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| Supplementary Notes | | | |
| <p>Abstract</p> <p>This historical prospective study follows some 306,000 airmen medically certified ing 1965 through December 1969 to observe prevalence and incidence of disease ng these airmen. It also considers possible contribution of medical factors to rition of airmen from an active status as a follow-up to a previous FAA study cerning characteristics of airmen involved in attrition. The study provides ntification for questions concerning frequency of examination by age, incidence of ology in relation to frequency of examination, and a comparison of the attrition -group with the still active airmen sub-group with respect to prevalence, incidence, class of medical certificate issued. Basic descriptive epidemiologic data are o provided. Disease prevalence was highest for abdominal conditions among the al study group. Prevalence of disease from all categories was highest for the rition sub-group even though they were slightly younger than the still active sub- ip. Frequency of examination was highest for the middle-aged applicants and cause- ific incidence of disease increased with frequency of examination up to a frequency approximately one examination per year. Abdominal and cardiovascular diseases esented the greatest incidence for the total study group and the still active -group. Miscellaneous conditions, i.e., skin diseases, endocrinopathies, allergies, general systemic conditions, were slightly more important among the attrition sub- ip. Overall, the attrition sub-group demonstrated the highest prevalence and dence of disease for the study period. However, 86% of the attrition sub-group no recorded disease, thus diminishing the apparent importance of medical factors a primary motivator for attrition.</p> | | | |
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PREVALENCE AND INCIDENCE OF DISEASE AMONG AIRMEN MEDICALLY CERTIFIED DURING 1965

I. Introduction

Approximately 332,000 examinations for FAA medical certification were performed during 1965 involving some 310,000 airman applicants (some airline pilots are examined semi-annually). From the total 310,000 airman applicants, 306,436 (99%) were medically certified during 1965. This historical prospective study follows those 306,436 certified airmen from 1965 to 1970 to observe prevalence of pathology at outset and the incidence of disease among these airmen during the study period. The study also considers possible contribution of medical factors to attrition of airmen from an active status as a follow-up to a previous FAA study¹ concerning characteristics of airmen involved in attrition.

In addition, the study was designed to provide quantification for questions concerning frequency of examination by age, incidence of pathology in relation to frequency of examination, and a comparison of the attrition sub-group with the still active airmen sub-group with respect to prevalence, incidence, and class of medical certificate issued. Underlying these areas of analytic interest was the need for basic descriptive epidemiologic data for current and future comparative use in appraisal of airman population health status and program policy monitoring.

II. Source, Definitions, and Methods

A. Source and Definitions

Automated medical record files maintained by the Aeromedical Certification facility in Oklahoma City provided the source data for the study. Automated historical files have been maintained since 1962 on records dating back to 1959 for all airman medical applicants. These files contain examination data for the individual airman, sequenced by date of examination.

The year 1965 was chosen as the beginning year for the study because of factors associated with system stabilization. Computer system implementation occurred during 1962, and prior to 1965, automated procedures, code schedules, and internal policies were subject to modification quite frequently in connection with post-implementation efforts. Some changes did, of course, occur during the study period with regard to policy on coding of disease conditions; however, the years 1965-1969 do represent the period of greatest stability for study purposes.

In this study, a medically certified airman is considered "active" for a maximum of 24 calendar months following his most recent FAA medical examination, i.e., regardless of the class of medical certificate originally issued, it is valid for third class airman purposes for a period of time up to 24 calendar months unless otherwise limited or recalled by the FAA. This definition results in sub-groups for presentation and discussion purposes consisting of the still active sub-group (those airmen medically certified during 1965 whose most recent examination was during 1968 or 1969) and the attrition sub-group (those airmen medically certified during 1965 whose most recent examination was during 1965-1967), which together comprise the total study group.

Much of the prevalence and incidence data contained in the tables which follow differentiates between critical and non-critical pathology. While many diseases are potentially critical in the mortality or morbidity sense, the Office of Aviation Medicine has identified several which are considered critical to the flight environment. The primary consideration in the FAA definition of "critical" pathology is related to potential of the disease for sudden incapacitation or inability to respond to the flight environment.

An extract listing of those medical conditions defined by FAA medical personnel as "critical" to the flight environment are provided in the appendix. A complete listing of medical conditions by code categories, as utilized by FAA certification personnel, is available from the author on request. Many of the listed diseases are, of course, critical regardless of the environment. Others may appear less critical in the classical sense; however, the unique FAA definition must be recalled.

Federal Aviation Regulations, Part 67, specify that a medical certificate will be denied if an applicant has an established medical history or clinical diagnosis of any of the following conditions:

1. A personality disorder that is severe enough to have repeatedly manifested itself by overt acts.
2. A psychosis.
3. Alcoholism.
4. Drug dependence.
5. Epilepsy.
6. Disturbance of consciousness without satisfactory medical explanation of the cause.
7. Myocardial infarction.
8. Angina pectoris or other evidence of coronary disease.
9. Diabetes mellitus, requiring insulin or other hypoglycemic drug for control.

However, certification is possible despite the existence of one of the above disqualifying medical conditions if exemption from the Regulations is granted after extensive medical review by the FAA and consultant specialists. The primary considerations in such exemption cases are history, prognosis, and potential risk of sudden incapacitation. From 1961 through 31 December 1972, a total of 1,051 airmen were granted exemptions from FAR 67 of which 454 are still active. It is appropriate to note, however, that airmen with any of the nine disqualifying conditions are often issued medical certificates with special medical and operational restrictions that allow for control of risk.

B. *Methods*

Initially, all applicants for medical certification during 1965 were selected for the study but

those denied certification on the first examination were subsequently excluded since they would provide no possibility for follow-up experience. A remaining total of 306,436 airmen were medically certified at least once during 1965. Prevalence of pathology for the group was determined as of the first certified examination received. Incidence of disease and frequency of examination were based on examinations performed subsequent to the first examination in 1965 through 31 December 1969. Incidence, of course, was based on the occurrence during the study interval of disease other than that recorded on the initial examination (prevalence).

This study is not a classical cohort study of individuals entering an observation group and exposure category at a specified time and then being followed forward. Exposure categories are not defined as such and outcome is in terms of all disease incidence. No follow-up to determine causes for withdrawal was possible and the result is that one must deal with unknown biases as a result of loss to follow-up among those considered as attrition. Death, voluntary withdrawal for medical or personal reasons, economic factors, and disenchantment with aviation are known to be the major contributors to attrition.¹ Fortunately, as concerns this study, medical factors or death represent the least important reasons for attrition or loss to follow-up in terms of relative contribution.

Loss to follow-up is a reality which must be dealt with in most any cohort study. Theoretically, loss to follow-up will affect the relative rates for exposure categories only if it is suspected that bias exists with respect to exposure category and outcome. As mentioned previously, this study does not consider exposure categories in the classical sense, e.g., those that smoke versus those that do not smoke, etc. Outcome is measured in terms of incidence of some pathology during the study interval. Obviously, some of those lost to follow-up did develop pathology subsequent to their most recent examination; however, from previous study results,¹ it is felt that outcome bias is minimal for those lost to follow-up (or defined as attrition). Certainly, data obtained for those that did provide follow-up are valid with respect to outcome.

The person-years method for computing incidence rates was determined to be the most

appropriate method of dealing with the unknowns described above. Obviously, the most compelling reason for selection of this method is based on the observation that the study group did not retain the same numerical strength during the study period. Attrition from the observation group confounds the task of incidence computation, i.e., denominator definition, and does occur for varied reasons. The use of person-years as the denominator for incidence rate computations does not depend on the entire study group being present for the total study period, rather it takes into consideration the number of persons under observation and the duration of observation for each person.

MacMahon and Pugh suggest that "when follow-up depends on a regularly scheduled examination and ascertainment of the outcome depends on detecting a change in status between one examination and the next, the most accurate procedure is to assume that persons lost to trace between two examinations were lost immediately after the first examination."² The reason for such treatment of those lost to follow-up is obvious. Since they cannot possibly contribute to measured incidence during the interval, i.e., a positive outcome, they should not contribute to person-years observed past the date of most recent examination. Therefore, individuals lost to follow-up in this study are considered lost immediately after their most recent examination. Because entrance dates varied for study group members from 1 January 1965 to 31 December 1965, a mid-year entry date was selected as representative for subsequent computation of person-years. Applications are received in a consistent manner throughout the year, particularly as concerns the number received prior to mid-year versus those received after mid-year.

Table I provides information on the year of most recent examination for study group members and the method for computing person-years exposure.

Approximately 60% of the airmen in the original study group were still active (using the study definition of active airmen) as of the cut-off date (31 December 1969) and thus provided 700,752 person-years of observation. The total study group provided 778,266 person-years of observation; therefore, inactive airmen provided 77,514 person-years of observation.

Statistical significance at the .05 level was determined for total cause-specific and total age-specific rate differences on prevalence data and for total cause-specific rates on the incidence data (Tables II, III, IV, X, XI, and XII—the third cause-specific rate in the last column and the rate in the last row). Statistical significance was not determined for the cause/age-specific cell differences or critical/non-critical cause-specific or age-specific rates; however, trends are noted as appropriate. Methodology is described more fully in reference 3; however, the technique basically involves determination of the variance of the difference between two rates; and subsequently, the standard error which is divided into the difference between the two rates to arrive at a critical ratio, which is used to approximate the probability that the observed difference could have occurred due to chance. The formula is as follows:

$$CR = \sqrt{\frac{\text{Rate}_1 (R_1)}{\bar{N}_1 \text{ (Observed Cases Group 1)}}^2 + \frac{\text{Rate}_2 (R_2)}{\bar{N}_2 \text{ (Observed Cases Group 2)}}^2}$$

Thus, if the difference between the two rates is statistically significant at the .05 level, CR is greater than or equal to 1.96. This methodology was also used to appraise successive rate differences for disease incidence by frequency of examination and for rate differences on most recent examination pathology status data. Potentially meaningful significance at levels other than .05 are noted as appropriate.

Prevalence rates are expressed per 1,000 airmen and incidence rates in terms of 10,000 person-years in order to present meaningful non-fractional rates for the latter. Rates were expressed per 1,000 airmen for incidence of disease in relation to frequency of examination data. Percentages were utilized for data dealing with most recent pathology status for convenience of comparison.

Data presented are descriptive in nature with numerous active versus attrition comparisons. Reference to table footnotes is recommended for further statements of methodology and data limitations.

III. Findings and Discussion

Some explanatory comments are appropriate before commencing a discussion of findings. Conventional epidemiologic terminology and definitions⁴ apply to the discussion which follows. However, due to critical and non-critical categories within each body system, cause-specific rates are broken down into critical cause-specific, non-critical cause-specific, and total cause-specific rates. Age-specific and age/cause-specific cell frequencies are similarly broken down. Only total rates were, however, computed for age-specific and age/cause-specific cell data.

To reiterate, significance tests were performed on total cause- and age-specific rates only. While much useful information may be available from the multitude of possible within-category-significance comparisons, the interest in this study centers on the overall relationship of total prevalence and incidence and the resulting impact on attrition.

A. Prevalence of Disease

1. Prevalence of Disease Among All 1965 Certified Applicants (Table II). Total cause-specific prevalence was highest for abdominal (esophagus and stomach, intestines, spleen, liver, pancreas, gall bladder, and genitourinary and gynecological) disease (57.0 per 1,000 airmen); eye conditions were second highest (19.4 per 1,000 airmen). Age/cause-specific total prevalence was also highest for abdominal conditions (ranging from 21.9 to 139.6 per 1,000 airmen as age increases) except for persons less than 20 years old, for whom eye conditions and miscellaneous conditions (skin, drugs, endocrinopathies, allergies, and general systemic conditions) were highest (both rates were 22.3 per 1,000 airmen). Critical cause-specific pathology prevalence was highest for eye conditions for the total study group (11.1 per 1,000 airmen).

As expected, age/cause-specific prevalence generally increased with age, with the exceptions of neuropsychiatric and the miscellaneous conditions. Prevalence patterns for the latter conditions peaked earlier in the age distribution and tapered off as age increased. Total age-specific rates for all disease prevalence also increased with age (last row).

