



# Allergy in Childhood

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COURTESY OF CITIZENS AID SOCIETY

I. ABSTRACTALLERGY IN CHILDHOOD

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Allergy, which means "altered reactivity," is a term introduced by von Pirquet and Schick at the time they were studying serum sickness. Doerr later used the term to apply to all phenomena of hypersusceptibility in animals and in man, and Zinsser also was in favor of using the word, allergy, to designate this interesting field of medicine. Under the general heading, allergy, there is, however, a great deal of confusion when any attempt is made to classify and correlate the various experiments with animals by numerous workers and the clinical observations of many physicians.

The terms, allergy, anaphylaxis and hypersensitiveness, are used interchangeably in the medical literature. An effort has therefore been made at this time after a careful survey of the reports of some of the leading observers in this field to present a classification or outline with the hope that it will be of some value in the diagnosis and possibly in the treatment of allergic conditions. It is, of course, easily subject to change.

Classification of Allergy

- I. Anaphylaxis or anaphylactic hypersensitiveness (artificially produced allergy)
  - A. In animals - experimental
  - B. In man - anaphylactic shock in a previously sensitized individual.
  - C. Drug anaphylaxis in man
- II. Natural or human hypersensitiveness (allergy by natural acquisition)
  - A. Serum allergy or sickness (delayed anaphylactic reaction?)
  - B. Drug allergy or idiosyncrasy.
  - C. Contact dermatitis.
  - D. Contact allergic coryza (vasomotor rhinitis).

E. Atopy or atopic hypersensitiveness (allergy through heredity).

1. Atopic or allergic dermatitis
    - a. Acute eczema (so-called "true eczema" of infancy).
    - b. Chronic eczema (so-called "neuro-dermatitis" of childhood).
  2. Allergic coryza (atopic hyperesthetic or vasomotor rhinitis) due to
    - a. Inhalants
      - (1) Animal emanations
      - (2) Pollens (hay fever or pollinosis)
      - (3) Bacterial products of infection
  3. Bronchial asthma due to
    - a. Inhalants
    - b. Foods and drugs
    - c. Bacterial products of infection (acute bronchitis with asthma in early childhood?)
  4. Other allergic conditions
    - a. Urticaria (and angio-neurotic edema)
    - b. Gastro-intestinal allergy (food allergy)
    - c. Vernal conjunctivitis
    - d. Allergic migraine
    - e. Purpura (Henoch's)
    - f. Some cases of epilepsy
  5. Serum and drug shock in the atopic individual.
- III. Hypersensitiveness in infection (allergy acquired through infection)
    - A. Bacterial allergy or hyperergia
      1. Tuberculosis
      2. Allergy has been considered in

- a. Rheumatic fever
- b. Scarlet fever
- c. Nephritis
- d. Lobar pneumonia

- B. Fungous and parasitic infections may produce allergic reactions.

The relation between anaphylaxis and atopy is highly interesting and has been the field of combat for many a dispute. The name, atopy, which means "a strange disease" was coined by Coca. He included all those clinical forms of hypersensitiveness which occur so far as is known only in human beings and which are subject almost entirely to inheritance.

The most striking resemblance between the two conditions is that they are both a form of allergy or hypersensitiveness. In each instance, the organism gives an altered reactivity to a substance, usually protein in nature. Other chemical substances may produce reactions.

Anaphylaxis and atopy differ in the following ways:

I. Transmission of hypersensitiveness to the offspring.

- A. In anaphylaxis, the animal inherits sensitiveness to a specific substance by direct placental transmission.
- B. In atopy, the individual inherits the tendency to become sensitive.
  - 1. The sensitiveness may be inherited not only from mother but also from father or grandparents.
  - 2. A definite form of allergic disorder or allergen specificity is not inherited.

II. Duration of hypersensitiveness

- A. In anaphylaxis, the sensitivity tends to diminish and may disappear entirely.

- B. In atopy, the sensitive state usually remains through life.

III. Immune bodies of hypersensitiveness

- A. In anaphylaxis or anaphylactic hypersensitiveness, antibodies have been repeatedly demonstrated. The best known of these are the precipitins.
- B. In atopy, no true immune bodies have been found. The serum of atopic individuals can, however, sensitize in a specific way the body cells of a non-allergic individual. This is known as local passive transfer and the substance which is transferred with the serum has been named "allergic reagin" or "atopic reagin."

The Care of the Allergic Child

The care of the allergic child involves the diagnosis and treatment of the various allergic disorders which occur in infancy and childhood. Diagnosis and treatment are very closely related. An attempt should be made to handle the children in a simple but thorough manner. Nothing elaborate should be tried at the onset. The following procedures have given satisfactory results. All should be considered of equal importance.

1. A very complete history

Special emphasis must be placed on the time of onset, the outstanding symptoms, the course of the allergic disease from month to month or year to year, the previous allergic disorders and associated or concomitant allergic disorders.

Recently Rachemann has stated that a careful record should be made of all dates. It is important to account for all the time.

