

Fetal Alcohol Spectrum Disorder:

Our First 30 Years

School Based Studies FASD

Study	Location	Sample/SES	FASD per 1,000	Rate High Est.
Hagberg et al. (1981a,b)	Gothenberg, Sweden	White/Middle	0.45	1/2,222
May et al. (2000)	Western Cape, South Africa	Mixed/Lower Upper	40.1 – 46.4	1/22
Clarren et al. (2001)	Washington State, 2 counties	Mixed Ethnic/Middle	3.1	1/322
Viljoen et al. (2005)	Western Cape, South Africa	Mixed Race/Lower Upper	65.2 – 74.2	1/13
May et al. (2006)	Lazio Region, Italy	Mixed/Middle	15.7 – 31.3	1/32
May et al. (2007)	Western Cape, South Africa	Mixed/Middle Upper	16.8 – 22.0	1/48
Poitra et al. (2003)	Tribal Nation, ND	Native American/ Low Middle	4.3 - 21	1/48
Urban et al. (2008)	Northern Cape, South Africa	Mixed/Low & Middle	7.7 – 13.5	1/74
Petkovic (2010)	Croatia	Mixed/Low to Upper	6.4 – 40.7	1/25

FASD RATES IN NORTH DAKOTA

Location	Population	FASD Rates
North Dakota	Live Births 1980-2003	1.1%
Site 1	Prenatal care Child tracking 1984-1996	1/17 = 6%
Site 2	Kindergarten students 1992-2005	FAS = 1/98 students FASD = 17.6 – 22 per 1,000 children
North Dakota	Statewide EPSDT One year 2001	28/2,809 = 1%

BREEN SCREEN, REVISED (7/1/92)

A PROPOSED FAS SCREEN FOR EARLY ELEMENTARY STUDENTS THAT CAN BE APPLIED BY THE LAY COMMUNITY.

NAME _____ DOB ___/___/___ AGE ___ M F DATE OF EXAM ___/___/___

HEIGHT _____	< 5%	Y ___ N ___	10
WEIGHT _____	< 5%	Y ___ N ___	10
HEAD CIR. _____	< 5%	Y ___ N ___	10
HEENT	PROTRUDING AURICLES (EARS STICK OUT)	Y ___ N ___	4
	EPICANTHAL FOLDS (SKIN FOLDS NEAR INNER EYE)	Y ___ N ___	5
	PTOSIS (DROOPING OF EYELIDS)	Y ___ N ___	4
	STRABISMUS (CROSS-EYED, ONE OR BOTH EYES)	Y ___ N ___	3
	HYPOPLASTIC MAXILLA (FLAT MIDFACE/CHEEKS)	Y ___ N ___	7
	LOW NASAL BRIDGE (FLAT/LOW BETWEEN EYES)	Y ___ N ___	2
	UPTURNED NOSE	Y ___ N ___	5
	FLAT PHILTRUM (UPPER LIP GROOVE IS FLAT OR SHALLOW)	Y ___ N ___	5
	THIN UPPER LIP	Y ___ N ___	4
CLEFT LIP/PALATE (SPLIT, REPAIRED FROM BIRTH DEFECT)	Y ___ N ___	4	
NECK	SHORT, BROAD NECK	Y ___ N ___	4
UPPER LIMB	LIMITED JOINT MOBILITY (FINGERS, ELBOWS)	Y ___ N ___	4
	CLINOMICRODACTYLY (PERMANENTLY CURVED, MIDGET FINGERS, ESPECIALLY PINKIES)	Y ___ N ___	1
	DEEP OR ACCENTUATED PALMAR CREASES	Y ___ N ___	4
	HYPOPLASTIC NAILS (SMALL NAILS/NAIL BEDS)	Y ___ N ___	1

