

HISTORICAL DYNAMIC OF THE SWIMMING STYLE DAUPHIN, HEALTHY EFFECT AND WELLNESS LIFESTYLE

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Abstract

The butterfly swimming stroke, characterized by simultaneous arm recovery and the dolphin kick, represents one of the most important technical innovations in competitive aquatics. This paper reviews its historical development and examines its relevance to health, physical activity, and wellness lifestyles using institutional information from FINA, now World Aquatics, and LEN, now European Aquatics, together with supporting scientific literature. A structured narrative review was applied to historical milestones, governing-body rules, European competition records, and contemporary statements on swimming participation and health. Results show that butterfly evolved from experimental breaststroke techniques during the 1930s, became institutionally separated from breaststroke in the early 1950s, and entered the Olympic programme in 1956. Modern governing bodies promote swimming beyond competition as an inclusive lifelong activity. Regular swimming supports cardiovascular endurance, circulation, muscular conditioning, and psychological wellbeing. The evolution of dolphin-based propulsion illustrates how sporting innovation can contribute to health-oriented aquatic participation and wellness lifestyles.

Keywords: butterfly swimming; dolphin kick; FINA; LEN; World Aquatics; European Aquatics; health; wellness; physical activity

INTRODUCTION

Swimming has developed through continuous interaction between human movement, hydrodynamic experimentation, coaching innovation, competition rules, and institutional governance (20, 22). Among the four competitive strokes, butterfly is historically distinctive because it emerged from modifications of breaststroke rather than from an entirely independent tradition (16, 19). The stroke is characterized by simultaneous arm action, over-water recovery, coordinated body undulation, and a simultaneous dolphin-type leg action (17, 23). Although the requested term "Dauphin" is retained in the title, the internationally accepted technical term is "dolphin kick," while the complete competitive stroke is called butterfly (18, 25). Historical accounts place the decisive experimentation in the 1930s. In 1933, Henry Myers demonstrated an over-water arm recovery while swimming breaststroke. Coach David Armbruster subsequently developed over-water recovery, while Jack Sieg experimented with an undulating leg action resembling the movement of a dolphin (7, 12, 13). The combination offered speed advantages but conflicted with breaststroke rules governing leg movement. Butterfly-arm

breaststroke nevertheless became increasingly common, creating a regulatory problem: a faster technical variant was developing inside an older stroke category (4, 14). The international governing body FINA—renamed World Aquatics in 2023—eventually separated butterfly from breaststroke. Historical evidence indicates that the separation process was formalized in the early 1950s, with separate butterfly rules and allowance for vertical simultaneous leg movements by 1953 (5, 15). Butterfly entered the Olympic programme at Melbourne 1956. This institutional recognition transformed experimental movement into a standardized global competitive stroke and demonstrates the important role of governing bodies in converting technical innovation into sport practice (15, 21). The European context is also important. LEN, historically the Ligue Européenne de Natation and now branded European Aquatics, was founded in 1927 and governs aquatics across its European member federations. European Championships and record systems have provided an important competitive environment for technical development in butterfly. Contemporary European records illustrate the high-performance evolution of the stroke, including outstanding performances in 50 m, 100 m, and 200 m butterfly events. The relevance of butterfly and dolphin-based movement is not limited to elite competition. FINA's "Swimming for All, Swimming for Life" program explicitly connected learn-to-swim participation with drowning prevention and healthier lifestyles. European Aquatics likewise describes aquatics as both sport and recreation and emphasizes inclusive access across age, gender, disability, and ethnicity (12-15). These institutional positions broaden the meaning of swimming from competitive achievement to lifelong physical literacy and wellbeing (8-11). Recent World Aquatics health communication describes swimming as a whole-body, low-impact activity associated with cardiovascular endurance, circulatory benefits, muscular conditioning, respiratory work, cognitive support, and mental wellbeing (1-3, 24). Water buoyancy reduces loading on joints, while rhythmic movement and breathing can support sustained aerobic activity. These characteristics make swimming relevant to wellness lifestyles, especially when exercise is practiced regularly, progressively, and at an intensity appropriate to individual capacity. Butterfly itself is technically demanding and may not be appropriate as continuous exercise for every recreational swimmer (5, 6, 23). Components of dolphin movement—streamlining, body-wave coordination, core activation, rhythmic breathing, and short technical drills—can enrich aquatic fitness when appropriately taught.

METHODS

The purpose of this paper is therefore twofold: first, to describe the historical dynamic through which butterfly and the dolphin kick became standardized; and second, to interpret swimming's

health and wellness significance through the contemporary participation missions of World Aquatics and European Aquatics.