A search should be made for allergic disorders among immediate members of the

family and blood relations. It has been stated that by the tenth year of life allergic symptoms have appeared in 89% of the atopic offsprings under a bilateral hereditary influence, in 35% of those subject to a unilateral influence, and in only 20% of those with a negative family history in immediate members of the family. The greater the heredity the earlier are symptoms manifested and the earlier in life the individual becomes sensitive the greater the tendency to multiple sensitization.

An essential part of the history concerns the environment and particularly the changes in environment and whether or not these changes were accompanied by corresponding changes in symptoms. Rachemann states that the practice of visiting the patient's home is always worth while and often necessary.

With the history, of course, there should be a complete physical examination with special emphasis being placed on a careful observation of the nose and throat. We have been making a note as to whether the tonsils and adenoids have already been removed. A record was also kept of the number of sinus or antrum punctures the patients had received. Roentgenograms of the paranasal sinuses and the lungs were obtained in all cases with allergic disorders of the respiratory tract. Blood studies included repeated eosinophil differential counts.

## 2. Cutaneous tests

Alexander says that there are two points of view concerning skin tests: There are those, mostly allergists, who are enthusiastic about the value of skin testing, and those, the practitioners and specialists in various fields touched by allergy, who find the tests of little use. They have grown unpopular with the latter. This state of affairs is understandable, for the allergists who constantly perform skin tests have developed sufficient experience to make interpretations and have also learned to correlate positive reactions with exposure of the patient to the allergen involved and so observe whether or not symptoms result.

Scratch or pressure-puncture tests are most satisfactory in the infant and young child. The glycerinized fluid extracts of the various atopens or allergens are used in our work. The material is furnished in capillary tubes, there being enough of the fluid extract in each tube for one test. In this way, there is no danger of contamination or spilling which occasionally occurs with the dry extracts.

Often we are asked concerning the method to be followed for infants and children. The skin should be cleansed with alcohol or ether, and after the skin is dry, the extract is expelled from the glass capillary tubes upon the cleansed skin at intervals of about four centimeters. Holding a sterile sewing needle nearly parallel with the skin, four oblique pricks or shallow punctures are made through the epidermis by pressing the point of the needle through each drop of extract. A new needle was used for each test. The punctures were confined to an area not more than three millimeters in diameter.

Sufficient fluid extract to produce a positive reaction in susceptible children is carried into the skin by these multiple punctures and so in a few minutes the excess fluid on the surface of the skin is lightly wiped off. A similar test is carried out with a control glycerine solution and only those reactions in the test sites which are distinctly greater in intensity than that resulting from the control test are considered positive. The positive reactions (urticarial wheal surrounded by a zone of erythema) usually appear in sensitive patients in 20 to 30 minutes.

## University of Minnesota

CUTANEOUS TESTS - ALLERGY CLINIC

Department of Pediatrics

Name of Patient ..... Chart No. ....

Ingestants

1. Beef \_\_\_\_\_
2. Pork \_\_\_\_\_
3. Lamb \_\_\_\_\_
4. Egg \_\_\_\_\_
5. Milk (cow) \_\_\_\_\_
6. Godfish \_\_\_\_\_
7. Salmon \_\_\_\_\_
8. Chicken \_\_\_\_\_
9. Wheat \_\_\_\_\_
10. Oatmeal \_\_\_\_\_
11. Rye \_\_\_\_\_
12. Cornmeal \_\_\_\_\_
13. Sweet Corn \_\_\_\_\_
14. Barley \_\_\_\_\_
15. Rice \_\_\_\_\_
16. Carrot \_\_\_\_\_
17. Celery \_\_\_\_\_
18. Potato (white) \_\_\_\_\_
19. Tomato \_\_\_\_\_
20. Lima Bean \_\_\_\_\_
21. Navy Bean \_\_\_\_\_
22. String Bean \_\_\_\_\_
23. Green Pea \_\_\_\_\_
24. Peanut \_\_\_\_\_
25. Cucumber \_\_\_\_\_
26. Squash \_\_\_\_\_
27. Asparagus \_\_\_\_\_
28. Onion \_\_\_\_\_
29. Cauliflower \_\_\_\_\_
30. Cabbage \_\_\_\_\_
31. Turnip \_\_\_\_\_
32. Mustard \_\_\_\_\_
33. Lettuce \_\_\_\_\_
34. Beet \_\_\_\_\_
35. Spinach \_\_\_\_\_

36. Buckwheat \_\_\_\_\_
37. Rhubarb \_\_\_\_\_
38. Pear \_\_\_\_\_
39. Apple \_\_\_\_\_
40. Apricot \_\_\_\_\_
41. Peach \_\_\_\_\_
42. Prune \_\_\_\_\_
43. Plum \_\_\_\_\_
44. Lemon \_\_\_\_\_
45. Orange \_\_\_\_\_
46. Grapefruit \_\_\_\_\_
47. Grape \_\_\_\_\_
48. Raisin \_\_\_\_\_
49. Pineapple \_\_\_\_\_
50. Banana \_\_\_\_\_
51. Tapioca \_\_\_\_\_
52. Chocolate \_\_\_\_\_
53. Tea \_\_\_\_\_
54. Coffee \_\_\_\_\_

Inhalants, etc.