Breen Screen Continued

CHEST	PECTUS EXCAVATUM (FUNNEL CHEST)	Y ___ N ___	3
	PECTUS CARINATUM (PIGEON CHEST)	Y ___ N ___	1
	HISTORY OF HEART MURMUR OR MALFORMATIONS	Y ___ N ___	4
SKIN	CAPILLARY HEMANGIOMAS, MULTIPLE OR RAISED (RAISED RED BIRTHMARKS)	Y ___ N ___	4
	HIRSUTISM (GREATER THAN NORMAL BODY HAIR, HAIR ALSO ON FOREHEAD AND BACK)	Y ___ N ___	1
MS/CNS	SCOLIOSIS (CURVATURE OF THE SPINE)	Y ___ N ___	1
	HISTORY OF NEURAL TUBE DEFECT, MENINGOCELE	Y ___ N ___	4
	MILD TO MODERATE MENTAL RETARDATION (IQ<70)	Y ___ N ___	10
	FINE MOTOR DYSFUNCTION (TREMULOUS, POOR FINGER AGILITY)	Y ___ N ___	1
	HYPERACTIVITY/EXCESSIVE IRRITABILITY / ↓ ATTENTION	Y ___ N ___	7

IF MATERNAL DRINKING HISTORY DURING PREGNANCY KNOWN

Choose one:	DID NOT DRINK DURING PREGNANCY	-5
	QUANTITY UNKNOWN	2
	AT LEAST WEEKLY OR BINGES	3
	DAILY	5

SCORE TOTAL

EVALUATE FURTHER IF TOTAL SCORE ≥ 20

ADDITIONAL QUESTION: PAINT SNIFFING DURING PREGNANCY Y ___ N ___

Larry Baof, Ph.D.
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FAS SCREEN FORM

NAME/ID: _____ DOB: / / AGE: ___ SEX (circle one): F M
 RACE (circle one): Caucasian Native American African American Other DATE OF EXAM: / /

CIRCLE POINTS IF PRESENT:

HEIGHT	Inches	If < 5 th percentile:	10
WEIGHT	Pounds	If < 5 th percentile:	10
HEAD CIRC.	Centimeters	If < 5 th percentile:	10
HEAD AND FACE	EARS STICK OUT (Protruding Auricles)		4
	SKIN FOLDS NEAR INNER EYE (Epicanthic Folds)		5
	DROOPING OF EYELIDS (Ptosis)		4
	CROSS-EYES, ONE OR BOTH EYES (Strabismus)		3
	FLAT MIDFACE/CHEEKS (Hypoplastic Maxilla)		7
	FLATLOW NOSE BETWEEN EYES (Low Nasal Bridge)		2
	UPTURNED NOSE		5
NECK AND BACK	GROOVE BETWEEN LIP & NOSE ABSENT OR SHALLOW (Flat Philtrum)		5
	THIN UPPER LIP		4
	CLEFT LIP OR CLEFT OF ROOF OF MOUTH (Present or Repaired)		4
ARMS AND HANDS	SHORT, BROAD NECK		4
	CURVATURE OF THE SPINE (Scoliosis)		1
	SPINA BIFIDA (History of Neural Tube Defect)		4
CHEST	LIMITED JOINT MOBILITY IN FINGERS & ELBOWS		4
	PERMANENTLY CURVED, SMALL FINGERS, ESPECIALLY FINGERS (Clinodactyly)		1
	DEEP OR ACCENTUATED PALMAR CREASES		4
	SMALL NAIL/NAIL BEDS (Hypoplastic Nails)		1
SKIN	TREMULOUS, POOR FINGER AGILITY (Fine Motor Dysfunction)		1
	SHUNKEN CHEST (Pectus Excavatum)	EXAM OPTIONAL	3
DEVELOP-MENT	CHEST STICKS OUT (Pectus Carinatum)		1
	HISTORY OF HEART MURMUR OR ANY HEART DEFECT		4
COMMENTS:	RAISED RED BIRTHMARKS (Capillary Hemangiomas)		4
	GREATER THAN NORMAL BODY HAIR, HAIR ALSO ON FOREHEAD AND BACK (Hirsutism)		1
	MILD TO MODERATE MENTAL RETARDATION (IQ < 70)		10
	SPEECH AND LANGUAGE DELAYS		2
	HEARING PROBLEMS		1
TOTAL SCORE:	VISION PROBLEMS		1
	ATTENTION/CONCENTRATION PROBLEMS		2
	HYPERACTIVITY		5

COMMENTS: _____ TOTAL SCORE: _____
 (Refer if score is 20 or above)

For additional forms or information on FASD, contact:
 Larry Baof, Ph.D.
 501 N. Columbia Road, Stop 9037
 Grand Forks, ND 58202-9037
 701-777-3683
 www.cfmcc-link.com

Lary, PhD, Ph.D.
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THE ARND BEHAVIORAL CHECKLIST

NAME/ID: _____ DOB: / / AGE: _____ SEX (circle one): F M

RACE (circle one): Caucasian Native American African American Other DATE OF EXAM: / /

In order to complete this checklist:
 1) Behaviors must be impaired for the age of the person being assessed.
 2) Interviewer needs to have known the person being assessed for at least one month.