A structured narrative review design was used. The principal institutional sources were materials published by FINA-World Aquatics and LEN-European Aquatics. These sources were selected because they represent the international and European governing structures responsible for swimming rules, competition development, records, participation programmes, and contemporary communication about aquatics. The review focused on three evidence domains: (1) historical development of butterfly and dolphin-kick technique; (2) institutionalisation through rules and competitive programmes; and (3) the relationship between swimming participation, health, and wellness lifestyles. Historical evidence was triangulated with an established account of butterfly history where governing-body web archives did not provide a continuous historical narrative. Data were synthesized qualitatively into a chronological timeline and a health-and-wellness framework. European Aquatics record information was used descriptively to demonstrate the continued high-performance development of butterfly. Health statements were interpreted conservatively as general benefits of regular swimming rather than as clinical effects uniquely attributable to butterfly. No primary participants were recruited, and no inferential statistical analysis was carried out.

RESULTS

Historical dynamic of butterfly and dolphin propulsion

The historical synthesis identifies the 1930s–1950s as the formative period. Over-water arm recovery emerged as an innovation within breaststroke, followed by experimentation with an undulating dolphin-type kick. The technical combination increased propulsion and reduced limitations associated with underwater arm recovery, but it challenged existing breaststroke definitions (fig.1).

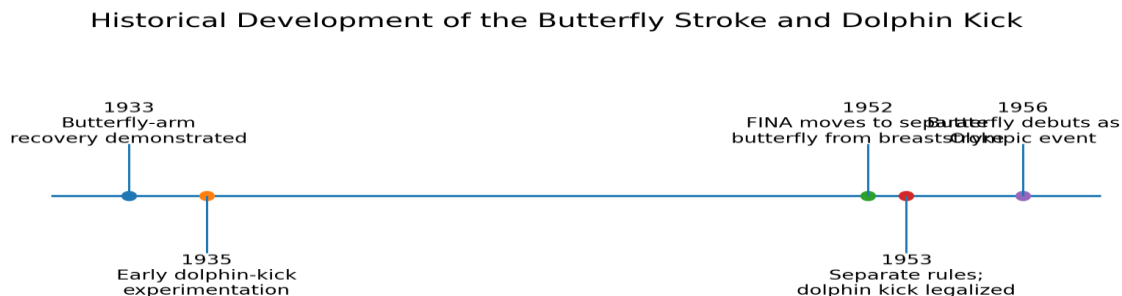


Figure 1. Historical development of butterfly and the dolphin kick. Sources: historical swimming literature and FINA World Aquatics institutional history.

Regulatory separation ultimately stabilized both strokes: breaststroke retained its distinctive kick and recovery requirements, while butterfly developed around simultaneous arm action and dolphin-style leg propulsion (tab.1).

Table 1. Major stages in the historical development and institutionalization of butterfly swimming

Period	Technical/institutional development	Significance	Primary evidence
1933	Over-water butterfly-style arm recovery demonstrated in breaststroke	Reduced recovery drag and stimulated technical experimentation	Historical butterfly account
1935	Dolphin-like leg action developed experimentally	Introduced undulatory propulsion later associated with butterfly	Historical butterfly account
1952–1953	FINA separated butterfly from breaststroke and permitted vertical simultaneous leg action	Created an independent regulated stroke	FINA historical rules evidence
1956	Butterfly contested as a separate Olympic stroke	Confirmed international competitive institutionalization	FINA/Olympic historical evidence
Contemporary era	World Aquatics rules, records and officiating standardize butterfly globally	Maintains technical comparability and athlete governance	World Aquatics
European era	LEN/European Aquatics championships and records support continental performance development	Demonstrates sustained European high-performance progression	European Aquatics

European competitive development

European Aquatics record listings demonstrate the mature performance level of modern butterfly. The continental record database includes specialized 50 m, 100 m, and 200 m butterfly categories across long- and short-course competition. Examples include Andriy Govorov's 22.27 in the men's 50 m butterfly, Kristóf Milák's 49.68 in the men's 100 m butterfly and 1:50.34 in the men's 200 m butterfly, together with elite women's performances by Sarah Sjöström and other European swimmers. These records are not direct measures of population health; rather, they illustrate the technical optimization achieved after decades of standardized rules and coaching development (tab.2).

Table 2. Health and wellness dimensions associated with regular swimming. Source: synthesis of World Aquatics health communication.

Health/wellness domain	Potential contribution of regular swimming	Lifestyle relevance
Cardiovascular fitness	Sustained whole-body aerobic work challenges heart and lungs	Supports endurance-oriented active living
Circulation	Horizontal immersion and water pressure can support venous return and blood flow	Useful characteristic of aquatic exercise
Musculoskeletal fitness	Water resistance provides repeated muscular work	Supports strength-endurance and conditioning
Joint loading	Buoyancy makes swimming non-weight-bearing/low impact	Broadens participation across ages and abilities
Respiratory control	Rhythmic breathing is integrated with movement	Encourages breathing awareness and aerobic efficiency
Mental wellbeing	Regular swimmers may experience reduced stress and improved mood	Connects aquatic exercise with restorative routines
Lifelong participation	Swimming can be adapted from learning to recreation, masters, and fitness	Supports sustainable wellness habits