2. Prevalence of Disease for Airmen Still Active (Table III). Disease prevalence findings among airmen still active as of 31 December

1969 cut-off date for the study paralleled findings for the total study group. Some minor exceptions were noted in comparison of cell prevalence; however, cause-, age/cause-, and age-specific prevalence rates were comparable with respect to trend but lower than total study group prevalence rates. Table V contains summary rate data for the total study group and the still active and attrition sub-groups. Total cause-specific rate differences between the total study group and the airmen still active sub-group were significant except for ear, nose, throat and mouth disease which was not significant and muscle disease which was significant at the .10 level. Total age-specific rate differences were significant with the exception of age intervals greater than 55 years. Similar patterns were observed for these older age intervals; however, the limited number of observations resulted in statistical non-significance.

3. Prevalence of Disease Among Airmen Defined as Attrition (Table IV). Disease prevalence findings for the attrition sub-group paralleled findings for the total study group. Cause-, age/cause-, and age-specific rates were comparable with respect to trend but were higher than either the total study group prevalence rates or the airmen still active prevalence rates (see Table V). Total cause-specific rate differences between the total study group and the attrition sub-group were significant except for the ear, nose, throat and mouth disease category which was significant at .10 level. When attrition versus still actives were compared, both total cause-specific and total age-specific rate comparisons indicated significant differences for all but one age-specific category (greater than 65 years). Total age-specific rate differences for the total study group and the attrition sub-group were significant except for the less than 20 years interval. The 55-59 and 60-64 age intervals were significant at .10.

B. Age and Frequency of Examination

1. Age and Frequency of Examination for All 1965 Certified Applicants (Table VI). The mean age of all 1965 certified applicants selected for the study was 35.0 years. Median age was also approximately 35.0. Average frequency of examination for all study group members was 3.1 for the 5-year interval. Average frequency of examination by age approached symmetry

with the higher frequencies of examination in the middle age intervals. Mean age by frequency of examination was somewhat erratic with mean age exceeding the population mean age sporadically. It appears from Table VI that frequency of examination increases through the middle age range and decreases toward both age extremes for the total study group.

2. Age and Frequency of Examination for Airmen Still Active (Table VII). Airmen still active had a slightly higher mean age than the total study group (36.0 years). Median age was also approximately 36.0 years. Average frequency of examination for airmen still active was expectedly higher at 4.2 examinations for the 5 year interval. Similar patterns to the total study group were apparent for the distribution of airmen still active with respect to age and frequency of examination. It is interesting that prevalence rates were uniformly lower for the slightly older still active sub-group, since one would empirically expect higher prevalence of disease for an older group (see Table V).

3. Age and Frequency of Examination for Airmen Defined as Attrition (Table VIII). The mean age of airmen defined as attrition was lower at 33.7 years than for the total population or those airmen still active. Median age was approximately 33 years. Average frequency of examination for the attrition sub-group was lower at 1.4 for the study interval. No important differences from previously established distribution patterns were apparent with the exception of the magnitude of the variables.

C. Incidence of Disease

1. Incidence of Disease by Frequency of Examination (Table IX). Cause-specific incidence of disease generally increased with frequency of examination, up to frequency of 6-7 examinations, and began to decrease as frequency of examination increased beyond that point. Abdominal and muscle disease incidence continued to increase through the higher frequencies of examination. Miscellaneous disease conditions showed a reverse pattern with incidence decreasing for greater frequencies of examination. Incidence of all pathology was greatest for a frequency of 6 examinations. When successive rates within a body system are compared, differences are significant for all comparisons through

the 6-7 frequency of examination level. Relatively speaking, ear, nose, throat and mouth pathology reflected the greatest increase with an increase in frequency of examination. However, more disease would be diagnosed in the abdominal and cardiovascular areas in absolute terms.

These data are most informative even though it is immediately apparent that much information has been obscured by the combinations of all classes and ages in Table IX. Age by frequency of examination as reflected in Tables VI through VIII does not suggest much in furtherance of the interpretation. One would presume that those with a greater frequency of examination (6-10+) were probably professional airmen who would have been screened more carefully and selectively prior to employment to minimize future health problems. Certainly, a detailed analysis of the age and class of medical certificate relationship is called for in future efforts.

2. Incidence of Disease Among All 1965 Certified Applicants (Table X). The total study group provided 778,266 person-years of observation. Using this total as the denominator for computation of incidence rates per 10,000 person-years of observation, the data contained in Table X was obtained. Total cause-specific incidence of disease was highest for abdominal conditions (115.4 per 10,000 person-years) among all 1965 applicants and second highest for cardiovascular pathology (62.2 per 10,000 person-years). Incidence of cause-specific critical pathology was highest for eye conditions (24.8 per 10,000 person-years). No age-specific incidence data are available from Tables X through XIII since definite data for derivation of person-years for the various age intervals are unavailable. Incidence rates and frequencies for the major body systems and all disease are available from Table X for the study group.

3. Incidence of Disease for Airmen Still Active (Table XI). The still active sub-group provided 700,752 person-years of observation. Abdominal pathology represented the highest total cause-specific incidence rate for airmen still active (107.4 per 10,000 person-years). Cardiovascular disease was second highest (48.8 per 10,000 person-years) and eye conditions were highest in the critical cause-specific pathology category (23.0 per 10,000 person-years). Cause-specific

incidence was lower than total study group incidence in all instances, as was total (crude) incidence of all disease for the airmen still active sub-group (see Table XIII). When compared with the total study group, total cause-specific incidence rates were significantly different for all but the ear, nose, throat and mouth disease category which was not significant and for respiratory disease which was significant at .10.

4. Incidence of Disease Among Airmen Defined as Attrition (Table XII). 77,514 person-years were observed among airmen entering the study and subsequently defined as attrition. Miscellaneous conditions represented the highest total cause-specific incidence category among the attrition sub-group (203.8 per 10,000 person-years). Abdominal (187.8 per 10,000 person-years) and cardiovascular diseases (183.8 per 10,000 person-years) were close seconds. Cause-specific critical pathology was highest for cardiovascular diseases (90.3 per 10,000 person-years). Cause-specific incidence was higher for all major body systems and total (crude) incidence of all disease was more than double the rates for either the entire study group or the airmen still active sub-group (Table XIII). The attrition sub-group total cause-specific incidence rates were all significantly different from either the total study group or the still active sub-group.

D. Most Recent FAA Examination and Pathology Status

Table XIV shows that 80,366 members (26.2%) of the study group provided no follow-up information (see 1965 Subtotal). The remainder of the study group provided one or more years of observation with 148,560 (48.5%) providing observation data for the entire study period, i.e., most recent FAA examination during 1969. Data in Table XIV contain only the latest pathology status information differentiated by critical and non-critical disease for the study group as of the latest examination and, therefore, do not necessarily reflect an accumulation of all previous disease conditions. The latest pathology status of those involved in attrition (most recent examination prior to 1968) was worse overall than those still active (see percentages "without pathology" in Table XIV).

Critical pathology among the attrition sub-group was also higher for those providing follow-up medical data (latest examination 1966 or

1967 versus 1965). Critical rate comparisons were significant for those attrition group members providing follow-up (1966 and 1967) versus still active airmen (1968 and 1969). Prevalence of non-critical pathology decreased substantially among still actives (4.5% versus 10.3% and 12.1%). Non-critical pathology rate differences were also significant for the attrition sub-group versus still active airmen sub-group.

These findings, based on the latest pathology status of study group members, paralleled findings of the previous FAA report dealing with medical contribution to attrition.¹ The previous report contained prevalence data on a group of airmen who were involved in attrition during one year whereas, this report considers a three-year contribution to attrition and latest examination pathology data. The more complete data contained in this study have provided an important addendum. While it is still true that the prevalence of critical pathology among airmen still active is greater proportionally than that among all attrition airmen when considered as a single group, Table XIV also shows the importance of medical factors among those members of the attrition group who did provide follow-up examination data (latest examination 1966 or 1967). About two-thirds of the attrition group did not provide follow-up and the latest pathology status data suggested a lower prevalence of critical pathology than for either the attrition group members who did provide follow-up or the still active group, i.e., 2.4% of the applicants whose latest examination was during 1965 versus 3.9% for members of the attrition group who did provide follow-up (latest examination 1966 or 1967) and 3.5% for the still active group (latest examination 1968 or 1969). Non-critical pathology is, of course, still greater among the attrition group regardless of the comparison.

The conclusion to be drawn from these data is that the prevalence of critical pathology among all attrition group members is diluted by the low prevalence for those who had only the one examination during 1965. When the attrition group is sub-grouped by whether or not follow-up examination data were received, the importance of medical factors as a possible reason for attrition becomes more apparent for those 1,655 airmen providing follow-up (see 1966 and 1967 Subtotal).

E. Distribution of Attrition and Still Active Sub-Groups by Most Recent Class of Medical Certificate

Tables XIV and XV provide further evidence that attrition is due primarily to factors other than medical. While Table XIV strongly suggests that medical factors are an important cause of attrition for those airmen who provided follow-up examination data and could conceivably have been important for those with non-critical pathology, Table XIV also clearly indicates that about 86% of the attrition sub-group had no recorded disease and, therefore, probably no medical factors motivating their attrition. Further, one would not expect to observe the proportional relationships found in Table XV if medical factors were primary contributors to attrition; in fact, a reverse relationship would be anticipated under such a premise since Class I applicants must meet more vigorous medical standards. The disproportionate findings with respect to class of medical certificate last held for the attrition sub-group versus the still active sub-group suggest the importance of other factors as principal motivators for attrition.

IV. Summary

Cause-specific prevalence of disease among the study group was highest for abdominal conditions. Eye conditions were the most prevalent critical pathology. As expected, disease preva-

lence generally increased with age in total and sub-group comparisons. However, disease prevalence was highest for the attrition sub-group even though they were slightly younger.

Frequency of examination by age approaches symmetry with the higher frequencies of examination in the middle age intervals. Cause-specific incidence of disease increased with frequency of examination up to a frequency of 6-7 examinations during the 5 year interval and decreased beyond that point. Abdominal and cardiovascular diseases represented the greatest incidence for the total study group and the still active sub-group. Miscellaneous conditions, i.e., skin diseases, endocrinopathies, allergies, and general systemic conditions, were slightly more important than abdominal and cardiovascular disease among the attrition sub-group.

The attrition sub-group demonstrated the highest prevalence and incidence of disease for the study period. Findings of this study expand data available through a previous FAA effort of a similar nature to appraise the contribution of medical factors to attrition.¹ While this relationship between airmen involved in attrition and still active airmen existed with respect to disease prevalence and incidence, 86% of the attrition sub-group still had no recorded disease, thus diminishing the apparent importance of medical factors as motivators for attrition. Class of medical certificate data also suggest other causes as principal motivators for attrition.