CHECK ALL THAT APPLY FOR THE APPROPRIATE AGE RANGE:

BEHAVIOR	3-5 yrs.	7 yrs. +
Hyperactive		
Poor attention		
Impulsive		
Disorganized		
Seems unaware of consequences of actions		
No fear		
Would leave with a stranger		
Poor social skills		
Few friends		
Will talk or interact with anyone		
Easily manipulated and set up by others		
Socially inappropriate speech or laughing		
Difficulty staying on topic during conversation		
Always talking		
Catchal speech - little content		
Too loud		
Can't remember from one day to the next		
Below average IQ (<85)		
Poor school performance		
Suspended or expelled from school		
Poor sleeper		
Can't follow routine - needs reminders to get dressed, brush teeth, etc.		
Temper tantrums		
Extreme mood swings		
Requires constant supervision		
Been in trouble with the law		
Inpatient treatment for mental health or substance abuse, or in jail for a crime		
Inappropriate sexual behavior		
Poor motor skills		
Flat or needs glasses		
Had foster care or was adopted		
Medication for behavior - ever		
Mother used alcohol during any pregnancy (OPTIONAL)		
Mother used alcohol in last five months of this pregnancy (OPTIONAL)		
Mother has been in treatment for alcohol use (OPTIONAL)		

For additional forms or information on ARND, contact:
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 301 N. Columbia Road, Stop 9037
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TOTAL CHECKED:
 16 20
 (Confine assessment if score is greater than or equal to above)

FASD Specific Findings

- Cardiac defects > 30 fold
- ADHD > 25 fold
- Foster care placement > 50 fold
- Substance abuse risk > 20 fold
- Mental illness > 15 fold
- Corrections placement > 10 fold

INFORMATION NECESSARY FOR FETAL ALCOHOL SYNDROME EVALUATION

- ★ Documentation of mother's alcohol use during pregnancy. (Specify use: How much? daily, weekly, weekends, or bingeing, and during which months of pregnancy).
- ★ Family History Information (7-page form from our office).
- ★ PICTURES from infancy and childhood, if evaluating an adolescent or adult.
☆☆Ages: 4, 6, 8, 10

MEDICAL RECORDS: Obtain as many as possible for most accurate diagnosis.

- ★ Prenatal Records
- ★ Birth Records
- ★ Records from all medical or health-related Agencies involved in health care since birth.

Information Necessary for Fetal Alcohol Syndrome Evaluation Continued

EDUCATIONAL RECORDS: Include Developmental Evaluation Results

- ★ 0 to 3 years
Infant Development, Early Childhood Tracking, Child Evaluation and Treatment Program, or other developmental programs.
- ★ 3 to 5 years
Head Start, Special Education Classes, Child Evaluation and Treatment Program, etc.
- ★ 5 years and up
School records or any outside evaluations: including developmental evaluation results, IQ testing, report cards, IEP testing, etc.

The Fetal Alcohol Syndrome Diagnostic Profile

By
John T. Martsof, M.D.
And
Larry Burd Ph.D.
From The
North Dakota Fetal Alcohol Syndrome Center

FAS DIAGNOSTIC PROFILE
By Martsof & Burd 1998 Revision

Site Code _____ ID Code _____ Date of Exam ____/____/____

Child Data

Name _____ Date of Birth ____/____/____

Sex _____ Age _____ Grade _____

Race	Child lives with:
White _____	Biological Parents _____
Black _____	Biological Father _____
Indian _____	Biological Mother _____
Hispanic _____	Adoptive Family _____
Asian _____	Foster Care _____
Other _____	Residential Care _____

Pedigree

List each pregnancy and list by name all other conditions present in that person.

