

Robert Merle d'Aubigné, 1900–1989

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Abstract This biographical sketch of R. Merle d'Aubigné corresponds to the historic text, *The Classic: Functional Results of Hip Arthroplasty with Acrylic Prosthesis*, available at DOI [10.1007/s11999-008-0572-1](https://doi.org/10.1007/s11999-008-0572-1).

Robert Merle d'Aubigné was born in 1900 in Neuilly, from a Huguenot family [9]. He had a classical education at the Lycée Pasteur [5] and at age 17 wanted to enlist in the tank corps, but with two brothers in the service and his mother objecting, he “yielded to my mother’s wishes” [5]. During WWI, his school was, however, turned into a hospital, where he met Dr. Philip D. Wilson, Sr. He finally was called to service in 1918, two months before the Armistice. He had his medical training at the Medical Faculty in Paris, but found it “disappointing.” He later commented, “...Misery, resignation, and death on one side, pretension and highfalutin speech on the other, was the most common spectacle” [5]. (Merle d'Aubigné was fluent in English.) He then served as an assistant in general surgery for 12 years at the Hôpital de Vaugirard, during which time he developed an interest in orthopaedic surgery. “The prestige of visceral surgery absorbed the interest of the senior staff. The lesions of the motor system, numerous accidents,

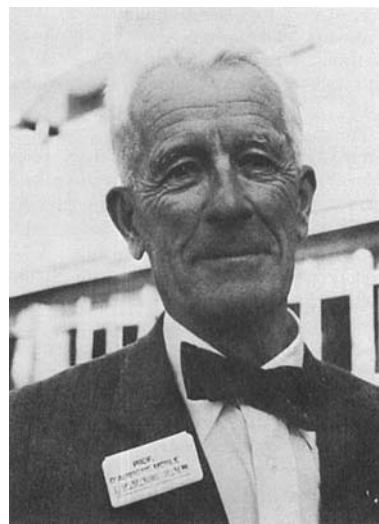
tuberculosis, and arthritis were more or less abandoned to the junior staff” [5]. In the thirties he spent time with Böhler in Vienna and Putti in Bologna. During WWII he initially served as a captain in a mobile unit, but during the occupation balanced his life as a surgeon and serving in the Resistance [9].

When De Gaulle returned to France in 1944, Merle d'Aubigné was appointed at the newly formed health commission to reorganize the health military services. While not entirely happy with his administrative work, in December, 1944 he went to England to visit prominent surgeons. This trip had a major influence on his life: first he met influential people and second he had a better sense of

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Prof. Robert Merle d'Aubigné is shown. Reprinted with permission and ©Lippincott Williams and Wilkins from Merle d'Aubigné R. Surfing the wave: fifty years in the growth of French orthopedic surgery. *Clin Orthop Relat Res.* 1982;171:3–23.



The staff of Clinique de Chirurgie Orthopédique de Réparatrice of Paris, France are shown in this 1956 photograph. Prof. Robert Merle d'Aubigné is seated in the front row, center. Photograph provided courtesy of Prof. Bernard Tomeno, Hôpital Cochin, Paris, France.

orthopaedics as a specialty and the task ahead of him. He commented, “Pour moi, ce fut une expérience inouïe qui bouleversa ma vie professionnelle” (“For me, it was an unbelievable experience that profoundly changed my professional life.”) [6]. He met Sir Reginald Watson Jones at the London Hospital, Sir Jim Seddon in Oxford, Franck Stinchfield at an American center in Cirencester, and Sir Ludwig Gutmann. He also was invited to the Royal College of Surgeons and later developed close relationships with many of the members.

When he returned to France, he had clearer ideas as to what kind of department he wanted and how to achieve his goal. He initially worked at the Centre de Chirurgie Réparatrice newly created by the military at a small private hospital, Hôpital Leopold Bellan. From there the team was moved to the Hôpital Foch, where he met and worked with Michel Postel, Jacques Ramadier and others [5]. Merle d'Aubigné then was offered the chair at the Hôpital Cochin in 1948, where he remained until he retired in 1970.

In the literature there has been some confusion about the last name, properly “Merle d'Aubigné.” (For the Classic article we republish this month from *The Journal of Bone and Joint Surgery* PubMed improperly lists the author's last name as “d'Aubigne” and “RM” as the initials.) Merle d'Aubigné describes the origin [5]:

“I bear the first and second names of my great grandfather, Aime Robert Merle d'Aubigné, who created in Geneva an international postal service and

disappeared in 1799 during the Napoleonic wars while carrying the mail from Geneva to eastern Europe. His father, François Merle, was the son of a silk stockings maker from Nimes, and his mother, Elisabeth d'Aubigné, was the great granddaughter of Nathan d'Aubigné, son of the poet Agrippa d'Aubigné and only survivor of the name. They were all French Huguenot refugees in Geneva. To preserve the name of d'Aubigné, it was joined with Merle.”