1. Cat Dander \_\_\_\_\_
2. Cow Dander \_\_\_\_\_
3. Dog Dander \_\_\_\_\_
4. Hog Hair \_\_\_\_\_
5. Horse Dander \_\_\_\_\_
6. Rabbit Hair \_\_\_\_\_
7. Sheep Dand. (Wool) \_\_\_\_\_
8. Goat Dander \_\_\_\_\_
9. Feathers (Mixed) \_\_\_\_\_
10. Orris Root \_\_\_\_\_
11. Cotton \_\_\_\_\_
12. Flax \_\_\_\_\_
13. Kapok \_\_\_\_\_
14. Silk \_\_\_\_\_
15. Pyrethrum \_\_\_\_\_
16. Tobacco \_\_\_\_\_
17. Glue (fish) \_\_\_\_\_
18. House Dust \_\_\_\_\_

Control Test \_\_\_\_\_

REPEAT POSITIVE TESTSPollens

## TREES

1. Birch \_\_\_\_\_
2. Poplar \_\_\_\_\_
3. Cottonwood \_\_\_\_\_
4. Oak \_\_\_\_\_
5. Ash \_\_\_\_\_

## GRASSES

6. Sweet Vernal \_\_\_\_\_
7. Timothy \_\_\_\_\_
8. Redtop \_\_\_\_\_
9. June Grass \_\_\_\_\_
10. Orchard Grass \_\_\_\_\_
11. Perennial Rye \_\_\_\_\_
12. Rye Pollen \_\_\_\_\_
13. Johnson Grass \_\_\_\_\_

## PLANTAIN

14. Common Plantain \_\_\_\_\_

## DOCK OR SORREL

15. Yellow Dock \_\_\_\_\_
16. Sheep Sorrel \_\_\_\_\_

## ALFALFA-CLOVER

17. Alfalfa \_\_\_\_\_

## PIGWEEDES

18. Redroot \_\_\_\_\_
19. Careless Weed \_\_\_\_\_
20. Western Water Hemp \_\_\_\_\_
21. Spiny Amaranth \_\_\_\_\_

## RUSSIAN THISTLES

22. Russian Thistle \_\_\_\_\_
23. Lambs Quarters \_\_\_\_\_
24. Summer Cypress \_\_\_\_\_

## SAGE-WORMWOODS

25. Sage Brush \_\_\_\_\_
26. Pasture Sage \_\_\_\_\_
27. Mugwort \_\_\_\_\_

## RAGWEEDS

28. Combined Ragweed \_\_\_\_\_
29. Western Ragweed \_\_\_\_\_
30. Cocklebur \_\_\_\_\_
31. March Elder \_\_\_\_\_

Tests performed by \_\_\_\_\_ Date \_\_\_\_\_  
 Method used: Pressure-puncture \_\_\_\_\_ Scratch \_\_\_\_\_

In children, the cutaneous tests are of greatest value in hay fever and asthma, and of least value in urticaria and gastro-intestinal allergy. The size of the skin reaction is not always an indication of the importance of the test. A small response (erythema) might indi-

cate sensitivity of clinical value. On the other hand, many so-called positive tests are of little value as is shown in the accompanying table on the distribution of skin sensitiveness to various allergens.

DISTRIBUTION OF SKIN SENSITIVENESS TO THE VARIOUS ALLERGENS

<u>Eczema</u> (25)*	A	B	<u>Hay Fever</u> (15)	A	B	<u>Asthma</u> (40)	A	B				
Egg.....	14	8	Comb. Ragweed.	15	11	Wheat.....	7	4	House Dust....	8	2	
Wheat.....	10	5	Cocklebur....	14	10	Oat.....	5	2	Horse Dander..	7	3	
Milk.....	9	4	Marsh Elder..	11	10	Egg.....	5	1	Feathers.....	6	4	
Oat.....	6	..	West. Ragweed.	10	10	Peanut....	5	..	Sheep Dander..	4	..	
Barley.....	3	..				Cornmeal..	4	2	Cat Dander....	2	1	
Spinach.....	3	..	Pasture Sage.	9	..	Pork.....	4	..	Dog Dander....	2	1	
Rice.....	2	..	Sage Brush...	7	..	Sweet Corn.	3	2	Kapok Seed....	2	..	
Rye.....	2	..	Mugwort.....	6	..	Rice.....	2	1	Silk.....	2	..	
Potato.....	2	..				Barley....	2	..	Cotton Seed... 1	..		
Green Pea...	2	..	Sweet Vernal.	7	4	Milk.....	2	1	Flax Seed..... 1	..		
Tomato.....	2	1	June Grass...	6	4	Chicken...	2	..	Orris Root.... 1	1		
Orange.....	2	2	Orchard Grass	6	4	Beef.....	2	..	Fish Glue..... 1	1		
Chocolate...	2	2	Timothy.....	5	4	String Bean	2	..	Tobacco.....	1	..	
Chicken.....	1	1	Redtop.....	5	4	Potato....	2	1	Comb. Ragweed..	10	6	
Lamb.....	1	..	Johnson Grass	5	4	Cabbage...	2	..	Sage Brush....	6	1	
Pork.....	1	..	Perennial Rye	4	..	Rye.....	1	..	Orchard Grass.	5	4	
Beef.....	1	..	Rye Pollen...	3	..	Buckwheat.	1	..	Redroot.....	5	..	
Cornmeal....	1	..				Codfish...	1	..	Careless Weed.	5	..	
Cheese.....	1	1	Alfalfa.....	2	..	Lamb.....	1	..	Sweet Vernal..	4	4	
Buckwheat...	1	..				Navy Bean.	1	1	Redtop.....	4	4	
Navy Bean...	1	..	Water Hemp...	2	..	Green Pea..	1	1	June Grass....	4	4	
String Bean.	1	..	Spiny Amaranth	2	..	Lettuce...	1	..	Lambs Quarters	4	..	
Apple.....	1	..				Spinach...	1	..	Pasture Sage..	4	1	
Prune.....	1	..	Russian Thistle	2	..	Cauliflower	1	..	Johnson Grass.	3	3	
Peanut.....	1	..	Lambs Quarters	2	..	Asparagus..	1	..	Water Hemp....	3	1	
						Peach.....	1	..	Russian Thistle	3	..	
Silk.....	2	1	Poplar.....	2	..	Pear.....	1	..	Cocklebur.....	3	3	
Flax Seed...	1	..				Pineapple.	1	..	Marsh Elder...	3	3	
Kapok Seed..	1	..				Grape.....	1	1	Timothy.....	2	2	
									Yellow Dock...	2	..	
									West. Ragweed..	2	..	