O = Female FAS ● ■
□ = Male Dead / /

First Born _____ Last Born _____

Physical Examination		Score	minor criteria
Current Height: _____%	If <5%	=	4
Current Weight: _____%	If <5%	=	6
Current OFC: _____%	If <2%	=	10
Infant Development:			
Birth Wt: _____%	If <10%	=	4
Birth Length: _____%	If <10%	=	6
Birth OFC: _____%	If <10%	=	10
Delayed motor milestones		=	10
Generalized Hirsutism (before 6 months of age)	no _____, If yes _____	=	2
Feeding Problems in Infancy	no _____, If yes _____	=	2

Physical Exam Continued		Score	minor criteria
HEENT:			
OCD: _____%			
ICD: _____%			
PFL: _____%	(OCD-ICD/2) , if small	=	5
Epicanthal Folds	no _____, If yes _____	=	1
Strabismus	no _____, If yes _____	=	2
Ptosis	no _____, If yes _____	=	4
Exotropia	no _____, If yes _____	=	_____
Esotropia	no _____, If yes _____	=	_____
Protruding Helical Root	no _____, If yes _____	=	3
Protruding Auricle	no _____, If yes _____	=	3
Low Nasal Bridge	no _____, If yes _____	=	1
Anteverted Nostrils	no _____, If yes _____	=	2
PHILTRUM LENGTH: _____%			
Long Philtrum	no _____, If yes _____	=	3
Smooth Philtrum	no _____, If yes _____	=	4
Narrow/Smooth Vermilion Border	no _____, If yes _____	=	4
Cleft Lip/Palate	no _____, If yes _____	=	3
Hypoplastic Midface (hypoplastic maxilla)	no _____, If yes _____	=	4
Relative Prognathism (after infancy)	no _____, If yes _____	=	2

Physical Exam Continued

Neck:	
Klippel-Feil Anomaly	no ____, If yes ____ = 3
Chest:	
Upper Airway Obstruction	no ____, If yes ____ = ____
Respiratory Distress Syndrome	no ____, If yes ____ = ____
Pectus Excavatum	no ____, If yes ____ = 2
Pectus Carinatum	no ____, If yes ____ = ____
Heart Murmur	no ____, If yes ____ = 2
Known Cardiac Malformation	no ____, If yes ____ = 4
Abdomen:	
Hernias	no ____, If yes ____ = ____
Genital Urinary System:	
Hypospadias	no ____, If yes ____ = ____
Undescended Testes	no ____, If yes ____ = ____
Painless Hematuria	no ____, If yes ____ = ____
Pyelonephritis	no ____, If yes ____ = ____
Unilateral/Bilateral Renal Hypoplasia	no ____, If yes ____ = ____
Renal Failure	no ____, If yes ____ = ____
Back:	
Meningocele	no ____, If yes ____ = 3
Scoliosis	no ____, If yes ____ = ____
Spinal Stenosis	no ____, If yes ____ = ____

Physical Examination Continued

Upper Limbs:	
Unable to Fully Supinate Forearm	no ____, If yes ____ = 3
Radioulnar Synostosis	no ____, If yes ____ = ____
Short 5th Metacarpel (clinically or by x-ray)	no ____, If yes ____ = 3
Shortened Fingers	no ____, If yes ____ = ____
Clinodactyly of 5th Digits	no ____, If yes ____ = 2
Camptodactyly (Contractures) of the fingers	no ____, If yes ____ = 3
Sharply Angulated Distal Palmar Crease	no ____, If yes ____ = 3
Absences of Interphalangeal Creases	no ____, If yes ____ = ____
Polydactyly	no ____, If yes ____ = ____
Lower Limbs:	
Congenital Dislocation of the Hip	no ____, If yes ____ = ____
Limited Hip Abduction	no ____, If yes ____ = ____
Hypoplastic Toenails	no ____, If yes ____ = ____
Skin:	
Multiple and/or Raised Hemangiomas	no ____, If yes ____ = 3
Musculoskeletal:	
Tremor	no ____, If yes ____ = ____
Hypotonia	no ____, If yes ____ = ____
Flexion Contractures	no ____, If yes ____ = ____
Radiological Findings:	
Hypoplasia of Distal Phalanges	no ____, If yes ____ = 4
Bone Age 1 to 2 S.D. Below Mean	no ____, If yes ____ = 1
Bone Age >2 S.D. Below Mean	no ____, If yes ____ = 3