Health and wellness pathway

The institutional evidence supports a pathway in which swimming participation contributes to physical activity through whole-body movement, water resistance, rhythmic breathing, and low-impact loading. When practiced regularly, these characteristics can support cardiovascular and muscular fitness while also providing psychological and recreational value. The resulting wellness effect is best understood as part of an active lifestyle rather than as a therapeutic claim specific to butterfly. The historical development of butterfly demonstrates that swimming technique is dynamic. What began as experimentation inside breaststroke became a separate movement system after governing bodies responded to changes in performance practice. This transition is important from a sport-science perspective because rules do not merely regulate performance; they can shape the direction of technical innovation. Once butterfly and the dolphin kick were formally defined, coaching, biomechanics, training methods, and record comparison could develop within a stable framework. The European record environment provides evidence of this maturation. Contemporary butterfly performances are the product of refined starts, underwater dolphin kicking, body undulation, arm mechanics, pacing, strength and conditioning, and sport-science support. The dolphin kick has also become important beyond surface butterfly, particularly in underwater phases after starts and turns within the limits of the relevant swimming rules. Thus, the historical innovation has influenced modern swimming more broadly than the

butterfly event alone. From a health perspective, a distinction is necessary between competitive butterfly and swimming as lifelong exercise (fig. 2).

Conceptual Pathways Linking Swimming with Health and Wellness

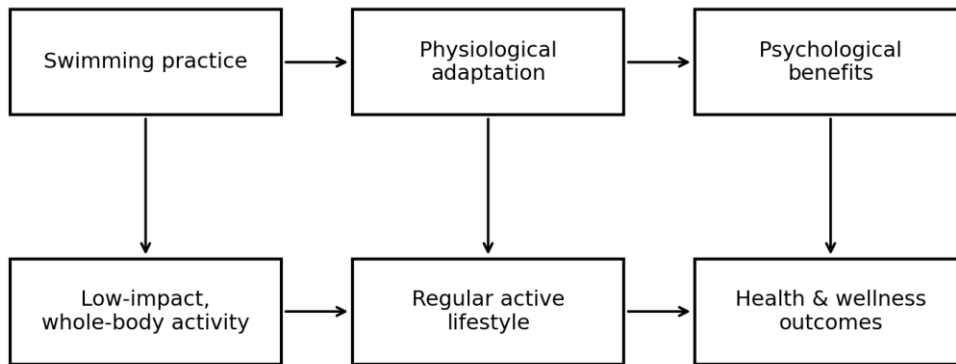


Figure 2. Conceptual pathways linking swimming practice with health and wellness outcomes. Authors' synthesis based on World Aquatics and European Aquatics.

DISCUSSION

Butterfly has high energetic and coordinative demands, and poor technique can rapidly produce fatigue. It should therefore not automatically be prescribed as the principal wellness stroke for beginners or individuals with limitations. Freestyle, backstroke, breaststroke, water exercise, and mixed-stroke sessions may permit longer and more comfortable activity. Dolphin drills and butterfly can be introduced progressively according to skill, mobility, fitness, and coaching supervision. The broader institutional philosophy of World Aquatics and European Aquatics supports this inclusive interpretation. Swimming is presented not only as elite sport but also as a life skill, recreational activity, drowning-prevention tool, and contributor to healthier lifestyles. This is highly compatible with contemporary wellness concepts, which emphasize regular physical activity, psychological restoration, social participation, skill mastery, and sustainable habits rather than short-term performance alone. The wellness potential of swimming also derives from the aquatic environment. Buoyancy changes mechanical loading, water resistance creates multidirectional muscular demand, and rhythmic immersion can provide a distinctive sensory experience. For some participants, the pool also functions as a structured social

environment that encourages routine and adherence. These features help explain why swimming can remain relevant across the life course, from learn-to-swim programmes to adult fitness and masters participation. This review has limitations. It is based mainly on governing-body information and narrative historical synthesis rather than experimental comparison of butterfly with other strokes. Statements about health therefore apply primarily to regular swimming in general. Future research should compare physiological and psychological responses to butterfly, dolphin-kick drills, and lower-intensity strokes across age and skill groups, and should investigate whether mastery of complex aquatic skills contributes independently to motivation, self-efficacy, and long-term exercise adherence.

CONCLUSION

The butterfly stroke and dolphin kick represent a major historical innovation in swimming. Emerging from breaststroke experimentation in the 1930s, the technique became a distinct regulated stroke through FINA decisions in the early 1950s and entered Olympic competition in 1956. LEN/European Aquatics competition and record systems subsequently contributed to the continuing European development of butterfly performance. The historical trajectory also has contemporary relevance beyond elite sport. World Aquatics and European Aquatics increasingly frame swimming as an inclusive, lifelong activity connected with physical literacy, safety, health, recreation, and wellbeing. Regular swimming can support cardiovascular endurance, muscular conditioning, circulation, low-impact physical activity, and mental wellbeing. Butterfly and dolphin-based exercises can contribute to this lifestyle when taught progressively and matched to individual ability. The most sustainable wellness interpretation is therefore not maximal butterfly performance, but lifelong engagement with safe, technically appropriate, enjoyable aquatic activity.

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