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TABLE I
YEAR OF MOST RECENT FAA EXAMINATION
FOR ALL 1965 CERTIFIED APPLICANTS

| <i>Year</i> | <i>Frequency</i> | <i>Percent</i> | <i>Years Of Observation</i> | <i>Col. 2 x Col. 4 Person-Years</i> |
|-----------------------------|------------------|----------------|-----------------------------|---|
| 1965 ----- | 80,366 | 26.2 | 0 | 0 |
| 1966 ----- | 6,498 | 2.1 | 1 | 6,498 |
| 1967 ----- | 35,508 | 11.6 | 2 | 71,016 |
| Attrition Subtotal ----- | 122,372 | 39.9 | | 77,514 |
| 1968 ----- | 35,504 | 11.6 | 3 | 106,512 |
| 1969 ----- | 148,560 | 48.5 | 4 | 594,240 |
| Still Active Subtotal ----- | 184,064 | 60.1 | | 700,752 |
| TOTAL ----- | 306,436 | 100.0 | | 778,266 |

Table II
PREVALENCE OF CRITICAL AND NON-CRITICAL PATHOLOGY
AMONG 1965 APPLICANTS BY AGE AND BODY SYSTEM

| <i>Body System</i> | <i>Age At Entry</i> | | | | | | | | | | | <i>Frequency of Occurrence</i> | <i>Total Prevalence Per 1,000</i> |
|--|---------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------------------------|-----------------------------------|
| | <i><20</i> | <i>20-24</i> | <i>25-29</i> | <i>30-34</i> | <i>35-39</i> | <i>40-44</i> | <i>45-49</i> | <i>50-54</i> | <i>55-59</i> | <i>60-64</i> | <i>>65</i> | | |
| <u>Eye</u> | | | | | | | | | | | | | |
| Critical Path Freq | 268 | 569 | 499 | 470 | 459 | 431 | 334 | 180 | 94 | 54 | 35 | 3,393 | 1 |
| Non-Critical Path Freq | 109 | 259 | 328 | 377 | 403 | 466 | 315 | 150 | 81 | 32 | 23 | 2,543 | |
| Total Cell Frequency | 377 | 828 | 827 | 847 | 862 | 897 | 649 | 330 | 175 | 86 | 58 | 5,936 | |
| Prevalence Rate per 1,000 | 22.3 | 19.4 | 18.3 | 17.3 | 18.8 | 18.1 | 20.5 | 22.3 | 25.0 | 33.7 | 50.9 | | 1 |
| <u>Ears, Nose, Throat & Mouth</u> | | | | | | | | | | | | | |
| Critical Path Freq | 2 | 3 | 6 | 14 | 6 | 10 | 9 | 10 | 9 | 4 | - | 73 | |
| Non-Critical Path Freq | 64 | 202 | 262 | 358 | 339 | 429 | 334 | 155 | 70 | 22 | 11 | 2,246 | |
| Total Cell Frequency | 66 | 205 | 268 | 372 | 345 | 439 | 343 | 165 | 79 | 26 | 11 | 2,319 | |
| Prevalence Rate per 1,000 | 3.9 | 4.8 | 5.9 | 7.6 | 7.5 | 8.9 | 10.8 | 11.1 | 11.3 | 10.2 | 9.7 | | |
| <u>Respiratory</u> | | | | | | | | | | | | | |
| Critical Path Freq | - | 1 | - | 9 | 5 | 7 | 14 | 8 | 2 | - | - | 46 | |
| Non-Critical Path Freq | 26 | 125 | 179 | 190 | 186 | 216 | 135 | 61 | 26 | 11 | 10 | 1,165 | |
| Total Cell Frequency | 26 | 126 | 179 | 199 | 191 | 223 | 149 | 69 | 28 | 11 | 10 | 1,211 | |
| Prevalence Rate per 1,000 | 1.5 | 3.0 | 4.0 | 4.1 | 4.2 | 4.5 | 4.7 | 4.7 | 4.0 | 4.3 | 8.8 | | |
| <u>Cardiovascular</u> | | | | | | | | | | | | | |
| Critical Path Freq | 2 | 18 | 21 | 40 | 87 | 156 | 148 | 117 | 80 | 26 | 12 | 707 | |
| Non-Critical Path Freq | 223 | 627 | 521 | 506 | 509 | 629 | 430 | 207 | 130 | 60 | 34 | 3,876 | 1 |
| Total Cell Frequency | 225 | 645 | 542 | 546 | 596 | 785 | 578 | 324 | 210 | 86 | 46 | 4,583 | |
| Prevalence Rate per 1,000 | 13.3 | 15.1 | 12.0 | 11.2 | 13.0 | 15.8 | 18.2 | 21.9 | 30.0 | 33.7 | 40.4 | | 1 |
| <u>Abdominal</u> | | | | | | | | | | | | | |
| Critical Path Freq | 2 | 21 | 33 | 69 | 64 | 128 | 96 | 42 | 37 | 20 | 9 | 521 | |
| Non-Critical Path Freq | 369 | 1,222 | 1,737 | 2,365 | 2,684 | 3,402 | 2,529 | 1,419 | 776 | 292 | 150 | 16,945 | 5 |
| Total Cell Frequency | 371 | 1,243 | 1,770 | 2,434 | 2,748 | 3,530 | 2,625 | 1,461 | 813 | 312 | 159 | 17,466 | |
| Prevalence Rate per 1,000 | 21.9 | 29.1 | 39.1 | 49.7 | 60.0 | 71.2 | 82.8 | 98.6 | 116.0 | 122.2 | 139.6 | | 5 |
| <u>Neuropsychiatric</u> | | | | | | | | | | | | | |
| Critical Path Freq | 11 | 17 | 25 | 31 | 39 | 43 | 36 | 15 | 7 | 2 | - | 226 | |
| Non-Critical Path Freq | 145 | 344 | 344 | 372 | 461 | 559 | 325 | 134 | 62 | 19 | 10 | 2,775 | |
| Total Cell Frequency | 156 | 361 | 369 | 403 | 500 | 602 | 361 | 149 | 69 | 21 | 10 | 3,001 | |
| Prevalence Rate per 1,000 | 9.2 | 8.5 | 8.1 | 8.2 | 10.9 | 12.1 | 11.4 | 10.1 | 9.8 | 8.2 | 8.8 | | |
| <u>Bones and Joints</u> | | | | | | | | | | | | | |
| Critical Path Freq | 17 | 51 | 93 | 120 | 169 | 235 | 158 | 100 | 65 | 22 | 4 | 1,034 | |
| Non-Critical Path Freq | 107 | 363 | 353 | 462 | 510 | 681 | 521 | 218 | 125 | 31 | 20 | 3,391 | 1 |
| Total Cell Frequency | 124 | 414 | 446 | 582 | 679 | 916 | 679 | 318 | 190 | 53 | 24 | 4,425 | |
| Prevalence Rate per 1,000 | 7.3 | 9.7 | 9.8 | 11.9 | 14.8 | 18.5 | 21.4 | 21.5 | 27.1 | 20.8 | 21.1 | | 1 |
| <u>Muscles</u> | | | | | | | | | | | | | |
| Critical Path Freq | 17 | 29 | 48 | 48 | 74 | 68 | 46 | 28 | 17 | 2 | 2 | 379 | |
| Non-Critical Path Freq | 7 | 19 | 21 | 19 | 22 | 18 | 21 | 13 | 3 | 3 | 1 | 147 | |
| Total Cell Frequency | 24 | 48 | 69 | 67 | 96 | 86 | 67 | 41 | 20 | 5 | 3 | 526 | |
| Prevalence Rate per 1,000 | 1.4 | 1.1 | 1.5 | 1.4 | 2.1 | 1.7 | 2.1 | 2.8 | 2.9 | 2.0 | 2.6 | | |
| <u>Miscellaneous Conditions</u> | | | | | | | | | | | | | |
| Critical Path Freq | 3 | 23 | 26 | 48 | 72 | 111 | 103 | 64 | 22 | 14 | 4 | 490 | |
| Non-Critical Path Freq | 375 | 725 | 550 | 587 | 614 | 599 | 454 | 182 | 84 | 21 | 9 | 4,200 | 1 |
| Total Cell Frequency | 378 | 748 | 576 | 635 | 686 | 710 | 557 | 246 | 106 | 35 | 13 | 4,690 | |
| Prevalence Rate per 1,000 | 22.3 | 17.5 | 12.7 | 13.0 | 15.0 | 14.3 | 17.6 | 16.6 | 15.1 | 13.7 | 11.4 | | 1 |
| <u>TOTAL</u> | | | | | | | | | | | | | |
| Critical Path Freq | 316 | 722 | 737 | 833 | 969 | 1,164 | 916 | 549 | 323 | 140 | 64 | 6,713 | 2 |
| Non-Critical Path Freq | 1,315 | 3,601 | 3,935 | 4,746 | 5,167 | 6,281 | 4,437 | 2,236 | 1,167 | 435 | 213 | 33,533 | 10 |
| Total Freq for Age Group | 1,631 | 4,323 | 4,672 | 5,579 | 6,116 | 7,445 | 5,353 | 2,785 | 1,490 | 575 | 277 | 40,246 | |
| Prev. Rate for Age Group per 1,000 | 96.4 | 101.4 | 103.1 | 113.9 | 133.5 | 150.2 | 168.9 | 188.1 | 212.6 | 225.1 | 243.2 | | 13 |

NOTES:

Age was computed as of the date of first examination during 1965 to last birthday and represents age at entry.

Prevalence is defined as that pathology present on the first examination during 1965. Critical and non-critical codes are identified in the Appendix.

Row totals represent the prevalence of pathology, by body system, among all 1965 applicants. Only categories within a system are mutually exclusive, i.e., critical, non-critical, thus row totals for the different systems are not additive downward. Multiple prevalence within a system or category is counted once according to category. The row total for a body system does represent airmen.

Column totals represent prevalence of any pathology regardless of system recorded on the first examination during 1965 by age interval and category. Individual column values are not additive downward; however, column totals do reflect prevalence of critical, non-critical, and total for the age interval and are additive for prevalence of critical, non-critical, and total for the population. Column totals do represent airmen.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.*