Physical Examination Continued

	Score	minor criteria
Neuropsychiatric Findings:		
Mental Retardation IQ < 70	no _____, If yes _____ =	10
IQ 70-80	no _____, If yes _____ =	5
AD/HD	no _____, If yes _____ =	6
Seizure Disorder and/or Abnormal EEG	no _____, If yes _____ =	_____
Hydrocephaly	no _____, If yes _____ =	_____
Structural brain anomaly	no _____, If yes _____ =	_____
Cerebral Palsy	no _____, If yes _____ =	_____
Enuresis After Age 7	no _____, If yes _____ =	_____
Encopresis After Age 7	no _____, If yes _____ =	_____
Echolalia	no _____, If yes _____ =	_____
Learning Disability	no _____, If yes _____ =	_____
Speech or Language Disorder	no _____, If yes _____ =	_____
Poor Fine Motor Coordination (Tremor)	no _____, If yes _____ =	_____
Special Education	no _____, If yes _____ =	_____
Institutionalized	no _____, If yes _____ =	_____
	Number of minor criteria	_____
	Exam & History Score	_____

EXPOSURE DATA

Maternal Alcohol Consumption During This Pregnancy:*

Select Category and Frequency of Use (Circle Score)

Daily	Weekly	Binges per Month	Score
-	-	-	None = 0
-	1-2 days per week	and/or 0-2	Mild = 30
-	drinks most weeks	and/or 3 or more	Moderate = 40
+	nearly all weeks	Variable	Heavy = 50

Alcohol and Smoking Exposure Dosage:

		Days Had n Drinks													Days Had n Cigarettes																
		1	2	3	4	7	10	15	25	40	60	80	125	175	225	265	1	2	3	4	7	10	15	25	40	60	80	125	175	225	265
Number of Drinks	1	1	1	1	2	2	3	3	3	3	5	5	6	6	7	8	1	1	1	2	2	3	3	3	3	5	5	6	6	7	8
	2	1	2	2	4	4	5	6	6	7	7	7	7	8	8	9	1	2	2	4	4	5	6	6	7	7	7	7	8	8	9
	3	2	4	4	5	6	6	7	7	8	8	8	9	9	9	10	2	4	4	5	6	6	7	7	8	8	8	9	9	9	10
	4	4	5	5	6	7	7	8	8	9	9	9	10	10	10	4	5	5	6	7	7	8	8	9	9	9	9	10	10		
	5	5	6	6	7	8	8	9	9	9	10	10	10	10	5	6	6	7	8	8	9	9	9	10	10	10	10				
	6	6	6	7	8	9	9	9	10	10	10	10	10	6	6	7	8	9	9	9	10	10	10	10							
	7	7	7	8	9	9	10	10	10	10	7	7	8	9	9	10	10	10													
	8	8	8	9	9	10	10	8	8	9	9	10	10																		
	9	9	9	9	10	10	9	9	9	10	10																				
	10	10	10	10	10	10	10	10	10	10	10	10	10																		

Interpretation

Examination score _____

Maternal alcohol exposure score _____

Minor criteria score _____

TOTAL SCORE _____

Interpretation of score

FAS Unlikely Suspicious Possible Probable FAS
 0-59 60-69 70-85 86-150

Diagnostic Impression and Recommendations.

Circle one	IOM Category	4 Digit Code			
		Circle one in each column,			
		Growth	Face	Brain	Alcohol
1	FAS confirmed maternal alcohol exposure	4	4	4	4
2	FAS without confirmed maternal alcohol	(Significant)	(Severe)	(Definite)	(High Risk)
3	Partial FAS with confirmed	3	3	3	3
		(Moderate)	(Moderate)	(Probable)	(Some Risk)
4	Alcohol related neuro-developmental disorders	2	2	2	2
		(Mild)	(Mild)	(Possible)	(Unknown)
5	Alcohol related birth defects	1	1	1	1
		(None)	(Absent)	(Unlikely)	(No Risk)