A--Number of positive cutaneous tests for each allergen.

B--Number of times the positive reaction of definite assistance in treatment.

\*--Number of cases observed.

Current comment in a recent number of the Journal of the American Medical Association makes the statement that with the increasing use of the skin for the detection of various sensitivities it is important to keep in mind that the reactions elicited in the skin give merely a visible record in part at least of the immunologic past history of the patient and per se do not portray a present illness. A correlation between positive

tests and the history and observations in the allergic patient is necessary for an accurate diagnosis.

The question of variations in technique as well as irritability of reagents is a factor of error. The fluctuations in nervous, emotional and physiologic activity, as well as the choice of the skin area tested, greatly affect the reactivity to the tests. The

differences in interpretations frequently leave the management of the patient in a most unsettled state. Whether the skin test is scratch, intracutaneous or patch, the accuracy of the conclusions must rest in the close correlation of symptoms and course with exposure and withdrawal respectively of the substances incriminated by this method of detection.

### 3. Elimination (Trial) Diets

When the results of the cutaneous tests are negative or unsatisfactory, the so-called elimination or trial diets can be tried. In the older infant and in the young child, these diets are often very valuable. There are numerous elimination diets. In our work, it was found that in the majority of the cases one or more of the following foods were responsible for the allergic manifestations: milk, cheese, egg, whole wheat, white potato, chocolate, tomato and orange. If the removal of these foods does not give satisfactory results, then diets eliminating beef, chicken, oatmeal, rye, peas, beans, spinach, apple or grape may be tried.

Experience shows that success in connection with the trial diets depends in many instances upon the thoroughness with which they are carried out by the parents. A great deal of time must therefore be taken in explaining each diet in detail, emphasizing especially all possible sources of error. The general health of the children on elimination diets should be closely watched. Be sure the infant or child receives the proper number of calories, a sufficient amount of the minerals such as calcium and phosphorus, and an adequate supply of vitamins. In some instances, milk can gradually be returned to the diet in the form of evaporated milk or a powdered milk. The so-called non-allergic milks are poorly taken by children.

The diagnostic procedures mentioned above were applied to the majority of the children with suspected allergic disorders attending the Pediatric Out-Patient Department of the University of Minnesota Hospitals. About 300 cases were examined during the period from

1932 to 1935 inclusive and 242 were considered to be definitely allergic. For economy of space and for the sake of clearness, the latest data obtained from all the histories, physical examinations, cutaneous tests and elimination diets together with the treatment which was instituted has been condensed into seven tables which are practically self-explanatory.



I. ECZEMA - 67 Cases (28 per cent)

1. Sex: Male	37	9. Cutaneous tests	
Female	30	Positive	39
		Negative or refused	28
2. Age at first visit:		10. Treatment (most important factors)	
Below 1 year	26	(1) Positive skin tests	
1 to 5 years, incl.	23	Removal from diet of	
6 to 10 years, incl.	9	Egg	6
11 to 15 years, incl.	9	Egg and whole wheat	4
		Egg, wheat and chocolate	1
3. Age at onset:		Egg and milk	2
Below 1 year	55	Wheat	2
1 to 5 years, incl.	8	Wheat and oatmeal	1
6 to 10 years, incl.	2	Milk	4
11 to 15 years, incl.	2	Tomato and orange	1
4. Previous Allergic Disorders	0	Orange and chocolate	1
		Chicken and cheese	1
5. Associated Allergic Disorders:		Removal of silk	1
Bronchial asthma	4	Referred into hospital	10
Hay fever	1	Treatment unsuccessful	5
		(2) Negative or no skin tests	
6. Family History:		Elimination diets used	
Positive	27	Egg	3
Negative or unknown	40	Egg and wheat	4
		Egg, wheat and milk	1
7. Physical Examination:		Egg and potato	1
Overweight (10%)	4	Wheat	1
Upper resp. inf.-otitis media	7	Milk	1
		Milk and potato	1
8. Eosinophile Differential Count:		Tar alone very effective	6
Below 5%	42	Referred into hospital	4
5 to 10%	14	Treatment unsuccessful	6
Over 10%	6		
No count			

Note: In this table and the succeeding ones, the numerals in each column indicate the number of cases.