Table III
PREVALENCE OF CRITICAL AND NON-CRITICAL PATHOLOGY
AMONG AIRMEN STILL ACTIVE BY AGE AND BODY SYSTEM

| Body System | Age At Entry | | | | | | | | | | | Total | |
|---------------------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------|----------------------------------|
| | <20 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | >65 | Frequency of Occurrence | Prevalence Rate Per 1,000 Airmen |
| Eye | | | | | | | | | | | | | |
| Critical Path Freq | 88 | 228 | 247 | 273 | 274 | 244 | 211 | 96 | 57 | 33 | 21 | 1,772 | 9.7 |
| Non-Critical Path Freq | 37 | 118 | 165 | 215 | 218 | 285 | 206 | 95 | 52 | 20 | 13 | 1,424 | 7.8 |
| Total Cell Frequency | 125 | 346 | 412 | 488 | 492 | 529 | 417 | 191 | 109 | 53 | 34 | 3,196 | |
| Prevalence Rate per 1,000 | 18.7 | 16.9 | 15.3 | 15.8 | 17.4 | 16.2 | 19.9 | 19.8 | 25.6 | 36.9 | 59.2 | | 17.5 |
| Ears, Nose, Throat & Mouth | | | | | | | | | | | | | |
| Critical Path Freq | - | 1 | 3 | 7 | 2 | 4 | 6 | 9 | 4 | 2 | - | 38 | 0.2 |
| Non-Critical Path Freq | 19 | 74 | 135 | 218 | 201 | 273 | 223 | 85 | 41 | 10 | 7 | 1,286 | 7.0 |
| Total Cell Frequency | 19 | 75 | 138 | 225 | 203 | 277 | 229 | 94 | 45 | 12 | 7 | 1,324 | |
| Prevalence Rate per 1,000 | 2.8 | 3.7 | 5.1 | 7.3 | 7.2 | 8.5 | 10.9 | 9.7 | 10.6 | 8.4 | 12.2 | | 7.2 |
| Respiratory | | | | | | | | | | | | | |
| Critical Path Freq | - | - | - | 5 | 3 | 3 | 4 | 4 | 1 | - | - | 20 | 0.1 |
| Non-Critical Path Freq | 11 | 48 | 86 | 113 | 99 | 123 | 85 | 32 | 18 | 4 | 2 | 621 | 3.4 |
| Total Cell Frequency | 11 | 48 | 86 | 118 | 102 | 126 | 89 | 36 | 19 | 4 | 2 | 641 | |
| Prevalence Rate per 1,000 | 1.6 | 2.3 | 3.2 | 3.8 | 3.6 | 3.9 | 4.2 | 3.7 | 4.5 | 2.8 | 3.5 | | 3.5 |
| Cardiovascular | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 6 | 9 | 20 | 41 | 77 | 81 | 65 | 38 | 11 | 5 | 354 | 2.0 |
| Non-Critical Path Freq | 74 | 261 | 268 | 291 | 299 | 369 | 251 | 130 | 68 | 26 | 12 | 2,049 | 11.2 |
| Total Cell Frequency | 75 | 267 | 277 | 311 | 340 | 446 | 332 | 195 | 106 | 37 | 17 | 2,403 | |
| Prevalence Rate per 1,000 | 11.2 | 13.0 | 10.3 | 10.1 | 12.0 | 13.7 | 15.8 | 20.2 | 24.9 | 25.8 | 29.6 | | 13.2 |
| Abdominal | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 9 | 15 | 47 | 33 | 86 | 73 | 25 | 19 | 12 | 5 | 325 | 1.8 |
| Non-Critical Path Freq | 146 | 563 | 941 | 1,382 | 1,542 | 2,086 | 1,550 | 876 | 449 | 155 | 70 | 9,760 | 53.4 |
| Total Cell Frequency | 147 | 572 | 956 | 1,429 | 1,575 | 2,172 | 1,623 | 901 | 468 | 167 | 75 | 10,085 | |
| Prevalence Rate per 1,000 | 21.9 | 27.9 | 35.6 | 46.2 | 55.8 | 66.6 | 77.5 | 93.3 | 109.9 | 116.3 | 130.7 | | 55.2 |
| Neuropsychiatric | | | | | | | | | | | | | |
| Critical Path Freq | 4 | 8 | 14 | 18 | 23 | 28 | 20 | 7 | 5 | 2 | - | 129 | 0.7 |
| Non-Critical Path Freq | 57 | 121 | 175 | 199 | 253 | 310 | 186 | 84 | 28 | 9 | 5 | 1,427 | 7.8 |
| Total Cell Frequency | 61 | 129 | 189 | 217 | 276 | 338 | 206 | 91 | 33 | 11 | 5 | 1,556 | |
| Prevalence Rate per 1,000 | 9.1 | 6.3 | 7.0 | 7.0 | 9.8 | 10.4 | 9.8 | 9.4 | 7.7 | 7.7 | 8.7 | | 8.5 |
| Bones and Joints | | | | | | | | | | | | | |
| Critical Path Freq | 4 | 24 | 42 | 71 | 88 | 149 | 101 | 61 | 41 | 13 | 2 | 596 | 3.2 |
| Non-Critical Path Freq | 48 | 163 | 194 | 243 | 279 | 418 | 304 | 131 | 75 | 16 | 4 | 1,875 | 10.3 |
| Total Cell Frequency | 52 | 187 | 236 | 314 | 367 | 567 | 405 | 192 | 116 | 29 | 6 | 2,471 | |
| Prevalence Rate per 1,000 | 7.8 | 9.1 | 8.8 | 10.2 | 13.0 | 17.4 | 19.3 | 19.9 | 27.2 | 20.2 | 10.4 | | 13.5 |
| Muscles | | | | | | | | | | | | | |
| Critical Path Freq | 8 | 13 | 22 | 26 | 37 | 41 | 27 | 20 | 10 | 1 | - | 205 | 1.1 |
| Non-Critical Path Freq | 2 | 12 | 13 | 5 | 10 | 9 | 15 | 6 | 2 | 1 | - | 75 | 0.4 |
| Total Cell Frequency | 10 | 25 | 35 | 31 | 47 | 50 | 42 | 26 | 12 | 2 | - | 280 | |
| Prevalence Rate per 1,000 | 1.5 | 1.2 | 1.3 | 1.0 | 1.7 | 1.5 | 2.0 | 2.7 | 2.8 | 1.4 | - | | 1.5 |
| Miscellaneous Conditions | | | | | | | | | | | | | |
| Critical Path Freq | - | 16 | 13 | 28 | 33 | 55 | 51 | 36 | 10 | 6 | 1 | 249 | 1.3 |
| Non-Critical Path Freq | 118 | 262 | 250 | 298 | 297 | 299 | 232 | 87 | 28 | 5 | 2 | 1,878 | 10.3 |
| Total Cell Frequency | 118 | 278 | 263 | 326 | 330 | 354 | 283 | 123 | 38 | 11 | 3 | 2,127 | |
| Prevalence Rate per 1,000 | 17.6 | 13.6 | 9.8 | 10.5 | 11.7 | 10.9 | 13.5 | 12.7 | 8.9 | 7.7 | 5.2 | | 11.6 |
| TOTAL | | | | | | | | | | | | | |
| Critical Path Freq | 104 | 300 | 356 | 487 | 522 | 675 | 559 | 316 | 178 | 79 | 34 | 3,610 | 19.8 |
| Non-Critical Path Freq | 481 | 1,520 | 2,049 | 2,692 | 2,909 | 3,780 | 2,700 | 1,361 | 670 | 217 | 91 | 18,470 | 101.1 |
| Total Freq for Age Group | 585 | 1,820 | 2,405 | 3,179 | 3,431 | 4,455 | 3,259 | 1,677 | 848 | 296 | 125 | 22,080 | |
| Prev. Rate for Age Group per 1,000 | 87.3 | 88.9 | 89.5 | 102.8 | 121.5 | 136.6 | 155.6 | 173.6 | 199.2 | 206.1 | 217.8 | | 120.9 |

NOTES:

Age was computed as of the date of first examination during 1965 to last birthday and represents age at entry.

Prevalence is defined as that pathology present on the first examination during 1965. Critical and non-critical codes are identified in the Appendix.

An airman is considered currently active if his most recent examination was within the preceding 24 calendar months as of 1 January 1970 and was certified as meeting medical standards.

Row totals represent the prevalence of pathology, by body system, among airmen still active. Only categories within a system are mutually exclusive, i.e., critical, non-critical, thus row totals for the different systems are not additive downward. Multiple prevalence within a system or category is counted once according to category. The row total for a body system does represent airmen.

Column totals represent prevalence of any pathology regardless of system recorded on the first examination during 1965 by age interval and category. Individual column values are not additive downward; however, column totals do reflect prevalence of critical, non-critical, and total for the age interval and are additive for prevalence of critical, non-critical, and total for the population. Column totals do represent airmen.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table IV
PREVALENCE OF CRITICAL AND NON-CRITICAL PATHOLOGY
AMONG ATTRITION GROUP BY AGE AND BODY SYSTEM

| Body System | Age At Entry | | | | | | | | | | | Frequency of Occurrence | Total | |
|---------------------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------------------------|---------------------------|--------|
| | <20 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | >65 | | Prevalence Rate Per 1,000 | Airmen |
| Eye | | | | | | | | | | | | | | |
| Critical Path Freq | 180 | 341 | 252 | 197 | 185 | 187 | 123 | 84 | 37 | 21 | 14 | 1,621 | | 13.1 |
| Non-Critical Path Freq | 72 | 141 | 163 | 162 | 185 | 181 | 109 | 55 | 29 | 12 | 10 | 1,119 | | 9.0 |
| Total Cell Frequency | 252 | 482 | 415 | 359 | 370 | 368 | 232 | 139 | 66 | 33 | 24 | 2,740 | | |
| Prevalence Rate per 1,000 | 24.7 | 21.7 | 22.5 | 19.9 | 21.0 | 21.7 | 21.6 | 27.0 | 24.0 | 29.5 | 42.5 | | | 22.1 |
| Ears, Nose, Throat & Mouth | | | | | | | | | | | | | | |
| Critical Path Freq | 2 | 2 | 3 | 7 | 4 | 6 | 3 | 1 | 5 | 2 | - | 35 | | 0.3 |
| Non-Critical Path Freq | 45 | 128 | 127 | 140 | 138 | 156 | 111 | 70 | 29 | 12 | 4 | 960 | | 7.7 |
| Total Cell Frequency | 47 | 130 | 130 | 147 | 142 | 162 | 114 | 71 | 34 | 14 | 4 | 995 | | |
| Prevalence Rate per 1,000 | 4.6 | 5.9 | 7.0 | 8.1 | 8.1 | 9.6 | 10.6 | 13.8 | 12.4 | 12.5 | 7.1 | | | 8.0 |
| Respiratory | | | | | | | | | | | | | | |
| Critical Path Freq | - | 1 | - | 4 | 2 | 4 | 10 | 4 | 1 | - | - | 26 | | 0.2 |
| Non-Critical Path Freq | 15 | 77 | 93 | 77 | 87 | 93 | 50 | 29 | 8 | 7 | 8 | 544 | | 4.4 |
| Total Cell Frequency | 15 | 78 | 93 | 81 | 89 | 97 | 60 | 33 | 9 | 7 | 8 | 570 | | |
| Prevalence Rate per 1,000 | 1.5 | 3.5 | 5.0 | 4.5 | 5.1 | 5.7 | 5.6 | 6.4 | 3.3 | 6.3 | 14.2 | | | 4.6 |
| Cardiovascular | | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 12 | 12 | 20 | 46 | 79 | 67 | 52 | 42 | 15 | 7 | 353 | | 2.8 |
| Non-Critical Path Freq | 149 | 366 | 253 | 215 | 210 | 260 | 179 | 77 | 62 | 34 | 22 | 1,827 | | 14.8 |
| Total Cell Frequency | 150 | 378 | 265 | 235 | 256 | 339 | 246 | 129 | 104 | 49 | 29 | 2,180 | | |
| Prevalence Rate per 1,000 | 14.7 | 17.0 | 14.4 | 13.0 | 14.6 | 20.0 | 22.9 | 25.0 | 37.8 | 43.8 | 51.3 | | | 17.6 |
| Abdominal | | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 12 | 18 | 22 | 31 | 42 | 23 | 17 | 18 | 8 | 4 | 196 | | 1.6 |
| Non-Critical Path Freq | 223 | 659 | 796 | 983 | 1,142 | 1,316 | 979 | 543 | 327 | 137 | 80 | 7,185 | | 58.1 |
| Total Cell Frequency | 224 | 671 | 814 | 1,005 | 1,173 | 1,358 | 1,002 | 560 | 345 | 145 | 84 | 7,381 | | |
| Prevalence Rate per 1,000 | 21.9 | 30.2 | 44.1 | 55.7 | 66.7 | 80.1 | 93.3 | 108.7 | 125.5 | 129.7 | 148.7 | | | 59.7 |
| Neuropsychiatric | | | | | | | | | | | | | | |
| Critical Path Freq | 7 | 9 | 11 | 13 | 16 | 15 | 16 | 8 | 2 | - | - | 97 | | 0.8 |
| Non-Critical Path Freq | 88 | 223 | 169 | 173 | 208 | 249 | 139 | 50 | 34 | 10 | 5 | 1,348 | | 10.9 |
| Total Cell Frequency | 95 | 232 | 180 | 186 | 224 | 264 | 155 | 58 | 36 | 10 | 5 | 1,445 | | |
| Prevalence Rate per 1,000 | 9.3 | 10.5 | 9.8 | 10.3 | 12.7 | 15.6 | 14.4 | 11.3 | 13.1 | 8.9 | 8.8 | | | 11.7 |
| Bones and Joints | | | | | | | | | | | | | | |
| Critical Path Freq | 13 | 27 | 51 | 49 | 81 | 86 | 57 | 39 | 24 | 9 | 2 | 438 | | 3.5 |
| Non-Critical Path Freq | 59 | 200 | 159 | 219 | 231 | 263 | 217 | 87 | 50 | 15 | 16 | 1,516 | | 12.3 |
| Total Cell Frequency | 72 | 227 | 210 | 268 | 312 | 349 | 274 | 126 | 74 | 24 | 18 | 1,954 | | |
| Prevalence Rate per 1,000 | 7.0 | 10.2 | 11.4 | 15.0 | 17.7 | 20.6 | 25.5 | 24.5 | 26.9 | 21.5 | 31.9 | | | 15.8 |
| Muscles | | | | | | | | | | | | | | |
| Critical Path Freq | 9 | 16 | 26 | 22 | 37 | 27 | 19 | 8 | 7 | 1 | 2 | 174 | | 1.4 |
| Non-Critical Path Freq | 5 | 7 | 8 | 14 | 12 | 9 | 6 | 7 | 1 | 2 | 1 | 72 | | 0.6 |
| Total Cell Frequency | 14 | 23 | 34 | 36 | 49 | 36 | 25 | 15 | 8 | 3 | 3 | 246 | | |
| Prevalence Rate per 1,000 | 1.4 | 1.0 | 1.8 | 2.0 | 2.8 | 2.1 | 2.3 | 2.9 | 2.9 | 2.7 | 5.3 | | | 2.0 |
| Miscellaneous Conditions | | | | | | | | | | | | | | |
| Critical Path Freq | 3 | 7 | 13 | 20 | 39 | 56 | 52 | 28 | 12 | 8 | 3 | 241 | | 1.9 |
| Non-Critical Path Freq | 257 | 463 | 300 | 289 | 317 | 300 | 222 | 95 | 56 | 16 | 7 | 2,322 | | 18.8 |
| Total Cell Frequency | 260 | 470 | 313 | 309 | 356 | 356 | 274 | 123 | 68 | 24 | 10 | 2,563 | | |
| Prevalence Rate per 1,000 | 25.4 | 21.2 | 17.0 | 17.1 | 20.2 | 21.0 | 25.5 | 23.9 | 24.7 | 21.5 | 17.7 | | | 20.7 |
| TOTAL | | | | | | | | | | | | | | |
| Critical Path Freq | 212 | 422 | 381 | 346 | 427 | 489 | 357 | 233 | 145 | 61 | 30 | 3,103 | | 25.1 |
| Non-Critical Path Freq | 834 | 2,081 | 1,886 | 2,054 | 2,258 | 2,501 | 1,737 | 875 | 497 | 218 | 122 | 15,063 | | 121.7 |
| Total Freq for Age Group | 1,046 | 2,503 | 2,267 | 2,400 | 2,685 | 2,990 | 2,094 | 1,108 | 642 | 279 | 152 | 18,166 | | |
| Prev. Rate for Age Group per 1,000 | 102.3 | 112.8 | 123.0 | 133.0 | 152.6 | 176.3 | 195.0 | 215.1 | 233.4 | 249.5 | 269.0 | | | 146.8 |

NOTES:

Age was computed as of the date of first examination during 1965 to last birthday and represents age at entry.