Data on Biological Mother			
Age	_____	Current Marital Status	Marital Status during pregnancy for this child
Race:		Married _____	_____
White	_____	Divorced _____	_____
Black	_____	Never Married _____	_____
Indian	_____	Living with Partner _____	_____
Hispanic	_____		
Asian	_____		
Other	_____		
Social-Economic Status		Gravida _____	
Education		Para _____	
High School	_____		
High School Graduate	_____		
College	_____	Number of live births now dead?	
College Graduate	_____	_____	
Graduate Education	_____		
Has this woman been in alcohol or chemical dependency treatment?			
Yes	_____	In treatment in the last 12 months - Yes _____	Total times in treatment in her lifetime _____
No	_____	No _____	

Data on Biological Father			
Age	_____	Current Marital Status	Marital Status during pregnancy for this child
Race:		Married _____	_____
White	_____	Divorced _____	_____
Black	_____	Never Married _____	_____
Indian	_____	Living with Partner _____	_____
Hispanic	_____		
Asian	_____		
Other	_____		
Educational Status:			
High School	_____		
High School Graduate	_____		
College	_____		
College Graduate	_____		
Graduate Education	_____		
Has this man been in alcohol or chemical dependency treatment?			
Yes	_____	In treatment in the last 12 months - Yes _____	Total times in treatment in his lifetime _____
No	_____	No _____	