In this issue we republish his description of the so called “Merle d'Aubigné-Postel” rating scale he published in English in the American volume of *The Journal of Bone and Joint Surgery* in 1954 [1]. It is perhaps not widely known in the English-speaking world that he in fact published three closely related rating scales (in 1949 [8], 1954 [1], and 1970 [4]), providing changes when he believed them necessary. The first written report of the rating scale was published in the *Revue de Chirurgie Orthopédique* in 1949 [8]. (Supplemental materials are available with the online version of CORR.)

In this article, Robert Merle d'Aubigné, Jean Cauchoix, and Jacques Odilon Ramadier noted this rating had been in use for over three years and was first presented at the International Congress of Orthopaedic Surgery in 1948 in Amsterdam. At that time, no widely used scale for evaluation of hip function had yet penetrated the orthopaedic community. In this first publication of the rating scale, the authors reported 92 femoral neck nonunions treated with

nailing and on 75 hip prostheses. The authors also gave us some of the reasons to use such a rating scale. They acknowledged important series of the results of cervico-capital prostheses had been published but all, according to the authors, had been evaluated with a categorical rating such as excellent, good, average and poor and none took into account the state of the joint preoperatively. Therefore, they proposed a new rating system that dissociated each of the three following dimensions of hip function: pain, ability to walk, and mobility, in seven ordered categories (Table 1). Their rationale for using such a rating scale was that it should better differentiate the various dimensions and levels of hip function, and that it should allow a more objective assessment in a department from one surgeon to another and in the literature from one study to another. In this first report, pain was rated from “No pain” to “Pain is intense and permanent.” Intensity of pain and the activity with which the pain was present determined the level of pain. Ability to walk was rated from “normal” to “impossible” and the use of walking aids was included in this category: the more walking aids are necessary, the lower the level of the category. The last dimension of the scale assessed the mobility of the joint from “normal flexion $> 90^\circ$ and abduction $> 25^\circ$ ” to “ankylosis of the hip in a bad position.” As the range of mobility in flexion decreased and joint contractures appeared, the level of the category decreased. The overall score was determined by the sum of the three categories obtained from each dimension and the rating ranged from 0 for a patient with ankylosis of the hip, who could not walk with or without walking aids, and suffered from permanent and intense pain to 18 for a patient able to walk freely, with no pain at all and with a mobile joint. Pain, walking ability and mobility of the joint all contributed equally to the overall score. With the help of this rating scale, the authors

compared preoperative and postoperative mean levels for each separate dimension of the score for various hip abnormalities. They were able to discern the effect of the treatment of femoral neck nonunion from that of the treatment of rheumatoid arthritis. The treatment of femoral neck nonunions yielded an important improvement in pain and ability to walk but not much in mobility because this dimension was not substantially altered postoperatively; in contrast, the effects of the treatment on rheumatoid arthritis were dramatic with regard to pain and mobility, but not for the ability to walk because of the frequent impairment of other joints.

In 1954, Robert Merle d’Aubigné and Michel Postel reported the functional results of 323 patients with traumatic, degenerative conditions and subluxations treated with the acrylic prosthesis in the *Journal of Bone and Joint Surgery* [1]. (It is this article that gave rise to the commonly used term “Merle d’Aubigné-Postel score” in English, despite the earlier publication in French with other authors. Readers should also be aware of the order of the authors in this publication since the literature incorrectly contains many references to the “Postel-Merle d’Aubigne” or “PMA” score.) The method used for grading the functional value of the hip was adapted from the earlier published in 1949 [8] and the scale was amended with slight modifications (Table 2). The pain and ability to walk dimensions were unmodified. The grade 4 of mobility “can tie shoelaces” was changed to “can reach his foot.” Most probably over the intervening years, users of the scale expressed difficulty in rating patients who were unable to tie shoelaces for various reasons but still able to reach their foot. The mobility of the joint was therefore more accurately assessed by this modified description. The sixth and seventh categories of this component were also modified. From the beginning, Merle d’Aubigné was willing to

Table 1. The rating scale as published in 1949 (translated by Dr. David Biau)

Score	Pain	Mobility	Ability to walk
0	Pain is intense and permanent	Ankylosis in abnormal position	Impossible
1	Pain is severe, disturbing sleep	Ankylosis in normal position or in a very slight abnormal position	Only with crutches
2	Pain is severe when walking, prevents any activity	Flexion $< 40^\circ$ (abduction = 0°) or very light joint deformity.	Only with two canes
3	Pain is severe but may be tolerated with limited activity	Flexion $< 40^\circ$ – 60°	Limited with one cane (less than one hour). Very difficult without a cane
4	Pain only after walking and disappearing with rest	Flexion $> 60^\circ$ – 80° (can tie shoelaces)	Prolonged with one cane; limited without a cane (limp)
5	Very little pain and intermittent, does not preclude normal activity	Flexion $> 80^\circ$ – 90° . Limited abduction ($> 25^\circ$)	Without a cane but slight limp
6	No pain at all	Normal. Flexion $> 90^\circ$. Abduction $> 25^\circ$	Normal