Prevalence is defined as that pathology present on the first examination during 1965. Critical and non-critical codes are identified in the Appendix.

Attrition includes those originally issued in 1965 whose most recent examination was over 24 calendar months ago as of 1 January 1970; also, includes those denied subsequent to their examination in 1965.

Row totals represent the prevalence of pathology, by body system, among the attrition group. Only categories within a system are mutually exclusive, i.e., critical, non-critical, thus row totals for the different systems are not additive downward. Multiple prevalence within a system or category is counted once according to category. The row total for a body system does represent airmen.

Column totals represent prevalence of any pathology regardless of system recorded on the first examination during 1965 by age interval and category. Individual column values are not additive downward; however, column totals do reflect prevalence of critical, non-critical, and total for the age interval and are additive for prevalence of critical, non-critical, and total for the population. Column totals do represent airmen.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table V

PREVALENCE OF PATHOLOGY BY AGE AND BODY SYSTEM
1965 APPLICANTS VERSUS ATTRITION VERSUS AIRMEN STILL ACTIVE
(000)

| Body System | Age At Entry | | | | | | | | | | Total Prevalence Rate Per 1,000 Airmen |
|---------------------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|--|
| | <20 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | >65 |
| <u>Eye</u> | | | | | | | | | | | |
| 1965 Applicants | 22.3 | 19.4 | 18.3 | 17.3 | 18.8 | 18.1 | 20.5 | 22.3 | 25.0 | 33.7 | 50.9 |
| Attrition Group | 24.7 | 21.7 | 22.5 | 19.9 | 21.0 | 21.7 | 21.6 | 27.0 | 24.0 | 29.5 | 42.5 |
| Airmen Still Active | 18.7 | 16.9 | 15.3 | 15.8 | 17.4 | 16.2 | 19.9 | 19.8 | 25.6 | 36.9 | 59.2 |
| <u>Ears, Nose, Throat & Mouth</u> | | | | | | | | | | | |
| 1965 Applicants | 3.9 | 4.8 | 5.9 | 7.6 | 7.5 | 8.9 | 10.8 | 11.1 | 11.3 | 10.2 | 9.7 |
| Attrition Group | 4.6 | 5.9 | 7.0 | 8.1 | 8.1 | 9.6 | 10.6 | 13.8 | 12.4 | 12.5 | 7.1 |
| Airmen Still Active | 2.8 | 3.7 | 5.1 | 7.3 | 7.2 | 8.5 | 10.9 | 9.7 | 10.6 | 8.4 | 12.2 |
| <u>Respiratory</u> | | | | | | | | | | | |
| 1965 Applicants | 1.5 | 3.0 | 4.0 | 4.1 | 4.2 | 4.5 | 4.7 | 4.7 | 4.0 | 4.3 | 8.8 |
| Attrition Group | 1.5 | 3.5 | 5.0 | 4.5 | 5.1 | 5.7 | 5.6 | 6.4 | 3.3 | 6.3 | 14.2 |
| Airmen Still Active | 1.6 | 2.3 | 3.2 | 3.8 | 3.6 | 3.9 | 4.2 | 3.7 | 4.5 | 2.8 | 3.5 |
| <u>Cardiovascular</u> | | | | | | | | | | | |
| 1965 Applicants | 13.3 | 15.1 | 12.0 | 11.2 | 13.0 | 15.8 | 18.2 | 21.9 | 30.0 | 33.7 | 40.4 |
| Attrition Group | 14.7 | 17.0 | 14.4 | 13.0 | 14.6 | 20.0 | 22.9 | 25.0 | 37.8 | 43.8 | 51.3 |
| Airmen Still Active | 11.2 | 13.0 | 10.3 | 10.1 | 12.0 | 13.7 | 15.8 | 20.2 | 24.9 | 25.8 | 29.6 |
| <u>Abdominal</u> | | | | | | | | | | | |
| 1965 Applicants | 21.9 | 29.1 | 39.1 | 49.7 | 60.0 | 71.2 | 82.8 | 98.6 | 116.0 | 122.2 | 139.6 |
| Attrition Group | 21.9 | 30.2 | 44.1 | 55.7 | 66.7 | 80.1 | 93.3 | 108.7 | 125.5 | 129.7 | 148.7 |
| Airmen Still Active | 21.9 | 27.9 | 35.6 | 46.2 | 55.8 | 66.6 | 77.5 | 93.3 | 109.9 | 116.3 | 130.7 |
| <u>Neuropsychiatric</u> | | | | | | | | | | | |
| 1965 Applicants | 9.2 | 8.5 | 8.1 | 8.2 | 10.9 | 12.1 | 11.4 | 10.1 | 9.8 | 8.2 | 8.8 |
| Attrition Group | 9.3 | 10.5 | 9.8 | 10.3 | 12.7 | 15.6 | 14.4 | 11.3 | 13.1 | 8.9 | 8.8 |
| Airmen Still Active | 9.1 | 6.3 | 7.0 | 7.0 | 9.8 | 10.4 | 9.8 | 9.4 | 7.7 | 7.7 | 8.7 |
| <u>Bones and Joints</u> | | | | | | | | | | | |
| 1965 Applicants | 7.3 | 9.7 | 9.8 | 11.9 | 14.8 | 18.5 | 21.4 | 21.5 | 27.1 | 20.8 | 21.1 |
| Attrition Group | 7.0 | 10.2 | 11.4 | 15.0 | 17.7 | 20.6 | 25.5 | 24.5 | 26.9 | 21.5 | 31.9 |
| Airmen Still Active | 7.8 | 9.1 | 8.8 | 10.2 | 13.0 | 17.4 | 19.3 | 19.9 | 27.2 | 20.2 | 10.4 |
| <u>Muscles</u> | | | | | | | | | | | |
| 1965 Applicants | 1.4 | 1.1 | 1.5 | 1.4 | 2.1 | 1.7 | 2.1 | 2.8 | 2.9 | 2.0 | 2.6 |
| Attrition Group | 1.4 | 1.0 | 1.8 | 2.0 | 2.8 | 2.1 | 2.3 | 2.9 | 2.9 | 2.7 | 5.3 |
| Airmen Still Active | 1.5 | 1.2 | 1.3 | 1.0 | 1.7 | 1.5 | 2.0 | 2.7 | 2.8 | 1.4 | 0.0 |
| <u>Miscellaneous Conditions</u> | | | | | | | | | | | |
| 1965 Applicants | 22.3 | 17.5 | 12.7 | 13.0 | 15.0 | 14.3 | 17.6 | 16.6 | 15.1 | 13.7 | 11.4 |
| Attrition Group | 25.4 | 21.2 | 17.0 | 17.1 | 20.2 | 21.0 | 25.5 | 23.9 | 24.7 | 21.5 | 17.7 |
| Airmen Still Active | 17.6 | 13.6 | 9.8 | 10.5 | 11.7 | 10.9 | 13.5 | 12.7 | 8.9 | 7.7 | 5.2 |
| <u>TOTAL FOR AGE GROUP</u> | | | | | | | | | | | |
| 1965 Applicants | 96.4 | 101.4 | 103.1 | 113.9 | 133.5 | 150.2 | 168.9 | 188.1 | 212.6 | 225.1 | 243.2 |
| Attrition Group | 102.3 | 112.8 | 123.0 | 133.0 | 152.6 | 176.3 | 195.0 | 215.1 | 233.4 | 249.5 | 269.0 |
| Airmen Still Active | 87.3 | 88.9 | 89.5 | 102.8 | 121.5 | 136.6 | 155.6 | 173.6 | 199.2 | 206.1 | 217.8 |

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table VI
AGE DISTRIBUTION BY FREQUENCY OF FAA
EXAMINATION DURING STUDY INTERVAL -
ALL 1965 APPLICANTS

| Age At Entry | Frequency of Examination* | | | | | | | | | | Average Frequency Of Examination | Total |
|-----------------|---------------------------|--------|--------|--------|--------|-------|-------|-------|-------|-------|--|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ | | |
| < 20 | 7,643 | 3,983 | 2,852 | 1,346 | 796 | 243 | 51 | 7 | - | - | 2.1 | 16,921 |
| 20-24 | 16,505 | 8,579 | 7,007 | 4,171 | 4,099 | 1,536 | 421 | 160 | 116 | 71 | 2.5 | 42,665 |
| 25-29 | 12,740 | 8,162 | 7,778 | 4,629 | 7,053 | 2,738 | 896 | 610 | 349 | 357 | 3.1 | 45,312 |
| 30-34 | 11,451 | 9,504 | 10,498 | 4,809 | 7,266 | 2,203 | 856 | 913 | 754 | 710 | 3.2 | 48,964 |
| 35-39 | 10,694 | 10,073 | 11,994 | 3,565 | 5,069 | 1,113 | 574 | 647 | 918 | 1,174 | 3.1 | 45,821 |
| 40-44 | 9,662 | 9,494 | 12,696 | 4,180 | 6,866 | 1,179 | 494 | 673 | 1,264 | 3,048 | 3.5 | 49,556 |
| 45-49 | 6,028 | 5,917 | 8,528 | 2,648 | 4,473 | 593 | 243 | 269 | 695 | 2,292 | 3.6 | 31,686 |
| 50-54 | 2,822 | 2,849 | 4,680 | 1,158 | 1,925 | 149 | 82 | 74 | 230 | 842 | 3.3 | 14,811 |
| 55-59 | 1,405 | 1,421 | 2,361 | 506 | 877 | 85 | 76 | 81 | 92 | 103 | 3.0 | 7,007 |
| 60-64 | 592 | 554 | 882 | 186 | 311 | 11 | 5 | 3 | 6 | 4 | 2.7 | 2,554 |
| > 65 | 314 | 251 | 378 | 79 | 109 | 5 | 1 | 1 | 1 | - | 2.5 | 1,139 |
| TOTAL | 79,856 | 60,787 | 69,654 | 27,277 | 38,844 | 9,855 | 3,699 | 3,438 | 4,425 | 8,601 | 3.1 | 306,436 |
| Percent | 26.1 | 19.8 | 22.7 | 8.9 | 12.7 | 3.2 | 1.2 | 1.1 | 1.5 | 2.8 | | 100.0 |
| Mean Age | 32.5 | 34.9 | 37.2 | 34.3 | 35.8 | 32.0 | 33.6 | 35.8 | 39.2 | 42.2 | | 35.0 |

*Number of examinations between 1 January 1965 and 1 January 1970.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table VII