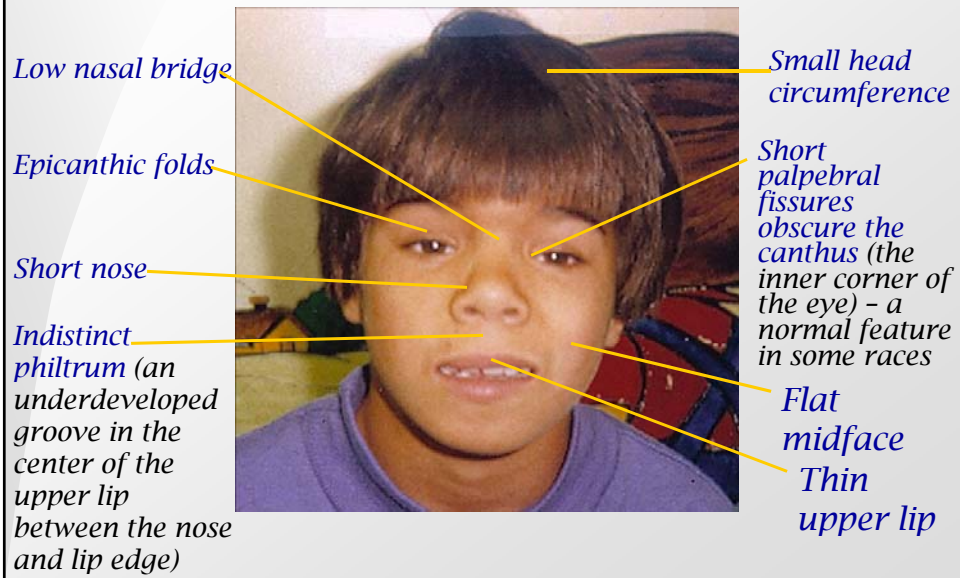
Neuropsychiatric Co-Morbidity

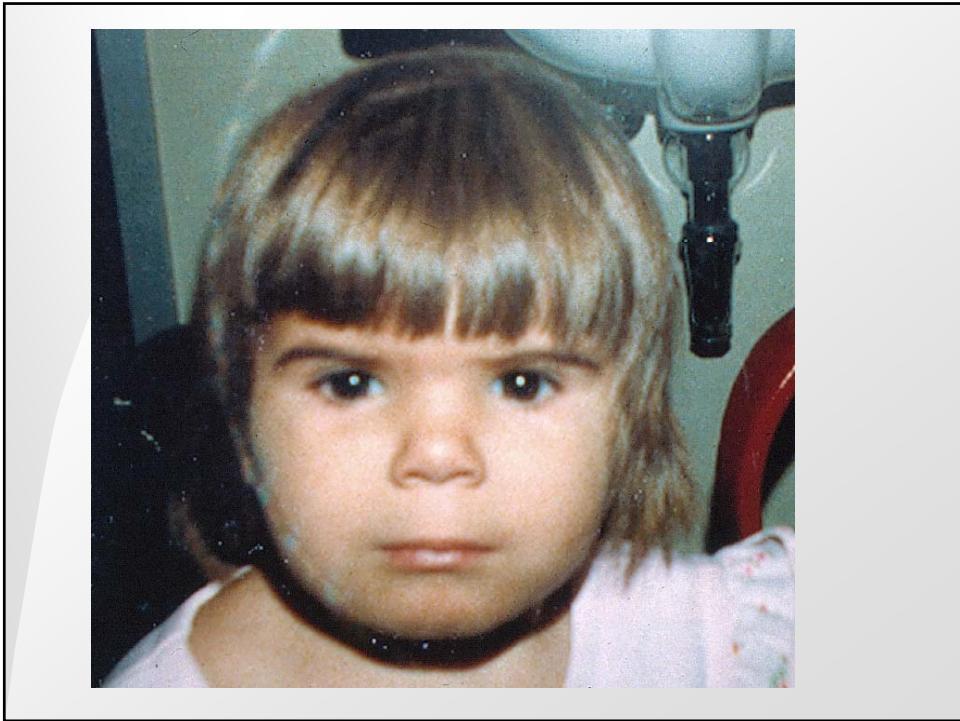
Problem type (ever):	Check if YES	Meds (ever)	Improved Meds	Paternal	Family History Maternal	Sibling
ADHD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Tics	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
O-C Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
O-C Behavior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Mood Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Anxiety Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Conduct Disorder/ODD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Pervasive Developmental Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Developmental Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Neurological Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Other Psychiatric Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Other Medical Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Sleeping problems after age 2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Anger control problems after age 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Stuttering after age 3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Trichotillomania	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Coprolalia/-praxia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Self-injurious behavior	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Significant social skills problems	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Schizophrenia	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Bipolar Disorder	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Alcoholism	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
Drug Dependency	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			