II. ALLERGIC CORYZA - 25 Cases (10 per cent)

1. Sex: Male	19	9. Maxillary Sinus Roentgenograms	
Female	6	Positive	14
		Negative	11
2. Age at First Visit		10. Eosinophile Differential Count	
Below 1 year	0	Below 5%	15
1 to 5 years, incl.	6	5 to 10%	5
6 to 10 years, incl.	10	Over 10%	3
11 to 15 years, incl.	9	No count	2
3. Age at Onset		11. Cutaneous Tests	
Below 1 year	0	Positive	7
1 to 5 years, incl.	17	Negative	18
6 to 10 years, incl.	8		
4. Previous Allergic Disorders		12. Treatment	
Infantile eczema	6	(1) Skin tests of value	
5. Associated Allergic Disorders		Symptom free after removal of	
Bronchial asthma	3	Egg and feathers	1
Chronic eczema	2	Feathers	1
Urticaria	1	Cat dander	1
6. Family history		(2) Skin tests of no value	
Positive	20	and elimination diets used:	
Negative or unknown	5	Improvement followed after	
7. Physical examination		removal from diet of:	
Large tonsils	6	Egg	4
Ear infection	1	Egg and wheat	3
Adolescent goiter	1	Egg, wheat and milk	1
8. Tonsils (at first visit)		Wheat	2
Present	9	Wheat and potato	1
Removed	15	(sinus drainage)	
		Milk	1
		Tomato and apple	1
		Removal of tonsils and	
		adenoids	3
		No improvement	6

III. HAY FEVER OR POLLINOSIS - 35 Cases (14 per cent)

1. Sex: Male	32	8. Tonsils (at first visit)	
Female	3	Present	20
		Removed	15
2. Age at First Visit		9. Maxillary Sinus Roentgenograms	
Below 1 year	0	Positive	19
1 to 5 years, incl.	3	Negative	12
6 to 10 years, incl.	17	No record	3
11 to 15 years, incl.	15		
3. Age at Onset		10. Eosinophile Differential Count	
Below 1 year	1	Below 5%	16
1 to 5 years, incl.	18	5 to 10%	13
6 to 10 years, incl.	13	Over 10%	3
11 to 15 years, incl.	3	No count	3
4. Previous Allergic Disorders		11. Cutaneous Tests	
Infantile eczema	5	Positive	28
Bronchial asthma	5	Refused	2
Urticaria	2	Negative	2
5. Associated Allergic Disorders		12. Treatment	
Bronchial asthma	10	Hyposensitization-good results	
Gastro-intestinal	2	Grasses	1
Urticaria	1	Russian Thistle group	1
		Sage-wormwood group	14
6. Family History		Ragweed group	4
Positive	27	Grasses and ragweed	4
Negative or unknown	8	Hyposensitization in	
		progress the first time	2
7. Physical Examination		Moved from Minnesota	2
Large tonsils	5	Hyposensitization refused	7
Ichthyosis	1	No treatment	3

IV. ACUTE BRONCHITIS WITH ASTHMA - 6 Cases (3 per cent)

1. Sex: Male	4	9. Maxillary Sinus Roentgenograms	
Female	2	Positive	2
		Negative	4
2. Age at First Visit		10. Eosinophile Differential Count	
Below 1 year	0	Below 5%	3
1 to 5 years, incl.	5	5 to 10%	3
6 to 10 years, incl.	0		
11 to 15 years, incl.	1	11. Cutaneous Tests	
3. Age at Onset		Positive (eczema case)	1
Below 1 year	1	Negative	5
1 to 5 years, incl.	4	12. Treatment	
6 to 10 years, incl.	1	Skin tests of no value and follow-	
4. Previous Allergic Disorders	0	ing symptomatic treatment for	
		acute bronchitis carried out	4
5. Associated Allergic Disorders		Rest	
Eczema	1	High vitamin diet	
6. Family History		Ephedrine inhalant	
Positive (eczema case)	1	(dil. to 0.2-0.4%)	
Negative	5	Steam inhalations	
7. Physical examination		Cough sedatives (codein)	
Upper respiratory infection		Belladonna	
with acute bronchitis	4	Expectorants such as ipecac	
Upper respiratory infection		and potassium iodide	
with repeated otitis media	1	Tonsils and adenoids removed	2
Acute tonsillitis	1	Gradually with each attack of	
8. Tonsils (at first visit)		bronchitis the asthma became	
Present	6	less and less severe.	
Removed	0		