AGE DISTRIBUTION BY FREQUENCY OF FAA
EXAMINATION DURING STUDY INTERVAL -
AIRMEN STILL ACTIVE-1 January 1970

| Age At Entry | Frequency of Examination* | | | | | | | | | | Average Frequency Of Examination | Total |
|-----------------|---------------------------|--------|--------|--------|--------|-------|-------|-------|-------|-------|--|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ | | |
| < 20 | | 1,687 | 2,608 | 1,319 | 786 | 241 | 51 | 7 | - | - | 3.3 | 6,699 |
| 20-24 | | 3,720 | 6,296 | 4,087 | 4,075 | 1,530 | 421 | 159 | 116 | 71 | 3.8 | 20,475 |
| 25-29 | | 3,230 | 7,129 | 4,539 | 7,033 | 2,733 | 895 | 610 | 349 | 356 | 4.3 | 26,874 |
| 30-34 | | 3,852 | 9,716 | 4,701 | 7,238 | 2,192 | 851 | 913 | 754 | 710 | 4.3 | 30,927 |
| 35-39 | | 3,940 | 11,390 | 3,476 | 5,024 | 1,103 | 570 | 647 | 914 | 1,174 | 4.1 | 28,238 |
| 40-44 | | 3,439 | 11,746 | 4,031 | 6,797 | 1,153 | 476 | 663 | 1,258 | 3,042 | 4.6 | 32,605 |
| 45-49 | | 2,067 | 7,895 | 2,545 | 4,410 | 570 | 232 | 257 | 684 | 2,286 | 4.6 | 20,946 |
| 50-54 | | 926 | 4,416 | 1,102 | 1,891 | 126 | 76 | 67 | 221 | 835 | 4.2 | 9,660 |
| 55-59 | | 391 | 2,176 | 453 | 834 | 58 | 75 | 79 | 90 | 101 | 3.9 | 4,257 |
| 60-64 | | 113 | 811 | 178 | 306 | 10 | 5 | 3 | 6 | 4 | 3.6 | 1,436 |
| > 65 | | 37 | 344 | 77 | 108 | 5 | 1 | 1 | 1 | - | 3.5 | 574 |
| TOTAL | | 23,402 | 64,527 | 26,508 | 38,502 | 9,721 | 3,653 | 3,406 | 4,393 | 8,579 | 4.2 | 182,691 |
| Percent | | 12.8 | 35.3 | 14.5 | 21.1 | 5.3 | 2.0 | 1.9 | 2.4 | 4.7 | | 100.0 |
| Mean Age | | 33.9 | 37.3 | 34.2 | 35.8 | 31.8 | 33.5 | 35.7 | 39.1 | 42.2 | | 36.0 |

*Number of examinations between 1 January 1965 and 1 January 1970.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table VIII
AGE DISTRIBUTION BY FREQUENCY OF FAA
EXAMINATION DURING STUDY INTERVAL -
ATTRITION GROUP

| Age At Entry | Frequency of Examination* | | | | | | | | | | Average Frequency Of Examination | Total |
|-----------------|---------------------------|--------|-------|------|------|------|------|------|------|------|--|---------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10+ | | |
| <20 | 7,643 | 2,296 | 244 | 27 | 10 | 2 | - | - | - | - | 1.3 | 10,222 |
| 20-24 | 16,505 | 4,859 | 711 | 84 | 24 | 6 | - | 1 | - | - | 1.3 | 22,190 |
| 25-29 | 12,740 | 4,932 | 649 | 90 | 20 | 5 | 1 | - | - | 1 | 1.4 | 18,438 |
| 30-34 | 11,451 | 5,652 | 782 | 108 | 28 | 11 | 5 | - | - | - | 1.4 | 18,037 |
| 35-39 | 10,694 | 6,133 | 604 | 89 | 45 | 10 | 4 | - | 4 | - | 1.4 | 17,583 |
| 40-44 | 9,662 | 6,055 | 950 | 149 | 69 | 26 | 18 | 10 | 6 | 6 | 1.5 | 16,951 |
| 45-49 | 6,028 | 3,850 | 633 | 103 | 63 | 23 | 11 | 12 | 11 | 6 | 1.6 | 10,740 |
| 50-54 | 2,822 | 1,923 | 264 | 56 | 34 | 23 | 6 | 7 | 9 | 7 | 1.6 | 5,151 |
| 55-59 | 1,405 | 1,030 | 185 | 53 | 43 | 27 | 1 | 2 | 2 | 2 | 1.7 | 2,750 |
| 60-64 | 592 | 441 | 71 | 8 | 5 | 1 | - | - | - | - | 1.6 | 1,118 |
| > 65 | 314 | 214 | 34 | 2 | 1 | - | - | - | - | - | 1.5 | 565 |
| TOTAL | 79,856 | 37,385 | 5,127 | 769 | 342 | 134 | 46 | 32 | 32 | 22 | 1.4 | 123,745 |
| Percent | 64.6 | 30.2 | 4.2 | 0.6 | 0.3 | 0.1 | 0.0+ | 0.0+ | 0.0+ | 0.0+ | | 100.0 |
| Mean Age | 32.5 | 35.5 | 36.3 | 38.0 | 41.8 | 44.8 | 43.0 | 46.4 | 46.8 | 47.2 | | 33.7 |

*Number of examinations for those originally issued in 1965 whose most recent examination was over 24 calendar months as of 1 January 1970, including those denied subsequent to their examination in 1965.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table IX
INCIDENCE OF PATHOLOGY BY FREQUENCY OF
EXAMINATION AND MAJOR BODY SYSTEM
(000)

| Frequency of Examination | Eye | Ears, Nose, Throat & Mouth | Respiratory | Cardiovascular | Abdominal | Neuro- Psychiatric | Bones and Joints | Muscles | Miscellaneous Conditions | Total |
|--|-----------|-------------------------------|-------------|----------------|-----------|-----------------------|------------------------|---------|-----------------------------|------------|
| 2 | 11.2 | 4.1 | 2.6 | 14.5 | 23.4 | 8.0 | 5.4 | 0.9 | 18.0 | 81.1 |
| 3 | 19.1 | 8.3 | 3.7 | 21.6 | 41.3 | 10.0 | 9.6 | 1.2 | 18.4 | 119.4 |
| 4 | 17.5 | 11.1 | 5.6 | 28.0 | 45.6 | 13.4 | 10.2 | 1.3 | 22.0 | 137.3 |
| 5 | 16.6 | 12.8 | 5.7 | 23.6 | 46.7 | 11.5 | 10.9 | 1.3 | 15.3 | 127.8 |
| 6 | 17.8 | 15.9 | 7.6 | 32.3 | 52.4 | 16.5 | 13.4 | 1.4 | 18.5 | 153.2 |
| 7 | 19.2 | 12.7 | 5.4 | 28.9 | 46.2 | 12.2 | 11.6 | 1.1 | 19.5 | 137.3 |
| 8 | 11.9 | 11.1 | 5.8 | 20.7 | 52.9 | 11.3 | 8.7 | 1.2 | 16.0 | 121.6 |
| 9 | 13.6 | 14.2 | 5.2 | 25.5 | 55.4 | 13.6 | 12.9 | 2.0 | 14.5 | 139.4 |
| 10 + | 12.3 | 14.8 | 4.9 | 19.2 | 59.5 | 12.2 | 11.6 | 0.9 | 13.6 | 135.4 |
| Range | 11.2-19.2 | 4.1-15.9 | 2.6-7.6 | 14.5-32.3 | 23.4-59.5 | 8.0-16.5 | 5.4-13.4 | 0.9-2.0 | 13.6-22.0 | 81.1-153.2 |
| Relative Increase or (Decrease) with Increased Freq. of Exam. | 71.4% | 287.8% | 192.3% | 122.8% | 154.3% | 106.2% | 148.1% | 122.2% | (38.2%) | 88.9% |
| Absolute Increase or (Decrease) with Increased Freq. of Exam. | 7.0 | 11.8 | 5.0 | 17.8 | 36.1 | 8.5 | 8.0 | 1.1 | (8.4) | 72.1 |

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table X
INCIDENCE OF CRITICAL AND NON-CRITICAL PATHOLOGY
AMONG 1965 APPLICANTS BY AGE AND BODY SYSTEM

| Body System | Age At Entry | | | | | | | | | | | Total | |
|--|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------------------------|---------------------------------------|
| | <20 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | >65 | Frequency of Occurrence | Incidence Rate Per 10,000 Person Yrs. |
| <u>Eye</u> | | | | | | | | | | | | | |
| Critical Path Freq | 160 | 285 | 256 | 248 | 241 | 264 | 213 | 128 | 75 | 31 | 28 | 1,929 | 24.8 |
| Non-Critical Path Freq | 65 | 157 | 218 | 247 | 228 | 327 | 209 | 114 | 58 | 19 | 13 | 1,655 | 21.3 |
| Total Cell Frequency | 225 | 442 | 474 | 495 | 469 | 591 | 422 | 242 | 133 | 50 | 41 | 3,584 | 46.1 |
| <u>Ears, Nose, Throat & Mouth</u> | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 1 | 2 | 5 | 6 | 8 | 15 | 9 | 7 | 2 | | 56 | 0.7 |
| Non-Critical Path Freq | 36 | 141 | 255 | 300 | 296 | 417 | 310 | 148 | 61 | 25 | 14 | 2,003 | 25.7 |
| Total Cell Frequency | 37 | 142 | 257 | 305 | 302 | 425 | 325 | 157 | 68 | 27 | 14 | 2,059 | 26.4 |
| <u>Respiratory</u> | | | | | | | | | | | | | |
| Critical Path Freq | - | - | 1 | 3 | 5 | 12 | 16 | 6 | 4 | 3 | 1 | 51 | 0.6 |
| Non-Critical Path Freq | 23 | 81 | 120 | 153 | 118 | 165 | 144 | 64 | 27 | 16 | 7 | 918 | 11.8 |
| Total Cell Frequency | 23 | 81 | 121 | 156 | 123 | 177 | 160 | 70 | 31 | 19 | 8 | 969 | 12.4 |
| <u>Cardiovascular</u> | | | | | | | | | | | | | |
| Critical Path Freq | 3 | 12 | 37 | 86 | 143 | 373 | 357 | 212 | 118 | 38 | 17 | 1,396 | 17.9 |
| Non-Critical Path Freq | 147 | 362 | 345 | 436 | 456 | 642 | 508 | 287 | 144 | 71 | 49 | 3,447 | 44.3 |
| Total Cell Frequency | 150 | 374 | 382 | 522 | 599 | 1,015 | 865 | 499 | 262 | 109 | 66 | 4,843 | 62.2 |
| <u>Abdominal</u> | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 17 | 28 | 45 | 55 | 79 | 75 | 38 | 22 | 7 | 5 | 372 | 4.8 |
| Non-Critical Path Freq | 139 | 555 | 831 | 1,197 | 1,294 | 1,863 | 1,424 | 716 | 373 | 161 | 59 | 8,612 | 110.6 |
| Total Cell Frequency | 140 | 572 | 859 | 1,242 | 1,349 | 1,942 | 1,499 | 754 | 395 | 168 | 64 | 8,984 | 115.4 |
| <u>Neuropsychiatric</u> | | | | | | | | | | | | | |
| Critical Path Freq | 10 | 27 | 31 | 38 | 34 | 54 | 41 | 21 | 7 | 5 | 1 | 269 | 3.5 |
| Non-Critical Path Freq | 82 | 226 | 255 | 347 | 368 | 412 | 275 | 119 | 39 | 12 | 5 | 2,140 | 27.5 |
| Total Cell Frequency | 92 | 253 | 286 | 385 | 402 | 466 | 316 | 140 | 46 | 17 | 6 | 2,409 | 31.0 |
| <u>Bones and Joints</u> | | | | | | | | | | | | | |
| Critical Path Freq | 9 | 29 | 44 | 58 | 76 | 121 | 76 | 42 | 29 | 12 | 1 | 497 | 6.4 |
| Non-Critical Path Freq | 41 | 99 | 166 | 216 | 219 | 333 | 272 | 129 | 66 | 14 | 7 | 1,562 | 20.1 |
| Total Cell Frequency | 50 | 128 | 210 | 274 | 295 | 454 | 348 | 171 | 95 | 26 | 8 | 2,059 | 26.5 |
| <u>Muscles</u> | | | | | | | | | | | | | |
| Critical Path Freq | 4 | 13 | 11 | 20 | 23 | 38 | 25 | 10 | 3 | - | - | 147 | 1.9 |
| Non-Critical Path Freq | 1 | 6 | 12 | 15 | 17 | 25 | 18 | 10 | 4 | 8 | 2 | 118 | 1.5 |
| Total Cell Frequency | 5 | 19 | 23 | 35 | 40 | 63 | 43 | 20 | 7 | 8 | 2 | 265 | 3.4 |
| <u>Miscellaneous Conditions</u> | | | | | | | | | | | | | |
| Critical Path Freq | 6 | 22 | 44 | 64 | 77 | 157 | 133 | 74 | 23 | 10 | 9 | 619 | 8.0 |
| Non-Critical Path Freq | 154 | 308 | 404 | 484 | 543 | 625 | 492 | 247 | 119 | 40 | 25 | 3,441 | 44.2 |
| Total Cell Frequency | 160 | 330 | 448 | 548 | 620 | 782 | 625 | 321 | 142 | 50 | 34 | 4,060 | 52.2 |
| <u>TOTAL</u> | | | | | | | | | | | | | |
| Critical Path Freq | 194 | 401 | 451 | 555 | 649 | 1,065 | 915 | 517 | 280 | 101 | 60 | 5,188 | 66.7 |
| Non-Critical Path Freq | 628 | 1,779 | 2,364 | 3,056 | 3,177 | 4,198 | 3,081 | 1,496 | 764 | 300 | 140 | 20,983 | 269.6 |
| Total Frequency for Age Group | 822 | 2,180 | 2,815 | 3,611 | 3,826 | 5,263 | 3,996 | 2,013 | 1,044 | 401 | 200 | 26,171 | 336.3 |