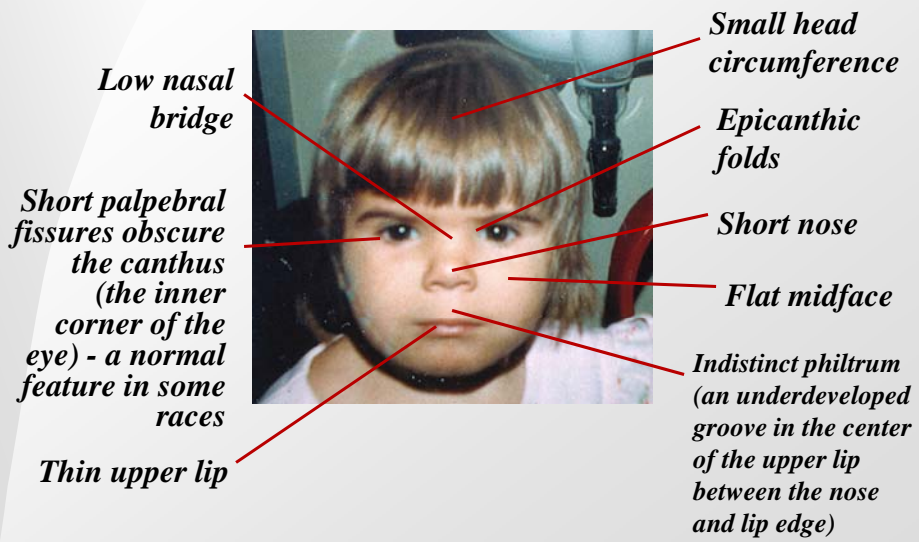


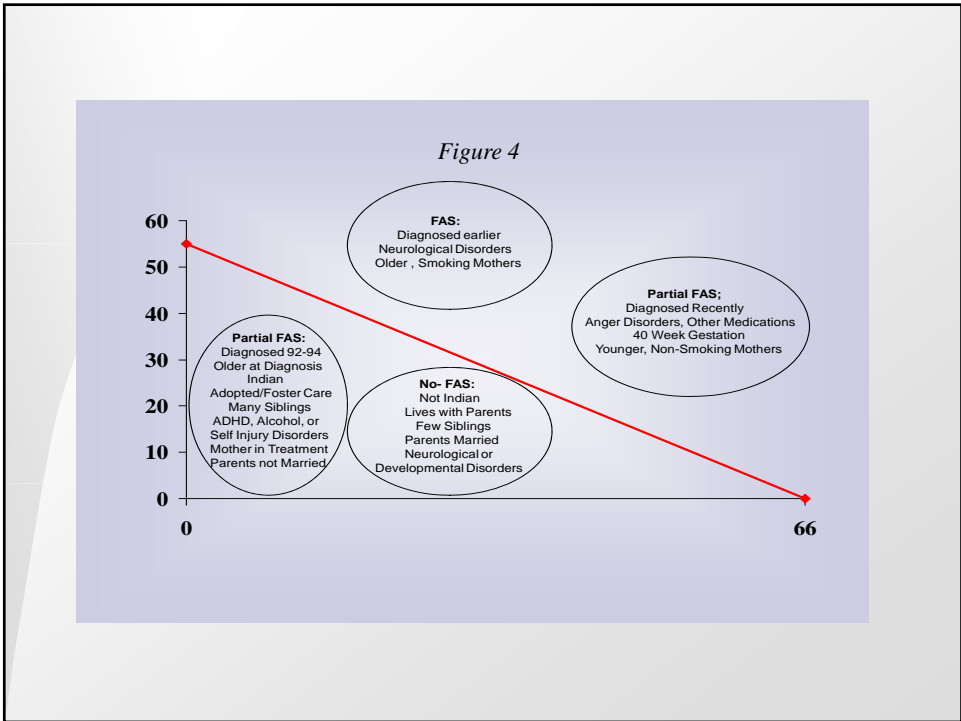
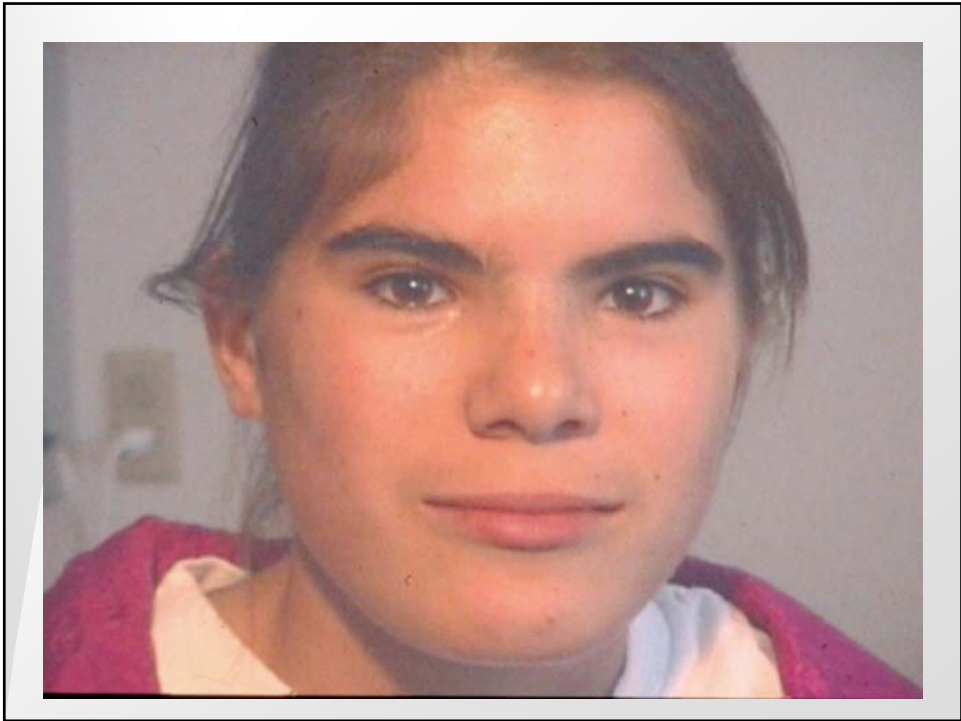
Facial Features of Fetal Alcohol Syndrome





Fetal Alcohol Screening





FASD: Does a diagnosis make a difference?

FASD Mortality Rates in North Dakota

Population	Rate	Surveillance
FAS	5.4%	15 years
Maternal	4.9%	15 years
Sibling	11.4% / 2.0% (530%)	14 years
• Infectious	OR 13.7	
• SIDS	OR 10.2	

Burd et al., 2004

FASD: Diagnosis Specific Management

- Mortality rate increased 3-7 fold
- Substance abuse treatment for mother
- Evaluate all siblings
- Increased risk of substance abuse
- Recurrence rate of 75%
- Long term planning
- Prevention of secondary disabilities

