctor Douglas C. Bowman
Associate Professor, Physiology, Loyola

Mrs. Harriet Delnero
Supervisor, Hospital Social Workers
Loyola-Foster G. McGaw Hospital

The final copies have been examined by the director of the thesis committee and the signature which appears below verifies the fact that any necessary changes have been incorporated and that the thesis is now given final approval by the Committee with reference to content and form.

The thesis is therefore accepted in partial fulfillment of the requirements for the degree of Master of Science.

April 23, 1979
Date

Eugene R. Grandel
Director's Signature
Eugene R. Grandel, B.S., D.D.S., M.S.