NOTES:

Age was computed as of the date of first examination during 1965 to last birthday and represents age at entry.

Incidence of disease is defined as the occurrence of pathology other than that recorded on the first examination during 1965. Critical and non-critical codes are identified in the Appendix.

Row totals represent the incidence of pathology by body system among all 1965 applicants. Only categories within a system are mutually exclusive, i.e., critical, non-critical, thus row totals for the different systems are not additive downward. Multiple incidence within a system is counted once according to category. The row total for a system does represent airmen.

Column totals represent the incidence of pathology, regardless of system, by category, recorded since the first examination during 1965, by age interval, among all 1965 applicants. Individual column values are not additive downward; however, column totals are additive across for incidence by category of pathology during the interval. Column totals do represent airmen.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table XI
INCIDENCE OF CRITICAL AND NON-CRITICAL PATHOLOGY
AMONG AIRMEN STILL ACTIVE BY AGE AND BODY SYSTEM

| Body System | Age At Entry | | | | | | | | | | | Total | |
|---------------------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------------------------|---------------------------------------|
| | <20 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | >65 | Frequency of Occurrence | Incidence Rate Per 10,000 Person Yrs. |
| Eye | | | | | | | | | | | | | |
| Critical Path Freq | 129 | 243 | 203 | 219 | 202 | 222 | 183 | 109 | 58 | 25 | 22 | 1,615 | 23.0 |
| Non-Critical Path Freq | 48 | 132 | 190 | 219 | 198 | 276 | 174 | 94 | 48 | 11 | 8 | 1,398 | 20.0 |
| Total Cell Frequency | 177 | 375 | 393 | 438 | 400 | 498 | 357 | 203 | 106 | 36 | 30 | 3,013 | 43.0 |
| Ears, Nose, Throat & Mouth | | | | | | | | | | | | | |
| Critical Path Freq | 1 | - | 1 | 4 | 6 | 6 | 13 | 7 | 7 | 1 | - | 46 | 0.7 |
| Non-Critical Path Freq | 31 | 111 | 219 | 263 | 256 | 366 | 273 | 127 | 46 | 23 | 11 | 1,726 | 24.6 |
| Total Cell Frequency | 32 | 111 | 220 | 267 | 262 | 372 | 286 | 134 | 53 | 24 | 11 | 1,772 | 25.3 |
| Respiratory | | | | | | | | | | | | | |
| Critical Path Freq | - | - | 1 | 3 | 4 | 9 | 14 | 4 | 1 | 1 | 1 | 38 | 0.5 |
| Non-Critical Path Freq | 18 | 67 | 102 | 127 | 103 | 143 | 109 | 52 | 17 | 10 | 6 | 754 | 10.8 |
| Total Cell Frequency | 18 | 67 | 103 | 130 | 107 | 152 | 123 | 56 | 18 | 11 | 7 | 792 | 11.3 |
| Cardiovascular | | | | | | | | | | | | | |
| Critical Path Freq | 2 | 8 | 26 | 42 | 86 | 186 | 178 | 101 | 44 | 17 | 6 | 696 | 9.9 |
| Non-Critical Path Freq | 112 | 297 | 299 | 362 | 373 | 515 | 394 | 206 | 92 | 42 | 30 | 2,722 | 38.9 |
| Total Cell Frequency | 114 | 305 | 325 | 404 | 459 | 701 | 572 | 307 | 136 | 59 | 36 | 3,418 | 48.8 |
| Abdominal | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 13 | 22 | 40 | 48 | 62 | 62 | 28 | 17 | 5 | 2 | 300 | 4.3 |
| Non-Critical Path Freq | 107 | 455 | 709 | 1,033 | 1,075 | 1,581 | 1,204 | 605 | 293 | 120 | 46 | 7,228 | 103.1 |
| Total Cell Frequency | 108 | 468 | 731 | 1,073 | 1,123 | 1,643 | 1,266 | 633 | 310 | 125 | 48 | 7,528 | 107.4 |
| Neuropsychiatric | | | | | | | | | | | | | |
| Critical Path Freq | 3 | 10 | 10 | 11 | 15 | 25 | 10 | 4 | 1 | 1 | - | 90 | 1.3 |
| Non-Critical Path Freq | 53 | 154 | 200 | 272 | 271 | 323 | 210 | 78 | 23 | 8 | 2 | 1,594 | 22.7 |
| Total Cell Frequency | 56 | 164 | 210 | 283 | 286 | 348 | 220 | 82 | 24 | 9 | 2 | 1,684 | 24.0 |
| Bones and Joints | | | | | | | | | | | | | |
| Critical Path Freq | 8 | 24 | 37 | 46 | 61 | 98 | 63 | 35 | 27 | 7 | - | 406 | 5.8 |
| Non-Critical Path Freq | 25 | 81 | 130 | 192 | 185 | 280 | 228 | 102 | 52 | 10 | 6 | 1,291 | 18.4 |
| Total Cell Frequency | 33 | 105 | 167 | 238 | 246 | 378 | 291 | 137 | 79 | 17 | 6 | 1,697 | 24.2 |
| Muscles | | | | | | | | | | | | | |
| Critical Path Freq | 3 | 11 | 9 | 19 | 17 | 30 | 19 | 10 | 1 | - | - | 119 | 1.7 |
| Non-Critical Path Freq | 1 | 4 | 11 | 12 | 13 | 19 | 14 | 8 | 3 | 5 | 1 | 91 | 1.3 |
| Total Cell Frequency | 4 | 15 | 20 | 31 | 30 | 49 | 33 | 18 | 4 | 5 | 1 | 210 | 3.0 |
| Miscellaneous Conditions | | | | | | | | | | | | | |
| Critical Path Freq | 4 | 17 | 33 | 50 | 57 | 120 | 91 | 58 | 14 | 7 | 4 | 455 | 6.5 |
| Non-Critical Path Freq | 94 | 184 | 257 | 312 | 317 | 354 | 299 | 135 | 46 | 19 | 8 | 2,025 | 28.9 |
| Total Cell Frequency | 98 | 201 | 290 | 362 | 374 | 474 | 390 | 193 | 60 | 26 | 12 | 2,480 | 35.4 |
| TOTAL | | | | | | | | | | | | | |
| Critical Path Freq | 151 | 321 | 339 | 425 | 486 | 734 | 612 | 343 | 166 | 61 | 33 | 3,671 | 52.4 |
| Non-Critical Path Freq | 442 | 1,367 | 1,932 | 2,532 | 2,514 | 3,435 | 2,515 | 1,187 | 550 | 212 | 97 | 16,783 | 239.5 |
| Total Frequency for Age Group | 593 | 1,688 | 2,271 | 2,957 | 3,000 | 4,169 | 3,127 | 1,530 | 716 | 273 | 130 | 20,454 | 291.9 |

NOTES:

Age was computed as of the date of first examination during 1965 to last birthday and represents age at entry.

Incidence of disease is defined as the occurrence of pathology other than that recorded on the first examination during 1965. Critical and non-critical codes are identified in the Appendix.

An airman is considered currently active if his most recent examination was within the preceding 24 calendar months as of 1 January 1970 and was certified as meeting medical standards.

Row totals represent the incidence of pathology by body system among airmen still active as of 1 January 1970. Only categories within a system are mutually exclusive, i.e., critical, non-critical, thus row totals for the different systems are not additive downward. Multiple incidence within a system is counted once according to category. The row total for a system does represent airmen.

Column totals represent the incidence of pathology, regardless of system, by category, recorded since the first examination during 1965, by age interval, among airmen still active as of 1 January 1970. Individual column values are not additive downward; however, column totals are additive across for incidence by category of pathology during the interval. Column totals do represent airmen.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table XII
INCIDENCE OF CRITICAL AND NON-CRITICAL PATHOLOGY
AMONG ATTRITION GROUP BY AGE AND BODY SYSTEM