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Table 2. The rating scale as published in 1954

Score	Pain	Mobility	Ability to walk
0	Pain is intense and permanent	Ankylosis with bad position of the hip	Impossible
1	Pain is severe even at night	No movement; pain or slight deformity	Only with crutches
2	Pain is severe when walking, prevents any activity	Flexion under 40 degrees	Only with two canes
3	Pain is tolerable with limited activity	Flexion between 40 and 60 degrees	With one cane, less than one hour. Very difficult without a cane
4	Pain is mild when walking; it disappears with rest	Flexion between 60 and 80° degrees; patient can reach his foot	A long time with a cane; short time without cane and with limp
5	Pain is mild and inconstant; normal activity	Flexion between 80 and 90 degrees; abduction of at least 15 degrees	Without cane but with slight limp
6	No pain at all	Flexion of more than 90 degrees; abduction to 30 degrees	Normal

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Table 3. The rating scale as published in 1970 (and 1990) (translated by Dr. David Biau)

Score	Pain	Mobility			Ability to walk
		No joint contracture	Joint deformity in		
		Mobility in flexion	Flexion; external rotation	Abduction; adduction; internal rotation	
0	Pain is intense and permanent		Deduct 1 point	Deduct 2 points	Impossible
1	Appearing during walking after:	immediately			Only with crutches
2		Before 10 minutes	< 30°		Only with two canes
3		10 to 20 minutes*	50° 30°		Limited with one cane (less than one hour). Very difficult without a cane
4		30 minutes to 1 hour	70° 50°		Prolonged with one cane; limited without a cane (limp)
5	Rare and mild		80° 70°**	none	Without a cane but slight limp
6	No pain at all		≥ 90°	none	Normal

*In the text one can read from 10 to 30 minutes.

** In the text one can read from 70° to 90°.

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include with the mobility in flexion a measure of other important mobility restrictions. In the 1949 scale, flexion was combined with abduction as limited to 25° or above 25° for grades 5 and 6, respectively, while in 1954 the same two categories were combined with flexion but rated with abduction of at least 15° and abduction to 30°, respectively. However, as is common with many categorical ratings, Merle d'Aubigné combined findings: flexion and abduction and ability to tie ones shoes or reach the foot (see mobility column in Tables 1 and 2). There would be admittedly rare cases where a patient would not fit any of the categories owing to a peculiar combination of findings. In these cases,

the rater would have to make a best guess as to the correct category and adding to the interobserver variability of such scores. (Partly for this reason Turchin et al. suggested raw scores better reflect results than such categorical ratings [10].) The point Merle d'Aubigné was trying to develop was the importance of these deformities in the assessment of the results of hip operations from a preoperative to a postoperative status. Merle d'Aubigné and Postel classified the results in two ways: “absolute results (the evaluation of the functional value of the hip after the operation) and relative results (the appreciation of improvement between the preoperative and the postoperative functional states)”.

Moreover, because the authors believed a painless joint and the ability to walk were more important than mobility, the improvement in these two dimensions of the score were multiplied by two to assess the relative results of the procedure. Therefore, a successful arthrodesis giving a painless joint and the possibility to walk without a cane would not unduly suffer from a mobility score of only one and would remain comparable to a successful arthroplasty.

The last version of the scale appeared in the *Revue de Chirurgie Orthopédique* in 1970 [4], after Carroll B. Larson proposed the Iowa Hip Rating in 1963 [3] and William H. Harris proposed the now widely used Harris Hip Score in 1969 [2]. Merle d'Aubigné objected to the Harris Hip Score in that it only accorded five points to the mobility dimension that could under certain circumstances rate an arthrodesis above an arthroplasty. The fact that this remark seemingly contradicted his previous thoughts on reducing the effect of improvement in mobility on the overall score may be attributable to the then recent use of total hip arthroplasties over arthrodesis and that consequently mobility had become more important. This article is the first devoted to the scale per se and contains his rationale. Compared to previous versions the scale published in 1970 is easier to use (Table 3). Categories 0 and 6 of the pain dimension were not changed from previous reports but categories 1 to 5 have been clarified: the pain score increases (better) with increased duration of walking without pain. This makes it more reproducible than the rating of previous levels of activity. The mobility dimension was also simplified by deducting points for patients who present with joint deformity and less than 50° of flexion. Because joint limitation of abduction, adduction or internal rotation are more problematic than joint deformity in flexion or external rotation, in presence of the former two points are subtracted while in the latter only one point. Finally, the walking ability remained similar to that of

1954 and 1949. This article was republished in 1990, a year after Merle d'Aubigné's death [7]. (Supplemental materials are available with the online version of CORR.)

Robert Merle d'Aubigné made great contributions to orthopaedic surgery, not the least of which was his early attempt to more objectively assess disability in patients with hip disease and the effects of surgical treatment. He influenced a generation of surgeons, as well as the training of French surgeons. We hope readers will find this review of his well-known rating scale of particular interest.

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