V. BRONCHIAL ASTHMA - 81 Cases (38 per cent)

1. Sex: Male	66	11. Cutaneous Tests	
Female	25	Positive	65
		Negative or refused	26
2. Age at First Visit		12. Treatment	
Below 1 year	1	(1) Positive tests of value:	
1 to 5 years, incl.	19	Removal of foods:	
6 to 10 years, incl.	44	Egg	1
11 to 15 years, incl.	27	Egg and wheat	1
		Wheat	2
3. Age at Onset		Milk	2
Below 1 year	17	Rye	1
1 to 5 years, incl.	50	Grape	1
6 to 10 years, incl.	20	Removal of inhalants:	
11 to 15 years, incl.	4	Horse dander	9
4. Previous Allergic Disorders		Horse and cow dander	1
Infantile eczema	35	House dust	5
Hay fever	6	Cat dander	2
Urticaria	4	Feathers	4
5. Associated Allergic Disorders		Feathers and dog	2
Hay fever	10	Orris root	1
Eczema	9	Fish glue	1
Urticaria	8	Removal of foods and	
6. Family History		inhalants:	
Positive	66	Egg and feathers	2
Negative or unknown	25	Wheat, oatmeal, peas	
7. Physical Examination		and feathers	1
Large tonsils	20	Hyposensitization:	
Barrel chest	10	Grass groups	2
Malnutrition	7	Ragweed group	6
Nasal polyps	1	Grass and ragweed	5
Adolescent goiter	1	Removal of foods and	
8. Tonsils (at first visit)		hyposensitization	4
Present	57	(2) Positive tests of no value:	
Removed	34	Potassium iodide and bella-	
9. Maxillary Sinus Roentgenograms		donna gave the most	
Positive	55	relief	6
Negative	36	Removal of tonsils and	
10. Eosinophile Differential Count		adenoids with sinus	
Below 5%	36	drainage	2
5 to 10%	37	Moved from Minnesota	1
Over 10%	18	Treatment unsuccessful	3
		(3) Tests negative or refused:	
		Removal of:	
		Egg	1
		Egg, wheat, wool and	
		feathers	1
		Wheat and feathers	1
		House dust	2
		Removal of tonsils and	
		adenoids	2
		Treatment unsuccessful	19

VI. URTICARIA - 15 Cases (6 per cent)

1. Sex: Male	6	9. Maxillary Sinus Roentgenograms	
Female	9	Positive	0
		Negative	15
2. Age at First Visit		10. Eosinophile Diff. Count	
Below 1 year	2	Below 5%	13
1 to 5 years, incl.	5	5 to 10%	2
6 to 10 years, incl.	3		
11 to 15 years, incl.	5	11. Cutaneous Tests	
3. Age at Onset		Positive	3
Below 1 year	4	Negative	8
1 to 5 years, incl.	6	Unsatisfactory	4
6 to 10 years, incl.	3		
11 to 15 years, incl.	2	12. Treatment	
4. Previous Allergic Disorders		Skin tests of value	
Infantile Eczema	1	Symptom free after the	
		removal of tomato, carrot,	
5. Associated Allergic Disorders		orange, apple, chocolate	1
Gastro-intestinal	3	Skin tests of no value, negative	
		or unsatisfactory	
6. Family History		Elimination diets used	
Positive	5	with relief after removal of	
Negative	10	Egg and wheat	1
7. Physical Examination		Egg, wheat, potato,	
Large tonsils	1	tomato, orange and	
Many dental caries	1	chocolate	2
		Egg, milk and spinach	1
8. Tonsils (at first visit)		Milk	1
Present	13	Tomato	2
Removed	2	Tomato and orange	1
		Removal of wool	1
		Avoidance of heat (hot baths)	2
		Alkaline ash diet & alkali	1
		Treatment unsuccessful	2

VII. GASTRO-INTESTINAL ALLERGY - 3 Cases (1 per cent)

1. Sex: Male	0	9. Maxillary Sinus Roentgenograms	
Female	3	Positive	0
		Negative	3
2. Age at First Visit		10. Eosinophile Diff. Count	
Below 1 year	0	Below 5%	2
1 to 5 years, incl.	1	5 to 10%	1
6 to 10 years, incl.	0		
11 to 15 years, incl.	2		
3. Age at Onset		11. Cutaneous Tests	
Below 1 year	0	Positive	1
1 to 5 years, incl.	1	Negative	2
6 to 10 years, incl.	2		
4. Previous Allergic Disorders	0	12. Treatment	
5. Associated Allergic Disorders	0	Skin tests of value	
6. Family History		Symptom free after the	
Positive	1	removal of Cheese	1
Negative	2	Skin tests of no value and	
7. Physical Examination		elimination diets used	
Large tonsils	1	Improvement followed after	
8. Tonsils (at first visit)		the removal from diet of	
Present	3	Milk and wheat	1
Removed	0	Wheat and chocolate	1
		Before treatment the subjects	
		had vomiting and abdominal pain	
		or colic. One case complained	
		of headaches.	

An analysis of the data presented together with the experiences which have been encountered in the care of the allergic child since the new program has been instituted leads up to the following conclusions at this time.

Eczema

1. There is more or less an equal distribution as to sex.

2. The onset of this allergic condition is very early in life so that it is not preceded by any other allergic disease.

3. Very few cases have associated allergic disorders. With the onset of another allergic condition, the eczema may suddenly disappear.

4. Food atopens play an important part as causative agents in atopic or allergic eczema of infancy and childhood. Cutaneous tests, however, do not assist in some cases in determining this food allergy. Elimination or trial diets must be used.