| Body System | Age At Entry | | | | | | | | | | | Total | |
|---------------------------------------|--------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-----|-------------------------|--------------------------------------|
| | <20 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 | 50-54 | 55-59 | 60-64 | >65 | Frequency of Occurrence | Incidence Rate Per 10,000 Person Yrs |
| <u>Eye</u> | | | | | | | | | | | | | |
| Critical Path Freq | 31 | 42 | 53 | 29 | 39 | 42 | 30 | 19 | 17 | 6 | 6 | 314 | 40.5 |
| Non-Critical Path Freq | 17 | 25 | 28 | 28 | 30 | 51 | 35 | 20 | 10 | 8 | 5 | 257 | 33.2 |
| Total Cell Frequency | 48 | 67 | 81 | 57 | 69 | 93 | 65 | 39 | 27 | 14 | 11 | 571 | 73.7 |
| <u>Ears, Nose, Throat & Mouth</u> | | | | | | | | | | | | | |
| Critical Path Freq | - | 1 | 1 | 1 | - | 2 | 2 | 2 | - | 1 | - | 10 | 1.3 |
| Non-Critical Path Freq | 5 | 30 | 36 | 37 | 40 | 51 | 37 | 21 | 15 | 2 | 3 | 277 | 35.7 |
| Total Cell Frequency | 5 | 31 | 37 | 38 | 40 | 53 | 39 | 23 | 15 | 3 | 3 | 287 | 37.0 |
| <u>Respiratory</u> | | | | | | | | | | | | | |
| Critical Path Freq | - | - | - | - | 1 | 3 | 2 | 2 | 3 | 2 | - | 13 | 1.7 |
| Non-Critical Path Freq | 5 | 14 | 18 | 26 | 15 | 22 | 35 | 12 | 10 | 6 | 1 | 164 | 21.1 |
| Total Cell Frequency | 5 | 14 | 18 | 26 | 16 | 25 | 37 | 14 | 13 | 8 | 1 | 177 | 22.8 |
| <u>Cardiovascular</u> | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 4 | 11 | 44 | 57 | 187 | 179 | 111 | 74 | 21 | 11 | 700 | 90.3 |
| Non-Critical Path Freq | 35 | 65 | 46 | 74 | 83 | 127 | 114 | 81 | 52 | 29 | 19 | 725 | 93.5 |
| Total Cell Frequency | 36 | 69 | 57 | 118 | 140 | 314 | 293 | 192 | 126 | 50 | 30 | 1,425 | 183.8 |
| <u>Abdominal</u> | | | | | | | | | | | | | |
| Critical Path Freq | - | 4 | 6 | 5 | 7 | 17 | 13 | 10 | 5 | 2 | 3 | 72 | 9.3 |
| Non-Critical Path Freq | 32 | 100 | 122 | 164 | 219 | 282 | 220 | 111 | 80 | 41 | 13 | 1,384 | 178.5 |
| Total Cell Frequency | 32 | 104 | 128 | 169 | 226 | 299 | 233 | 121 | 85 | 43 | 16 | 1,456 | 187.8 |
| <u>Neuropsychiatric</u> | | | | | | | | | | | | | |
| Critical Path Freq | 7 | 17 | 21 | 27 | 19 | 29 | 31 | 17 | 6 | 4 | 1 | 179 | 23.1 |
| Non-Critical Path Freq | 29 | 72 | 55 | 75 | 97 | 89 | 65 | 41 | 16 | 4 | 3 | 546 | 70.4 |
| Total Cell Frequency | 36 | 89 | 76 | 102 | 116 | 118 | 96 | 58 | 22 | 8 | 4 | 725 | 93.5 |
| <u>Bones and Joints</u> | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 5 | 7 | 12 | 15 | 23 | 13 | 7 | 2 | 5 | 1 | 91 | 11.7 |
| Non-Critical Path Freq | 16 | 18 | 36 | 24 | 34 | 53 | 44 | 27 | 14 | 4 | 1 | 271 | 35.0 |
| Total Cell Frequency | 17 | 23 | 43 | 36 | 49 | 76 | 57 | 34 | 16 | 9 | 2 | 362 | 46.7 |
| <u>Muscles</u> | | | | | | | | | | | | | |
| Critical Path Freq | 1 | 2 | 2 | 1 | 6 | 8 | 6 | - | 2 | - | - | 28 | 3.6 |
| Non-Critical Path Freq | - | 2 | 1 | 3 | 4 | 6 | 4 | 2 | 1 | 3 | 1 | 27 | 3.5 |
| Total Cell Frequency | 1 | 4 | 3 | 4 | 10 | 14 | 10 | 2 | 3 | 3 | 1 | 55 | 7.1 |
| <u>Miscellaneous Conditions</u> | | | | | | | | | | | | | |
| Critical Path Freq | 2 | 5 | 11 | 14 | 20 | 37 | 42 | 16 | 9 | 3 | 5 | 164 | 21.1 |
| Non-Critical Path Freq | 60 | 124 | 147 | 172 | 226 | 271 | 193 | 112 | 73 | 21 | 17 | 1,416 | 182.7 |
| Total Cell Frequency | 62 | 129 | 158 | 186 | 246 | 308 | 235 | 128 | 82 | 24 | 22 | 1,580 | 203.8 |
| <u>TOTAL</u> | | | | | | | | | | | | | |
| Critical Path Freq | 43 | 80 | 112 | 130 | 163 | 331 | 303 | 174 | 114 | 40 | 27 | 1,517 | 195.7 |
| Non-Critical Path Freq | 186 | 412 | 432 | 524 | 663 | 763 | 566 | 309 | 214 | 88 | 43 | 4,200 | 541.8 |
| Total Frequency for Age Group | 229 | 492 | 544 | 654 | 826 | 1,094 | 869 | 483 | 328 | 128 | 70 | 5,717 | 737.5 |

NOTES:

Age was computed as of the date of first examination during 1965 to last birthday and represents age at entry.

Incidence of disease is defined as the occurrence of pathology other than that recorded on the first examination during 1965. Critical and non-critical codes are identified in the Appendix.

Attrition includes those originally issued in 1965 whose most recent examination was over 24 calendar months ago as of 1 January 1970; also, includes those denied subsequent to their examination in 1965.

Row totals represent the incidence of pathology by body system among the attrition group. Only categories within a system are mutually exclusive, i.e., critical, non-critical, thus row totals for the different systems are not additive downward. Multiple incidence within a system is counted once according to category. The row total for a system does represent airmen.

Column totals represent the incidence of pathology, regardless of system, by category, recorded since the first examination during 1965, by age interval, among the attrition group. Individual column values are not additive downward; however, column totals are additive across for incidence by category of pathology during the interval. Column totals do represent airmen.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table XIII
INCIDENCE OF CRITICAL AND NON-CRITICAL PATHOLOGY
1965 APPLICANTS VERSUS ATTRITION VERSUS AIRMEN STILL ACTIVE

| Body System | Incidence Rate per 10,000 Person Years | | |
|---------------------------------------|--|-----------------|---------------------|
| | 1965 Applicants | Attrition Group | Airmen Still Active |
| <u>Eye</u> | | | |
| Critical Pathology | 24.8 | 40.5 | 23.0 |
| Non-Critical Pathology | 21.3 | 33.2 | 20.0 |
| Total Pathology | 46.1 | 73.7 | 43.0 |
| <u>Ears, Nose, Throat & Mouth</u> | | | |
| Critical Pathology | 0.7 | 1.3 | 0.7 |
| Non-Critical Pathology | 25.7 | 35.7 | 24.6 |
| Total Pathology | 26.4 | 37.0 | 25.3 |
| <u>Respiratory</u> | | | |
| Critical Pathology | 0.6 | 1.7 | 0.5 |
| Non-Critical Pathology | 11.8 | 21.1 | 10.8 |
| Total Pathology | 12.4 | 22.8 | 11.3 |
| <u>Cardiovascular</u> | | | |
| Critical Pathology | 17.9 | 90.3 | 9.9 |
| Non-Critical Pathology | 44.3 | 93.5 | 38.9 |
| Total Pathology | 62.2 | 183.8 | 48.8 |
| <u>Abdominal</u> | | | |
| Critical Pathology | 4.8 | 9.3 | 4.3 |
| Non-Critical Pathology | 110.6 | 178.5 | 103.1 |
| Total Pathology | 115.4 | 187.8 | 107.4 |
| <u>Neuropsychiatric</u> | | | |
| Critical Pathology | 3.5 | 23.1 | 1.3 |
| Non-Critical Pathology | 27.5 | 70.4 | 22.7 |
| Total Pathology | 31.0 | 93.5 | 24.0 |
| <u>Bones and Joints</u> | | | |
| Critical Pathology | 6.4 | 11.7 | 5.8 |
| Non-Critical Pathology | 20.1 | 35.0 | 18.4 |
| Total Pathology | 26.5 | 46.7 | 24.2 |
| <u>Muscles</u> | | | |
| Critical Pathology | 1.9 | 3.6 | 1.7 |
| Non-Critical Pathology | 1.5 | 3.5 | 1.3 |
| Total Pathology | 3.4 | 7.1 | 3.0 |
| <u>Miscellaneous Conditions</u> | | | |
| Critical Pathology | 8.0 | 21.1 | 6.5 |
| Non-Critical Pathology | 44.2 | 182.7 | 28.9 |
| Total Pathology | 52.2 | 203.8 | 35.4 |
| <u>TOTAL</u> | | | |
| Critical Pathology | 66.7 | 195.7 | 52.4 |
| Non-Critical Pathology | 269.6 | 541.8 | 239.5 |
| Total Pathology | 336.3 | 737.5 | 291.9 |

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table XIV

MOST RECENT FAA EXAMINATION AND PATHOLOGY STATUS*
ALL 1965 APPLICANTS

| Year | Critical** | | Non-Critical** | | Without Pathology | | Total | |
|-----------------------|------------|---------|----------------|---------|-------------------|---------|-----------|---------|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| 1965 | 1,893 | 2.4 | 9,762 | 12.1 | 68,711 | 85.5 | 80,366 | 100.0 |
| Subtotal | 1,893 | 2.4 | 9,762 | 12.1 | 68,711 | 85.5 | 80,366 | 100.0 |
| 1966 | 229 | 3.5 | 807 | 12.4 | 5,462 | 84.1 | 6,498 | 100.0 |
| 1967 | 1,426 | 4.0 | 3,513 | 9.9 | 30,569 | 86.1 | 35,508 | 100.0 |
| Subtotal ⁺ | 1,655 | 3.9 | 4,320 | 10.3 | 36,031 | 85.8 | 42,006 | 100.0 |
| 1968 | 1,361 | 3.8 | 2,055 | 5.8 | 32,088 | 90.4 | 35,504 | 100.0 |
| 1969 | 5,131 | 3.4 | 6,168 | 4.2 | 137,261 | 92.4 | 148,560 | 100.0 |
| Subtotal ⁺ | 6,492 | 3.5 | 8,223 | 4.5 | 169,349 | 92.0 | 184,064 | 100.0 |
| TOTAL | 10,040 | 3.3 | 22,305 | 7.3 | 274,091 | 89.4 | 306,436 | 100.0 |

*Pathology status as of last examination.

**Critical and non-critical codes are identified in the Appendix.

+Subtotals presented here differ slightly from previous totals for attrition and still actives because denials for the last two years are counted under the year of last examination in this table and as attrition in other tables.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

Table XV
ATTRITION GROUP VERSUS ACTIVE ARMEN
BY CLASS OF MEDICAL CERTIFICATE

| Group | First Class * | | Second Class * | | Third Class * | | Total | |
|--------------|---------------|---------|----------------|---------|---------------|---------|-----------|---------|
| | Frequency | Percent | Frequency | Percent | Frequency | Percent | Frequency | Percent |
| Attrition ** | 5,346 | 10.5 | 31,720 | 27.5 | 86,679 | 61.9 | 123,745 | 40.4 |
| Active | 45,739 | 89.5 | 83,618 | 72.5 | 53,334 | 38.1 | 182,691 | 59.6 |
| TOTAL | 51,085 | 100.0 | 115,338 | 100.0 | 140,013 | 100.0 | 306,436 | 100.0 |

*Class of medical certificate determined by class issued code or if denied or pending by class applied for code.

**Attrition includes those originally issued in 1965 whose most recent examination was over 24 calendar months ago as of 1 January 1970; also, includes those denied subsequent to their examination in 1965.

Source: Civil Aeromedical Institute, Aeromedical Certification Branch, Medical Statistical Section.

APPENDIX

CRITICAL MEDICAL CONDITIONS

Eye

Diplopia within 35° (homonymous, vertical heteronymous)
 Aphakia (absence of the lens)
 Cataract (opacity of lens)
 Glaucoma
 Fails color signal test
 Wears contact lenses
 Blindness or absence of either eye (light perception only)

Ear, Nose, Throat & Mouth

Mute
 Deaf Mute

Cardiovascular

Myocardial infarction (heart attack, coronary occlusion or thrombosis)
 Coronary artery disease—heart disease, includes angina pectoris
 Special heart pathology
 Fibrillation (auricular)
 Hypertension with heart pathology
 Hypertension with medication

Abdominal

Complicated ulcer—bleeding, perforation, obstruction, severe pain

Neuropsychiatric

Brain

Vascular—thrombosis, occlusion, stroke, embolism, aneurysm, spasm, hematoma, subdural or epidural hemorrhage, CVA etc.

Convulsive Reactions—epilepsy, grand mal, petit mal

Degenerative—atrophy, multiple sclerosis, chronic brain disease

Spinal Cord

Degenerative—tabes, disseminated sclerosis, ascending paralysis, amyotrophic lateral sclerosis, etc.

Psychotic Disorders (Not Attributed to Physical Condition)

Schizophrenia

Major Affective Disorders

Paranoid States

Other Psychoses

Personality Disorders and Certain Other Non-Psychotic Mental Disorders

A personality disorder that is severe enough to have repeatedly manifested itself by overt acts.

Chronic Alcoholism

Drug Addiction

Mental Deficiencies

Mental Deficiency—congenital or acquired

Miscellaneous Conditions

Diabetes, controlled by diet

Diabetes, controlled by insulin

Diabetes, controlled by hypoglycemic drugs (other than insulin)

Collagenous Diseases

Neoplasm

Deformed by Amputation

Deformed by Limitation of Motion

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