

## CHAPTER II

# Values of Gymnastics and Tumbling

### OBJECTIVES

The objectives remain the same in wartime, but the emphasis changes. More emphasis should be placed upon organic health and conditioning so that the developing individual may make adequate adjustment to immediate circumstances.

War stresses the need of the acme of physical fitness. The profession of physical education then, must re-evaluate its program of activities, methods, and standards. At all times, of course, sound principles of methodology should be applied. The Naval Aviation Physical Training Program is primarily concerned with the development of coordination together with mental and physical fitness.

The fundamental factors of physical fitness are agility, balance, strength, endurance, power, and flexibility. It is to be expected that certain activities lend themselves favorably to the development of such factors. Perhaps gymnastics has more to offer than any other single activity toward an all-round development, but it is perhaps least effective so far as endurance is concerned. Therefore, the gymnastic program should be supplemented with endurance-promoting activities such as running and swimming, which demand sustained maximum effort.

Customarily, gymnastics requires apparatus, but when apparatus is not available, programs may be adapted accordingly. Effective conditioning work can be accomplished by calisthenics, particularly when flexibility and balance are the desired outcomes. Every effort should be made to make activities practical.

To match the swift pace of modern warfare, the naval aviator must attain a high degree of physical fitness not ordinarily possessed by the average cadet entering training. It must be acquired, then, through an effectively administered conditioning program from which the cadet should emerge in superb physical condition and imbued with the necessity of maintaining it.

Eleven conditioning departments have been set up at the Naval Aviation Pre-flight Schools: those of football, basketball, military track, wrestling, boxing, swimming, soccer, hand-to-hand, gymnastics and tumbling, mass exercise, and labor engineering. Each department makes its particular contribution toward a well developed, coordinated, self-disciplined, and self-confident aviator who will be able physically, mentally, and emotionally to compete to advantage with the best that the enemy can put in the air.

### GYMNASTICS DOVETAILS WITH OTHER DEPARTMENTS

Perhaps an outstanding characteristic of gymnastics is that it dovetails most effectively with the entire physical training program. A developmental program may be organized to good advantage for the men who fail the initial tests given by the

Mass Exercise Department. In six weeks, below par men\* may attain the standards required at the base after a progressive program of gymnastics.

The cadet upon recognizing his weakness is anxious to correct it. Usually his legs are in fairly good condition but his upper body indicates need of development. As his physical condition improves, he becomes more confident and tends to give a better account of himself in other activities.

### THE PURPOSE OF THE PROGRAM

The purpose of the gymnastic and tumbling program, planned progressively is to:

1. Improve the entire musculature.
2. Encourage quick and correct decision and action.
3. Build upper body strength.
4. Maintain the acme of physical fitness by continuing practice on the skills previously learned.

### VALUES

1. Gymnastics contributes to the development of upper body strength. Physical tests given to incoming cadets at pre-flight schools during World War II indicated a deficiency in upper body strength, especially in the muscles of the shoulder girdle, the triceps, the abdomen, and the back. Effective administration of progressively arranged gymnastic activities did much to meet this deficiency.

2. Gymnastics provides opportunity for the development of power. Rope climbing, throwing the medicine ball for distance, and gymnastic routines require maximum effort and hence develop power.

3. Gymnastics provides for the development of muscular coordination or neuro-muscular control. The fundamental activities of running, climbing, and jumping are combined in a unique way in gymnastic routines. Twisting or turning, bending, circling, and swinging movements occur in rapid succession during the routines in the upright or standing position, in the hang, the support, and in various other positions. Perhaps no athletic activity other than gymnastics and tumbling provides the opportunity for the development of maximum muscular coordination and neuro-muscular control; and perhaps no war activity demands the acme of muscular coordination and neuro-muscular control as much as aviation.

4. Gymnastics contributes to the development of suppleness, elasticity, litheness and flexibility, permitting full range of body movement and control.

5. Gymnastics develops a sense of re-location. A series of fast forward rolls on the mats, or hip circles on the horizontal bar, or a workout on the aerowheel or trampoline, may cause dizziness at first. Two weeks of daily practice should condition him effectively.

Both poise and equilibrium are outcomes of the sense of re-location, which affords an awareness on the part of the aviator that he is inverted when he is flying upside down.

\* Gymnastics can also plan an effective program for cadets with leg injuries as well as supervise an individual development room.

See Chapter XII on Supplementary Programs p. 267 (Sub-Squad; Injured Cadets; Individual Development Room).

Gymnastics and tumbling are perhaps the chief activities that afford the opportunity to orient the body in space, a factor needed when flying. The trampoline, or bounding table, permits an immediate experience in orientation, since the outstanding objectives attained through the trampoline are:

- a. Balance and control of the body in the air.
- b. Development of oneness with the plane.
- c. Timing and rhythm in coordinated motions.
- d. Confidence in the air.
- e. Elimination of fear when feet leave the ground.

The experience in the air that the performer on the trampoline gets almost immediately is realized by the tumbler only after considerable effort and practice.

6. Gymnastics develops agility—quick, easy, dexterous movements. Vaulting in a variety of positions teaches the fundamental principles of body control. The naval aviator or paratrooper may be called upon to overcome unforeseen hazards and obstacles during landing operations; hence he must be adept in vaulting and in jumping. He must have overlearned the art of vaulting to the side, in a squat position, in a straddle, end-over-end, or in a dive, easily and with minimum effort.

Gymnastics, then, dovetails with training on the obstacle course since the most effective runner is the one who can skillfully, safely, and quickly adapt his gymnastic vaulting experience to the difficulties of the course.

7. Tumbling teaches falling safely. Practically every phase of his life as a cadet, or aviator, (or as a civilian, for that matter) may be materially aided by a knowledge of tumbling. When he first takes "boot" training; when he takes conditioning hikes; when he participates in football, basketball, or any other sports activity, the cadet who can tumble is that much better equipped to save himself from injury caused by falling than one who cannot tumble.

8. The cadet who is temporarily incapacitated by minor injuries may participate in specially selected gymnastics, thus keeping in condition despite his handicap.

9. Gymnastics and tumbling develop body balance which is useful to the individual throughout life. Together with climbing, vaulting and falling, these skills are directly useful in various emergency situations.

10. Gymnastics teaches the cadet how to ascend, descend, and rest on a rope,—skills which are of paramount importance from a practical standpoint.

11. Gymnastics develops a sense of daring and courage, yet discourages foolhardiness.

12. Gymnastics develops attitudes vital to the successful naval aviator: fearlessness, initiative, decisiveness, courage, perseverance, presence of mind, self-confidence, as well as an analytical outlook and the ability to size up a situation quickly.

In summary, then, the objectives of the Naval Aviation Gymnastic and Tumbling program to be achieved through tumbling (falling), vaulting, climbing, balancing, and apparatus stunts, are:

1. To give training in the native sense of balance.
2. To equip the future pilot with strength and skill to extricate himself effectively from emergency situations requiring climbing, vaulting, tumbling and balance.
3. To develop daring and courage.
4. To accustom the cadet to being upside down for extended periods.
5. To teach falling and landing without injury.