5. The eczematous infants on artificial feeding and with only marked egg white sensitivity by cutaneous testing constitute the most difficult group to treat.

6. The external application of tar still remains a fairly good form of treatment.

7. The single use of the elimination diet, of tar, or of any other treatment does not always give entirely satisfac-

tory results. Various combinations of therapy are now considered to be most effective.

8. Some infants have skin disorders which resemble very closely atopic eczema but which are probably not due to an allergic disturbance. Many of these cases have a negative family history for allergic disorders.

### Allergic Coryza

1. Allergic manifestations of the respiratory tract, such as allergic coryza, hay fever and bronchial asthma are more common in the male.

2. Many cases of allergic coryza have their onset during the preschool period of childhood. These children are often referred to as having "one cold after another."

3. The highest incidence of nose and throat surgery prior to admission occurs in this group. The results are usually reported as unsatisfactory.

4. The scratch or pressure-puncture cutaneous tests are not very helpful. Intradermal testing is strongly indicated in this disorder.

5. In the absence of positive cutaneous tests, the response to trial or elimination diets is not encouraging.

6. Of all the allergic diseases, allergic coryza requires the most thorough elimination of offending foods from the diet, or irritating inhalants from the environment in order to obtain improvement.

7. Food sensitivity producing allergic coryza may be replaced by inhalant sensitivity. Then asthma can appear as an associated allergic disorder.

### Hay Fever

1. This allergic disorder appears earlier in life than the lower age limit set by many physicians. The onset in many of the cases was in the preschool period.

2. Bronchial asthma becomes an important associated allergic disorder.

3. Cutaneous testing is very satisfactory.

4. Hyposensitization gives encouraging results.

### Asthma

1. Hereditary tendency very strong in asthma. Here is an allergic disease in which there is a high incidence of bilateral hereditary influence with a corresponding early onset of symptoms in the off-springs.

2. One-fifth of the cases start in infancy and two-thirds have their origin in the preschool period of childhood.

3. Eczema is a common forerunner of asthma. It may produce "false-positive skin tests" for the food allergens.

4. The earlier the asthma manifests itself the more likely the child is to develop complicating allergic conditions. Individuals from allergic families are somewhat more prone to the development of complicating allergic conditions.

5. In infancy and early childhood, the food allergens are very important, and in the latter part of the preschool period the foods and inhalants (animal emanations) are of equal importance. There is then an increasing sensitivity to the inhalants during the school years. The pollens become very important at puberty.

6. Food sensitivity in early life is often followed in the same individual by sensitivity to inhalants which may prolong the asthma over a long period of time.

7. House dust is becoming more and more important as an allergen. Recent studies by Cohen of Cleveland tend to show that the potent substance in house dust is produced in the process of the aging of cotton.

8. Secondary causes such as street



dust, smoke, cold air play an important part in asthma of long duration.

9. Iodides are effective in treatment although the so-called rhinitis occasionally found in association with asthma may be a reaction to the iodides if this form of treatment is being used. Calcium therapy has been very discouraging.

10. Although quite a number of the children had large tonsils, only a small number were permitted to have them removed. In some instances, the asthma improved; in other cases, it became worse. Hensel says that the removal of tonsils and adenoids in allergic children should never be performed until the allergic investigations have been thoroughly carried out and the allergic symptoms well under control. If there is no urgent reason for the removal of the tonsils and adenoids, and they do not appear to be definitely infected, the operative procedure should be postponed pending the results of allergic treatment, for it may be finally decided that removal of the tonsils and adenoids is not necessary.

#### Urticaria and Gastro-Intestinal Allergy

1. These allergic conditions are most common in the female.

2. Family histories are more often negative than positive.

3. Cutaneous tests indicate specific sensitivity in only a small number of patients. The intradermal tests may be tried.

4. Trial or elimination diets are of some help. The results are not consistent.

5. Acute infections are often the precipitating cause although food sensitivity appears to be the most common underlying cause.

#### Bibliography

##### History Taking

1. Rowe, A. H.  
Food allergy  
Lea & Febiger, 1931.
2. Vaughan, W. T.  
Allergy and applied immunology  
C. V. Mosby Co., 1931.
3. Feinberg, S. M.  
Allergy in general practice  
Lea & Febiger, 1934.
4. Rachemann, F. M.  
J.A.M.A., Mar. 21, 1936.

#### Cutaneous Tests

5. Coca, A. F., Walzer, M., and Thommen, A. A.  
Asthma and hay fever in theory and practice.  
Chas. C. Thomas Co., 1931.
6. Alexander, H. L.  
Ann. Int. Med., 5: 52, 1931.  
The J. Lancet, 56: 131, (March) 1936.
7. Stewart, Z. W.  
J. Allergy, 5: 601, 1934.
8. Carey, T. N. and Jay, L. N.  
J. Allergy, 5: 488, 1934.
9. Rachemann, F. M. and Simon, F. H.  
J. Allergy, 6: 184, (Jan.) 1935.
10. Grow, M. H. and Herman, N. B.  
J. Allergy, 7: 108, (Jan.) 1936.
11. Hensel, F. K.  
Allergy of the nose and paranasal sinuses.  
C. V. Mosby Co., 1936.
12. Current Comment  
J.A.M.A. 106: 1,202, (Apr. 4), 1936.

#### Elimination Diets

13. Rowe, A. H.  
J.A.M.A., 91: 1,623, (Nov. 24.) 1928.
14. Hopkins, J. G., Waters, Irene and Kesten, Beatrice.  
J. Allergy, 2: 239, (May) 1931.

15. Waters, Irene  
J. Allergy, 2: 225, (May) 1931.
16. Balyeat, R. M.  
Wheat, egg or milk-free diets.  
J. B. Lippincott Co., 1933.
17. Cobb, Clement B. P.  
Am. J. Dis. Child, 50: 187, (July)  
1935.
18. Alvarez, W. C.  
J.A.M.A. 104: 2053, (June 8) 1935.

Deafness Prevention and Amelioration.  
Objectives and activities of the Com-  
mittee illustrated by posters, charts  
and means of measuring hearing loss  
by modern methods. Reduction of  
the noise level to insure accuracy in  
making hearing tests. The use of the  
audiometer in prescribing and select-  
ing a hearing aid. Schools and  
organizations in Minnesota for the  
Hard of Hearing.

Committee on Deafness Prevention  
and Amelioration.

Horace Newhart.

## II. PROGRAMS

### 1. MINNESOTA STATE MEDICAL ASSOCIATION

Rochester, Minnesota  
May 3, 4, 5, and 6, 1936

Hay Fever Symposium on the Causes,  
Diagnosis and Treatment.

C. O. Rosendahl, Ph.D.  
R. V. Ellis  
H. B. Sweetser, Jr.

A Few Axioms in Dermatological Diagnosis.  
H. E. Michelson

"Bumper" Fractures of the Tibia.  
O. J. Campbell

Diagnostic Problems in Heart Disease in  
Children and Young Adults.  
M. J. Shapiro

X-Ray Diagnosis of Carcinoma of the Lungs.  
L. G. Rigler

Upper Abdominal Pain -- Its Occurrence  
in Acute Gonorrhoeal Pelvic Inflammatory  
Disease.  
R. A. Johnson

Medical Question Court

W. A. O'Brien, Chairman.  
A group of eminent specialists in  
the various lines will assist  
Dr. O'Brien.

Filterable Viruses

Microscopic sections will be shown,  
demonstrating inclusion bodies.  
R. G. Green

Scientific Demonstrations and  
Exhibits

Minnesota State Medical Association  
Committees

Deafness Prevention and Amelioration  
Horace Newhart, Chairman.

Hospitals and Medical Education  
C. A. McKinlay, Chairman.

Hay Fever Causes for Minnesota

Graphs summarizing four years of  
study.

R. V. Ellis and C. O. Rosendahl, Ph.D.  
O. A. Dahl, M.S.,

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### 2. THE AMERICAN ASSOCIATION FOR THORACIC SURGERY

Nineteenth Annual Meeting  
May 4, 5, 6, 1936

Mayo Clinic, Rochester, Minnesota

Headquarters  
Hotel Kahler

The Surgical Management of Congenital Atresia of the Esophagus with Tracheo-esophageal Fistula: Report of a Case.

N. L. Leven, Minneapolis

The Treatment of Pulmonary Tuberculosis by Means of Ambulatory Artificial Pneumothorax.

J. A. Myers, Minneapolis

LIST OF MEMBERS OF THE AMERICAN ASSOCIATION FOR THORACIC SURGERY, 1935-1936

Active Members

Kinsella, Thomas J.
Myers, J. Arthur
Rigler, Leo
Wangensteen, Owen H.

Associate Members

Carlson, Herbert

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3. THE THIRTEENTH ANNUAL HOSPITAL CONVENTION OF THE MINNESOTA HOSPITAL ASSOCIATION

Thursday, May 14th, and Friday, May 15, 1936
Lowry Hotel - Saint Paul

May 14th

9:00 A.M. - Report of Treasurer, Mr. Ray Amberg

6:30 P.M. - Banquet
Address: Wm. A. O'Brien, M.D.

May 15th

3:15-3:30 P.M.
Open Discussion -
Led by Mr. Paul Fesler, Supt.
Wesley Memorial Hospital,
Chicago.

MINNESOTA STATE DIETETIC ASSOCIATION

May 14th

10:30 A.M. Open Remarks
Miss Mabel Netz,
President, Minnesota
State Dietetic Associa-
tion,
University Hospital,
Minneapolis.

MINNESOTA ANESTHETISTS ASSOCIATION

May 14th

2:00 P.M. Subject to be announced.
C. D. Creevy, M.D.,
Minneapolis, Minn.

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III. MOVIE

Title: A Trip to Cologne

Released by: Atlantic Films
(Elliott)

IV. LAST WEEK

Date: April 16, 1936
Place: Recreation Room,
Nurses' Hall
Time: 12:15 to 1:30
Program: Movie: Marching with Science
Diagnostic Radiology
Present: 113
Discussion: Leo G. Rigler
C. N. Borman
A. L. Abraham
H. E. Edstrom
T. M. Berman

Gertrude Gunn,
Record Librarian