# A consensus-based approach on the management of patients with both psoriasis and psoriatic arthritis in the dermatological and rheumatological settings in Italy: The ADOI PSO-Amore Project

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## Abstract

Psoriasis is a complex disease often needing a multidisciplinary approach. In particular, the collaboration between dermatologist and rheumatologist is crucial for the management of patients suffering from both psoriasis (PSO) and psoriatic arthritis (PsA). Here we report a series of recommendations from a group of experts, as a result of a Consensus Conference, defining the circumstances in which it is preferable or even mandatory, depending on the available settings, to rely on the opinion of the two specialists, jointly or in a deferred manner. Indications are given on how to organize a 3rd level joint Dermatology-Rheumatology care unit, in connection with 1st and 2nd level clinicians of both specialties, GPs, and other specialists involved in the management of psoriasis. A potential patient journey is suggested, that can be used as a basis for future design and validation of national and/or local diagnostic therapeutic and assistance pathways.

## Introduction

Psoriasis is an inflammatory skin condition most frequently presenting in the chronic plaque form characterized by red, flaky, crusty patches of skin covered with silvery scales that can involve all areas of the body, including folds and nails.[1,2] It affects about 2.8% of the Italian population, in about 25-30% of cases with moderate to severe intensity;[3] patients affected by psoriasis often develop co-morbidities,[4,5] as metabolic syndrome (in about 47% of cases in the Italian population); increased risk of cardiovascular diseases; PsA; inflammatory bowel diseases (IBDs - 1.3-1.6 folds more frequent than in general population); ocular involvement, *e.g.* uveitis (about 10% of cases); and psychological disorders.

PsA is a quite heterogeneous, usually seronegative, chronic inflammatory spondyloarthritis associated with psoriasis,[6–8] usually characterized by asymmetric peripheral arthritis and axial or spinal involvement. Musculoskeletal manifestations of PsA also include inflammation at the site of attachment of tendons and ligaments (enthesitis), and dactylitis. The diagnosis of PsA requires the exclusion of other possible causes of joint symptoms[6] and is based on the clinical presentation of joint complaints, radiographic changes, a personal history or a possible family history of

psoriasis. While PsA has a low prevalence in the general population (0.05-0.25%), it is common among patients with psoriasis.[9] Prevalence estimates in psoriatic patients vary considerably (range 6-41%)[10-13] depending on the definitions used (*i.e.* diagnostic codes, rheumatologist diagnosis, classification criteria, diagnostic codes, and the populations measured). The annual incidence has been estimated as 2.7 cases per 100 patients with psoriasis.[14] A study on the cumulative incidence of PsA over time in patients with psoriasis reported that 1.7%, 3.1% and 5.1% respectively had developed PsA at 5, 10, and 20 years after their diagnosis of psoriasis.[15]

Rheumatologists may have difficulties in identifying and/or treat psoriasis lesions in patients with musculoskeletal disease. On the other side, in 80% of patients, psoriasis precedes the development of arthritis. Thus, the dermatologist often first has the challenge of diagnosing PsA. It has been observed the PsA is underdiagnosed in patients with psoriasis,[16] and that in most patients there is a diagnostic delay of more than 2 years.[17] Moreover, 58% of the patients with PsA reported receiving no treatment or topical therapy only, leaving their joint disease untreated.[18] Such data suggest a need for improved screening, diagnosis, and treatment of PsA. In a large population-based survey of patients, dermatologists, and rheumatologists,[19] 37.6% of dermatologists cited their greatest challenge in managing PsA patients as being differentiating PsA from other arthritic diseases. Different screening tools for PsA are available, however an algorithm to accurately identify patients early is still missing.[20] Therefore, a multidisciplinary intervention, primarily focused on the interaction between rheumatology and dermatology, is necessary to early detect patients with possible PsA and treat them in the first phase of the disease.

However, this option often collides with practical, economic, and organizational limits, added to the inhomogeneity of assistance provided by the various centers, with the final risk of many requests that could not be fulfilled. If on the one hand it would be useful for the hospital dermatologist to send all patients with psoriasis suffering from painful or inflammatory symptoms of the joints to the rheumatologist, and the hospital rheumatologist should benefit from a dermatological evaluation for all arthritic patients with skin involvement, it is evident that this approach is not feasible in daily practice. Another option is that each specialist should be able to independently manage psoriasis and psoriatic arthritis in the first phases, also for aspects pertaining to the other specialty. However, it is difficult to define at what point one specialist should ask the other specialist for help. Some publications are available on guidelines and recommendations for the management of PsA addressed either to dermatologists[21,22] or to rheumatologists.[23] In particular, an Italian group published recommendations for the management of patients with PsA in the dermatology setting.[24]

However, studies that discuss in depth the role of the dermatologist and the rheumatologist in the management of PsA, and in particular on their interaction, are lacking. Using Delphi method, a Spanish group has established guidelines and criteria for the coordinated management of PsA by rheumatologists and dermatologists.[25] The Authors created algorithms for screening of PsA separately for the dermatology and the rheumatology clinics.

It is more and more evident that the best option for the treatment of PsA should consist in multidisciplinary care units, involving both dermatologists and rheumatologists at the same time.[26] Even though there is limited evidence,[27] multidisciplinary management of PsA appears more satisfactory for patients than separate consultation.[28] Joint dermatology-rheumatology care units have been experienced in the US,[29,30] in Spain,[31] and in Canada,[32] showing improvement in outcomes, patient and physician satisfaction, and efficiency.

To date, there are no Italian guidelines for the management of the patient with PsA in a joint care unit, and it has not been defined how to select those clinical situations which, depending on the clinical situation of the patient and on the available setting, can or should make use of the evaluation of both specialists, whether jointly or deferred.

Therefore, we decided to arrange a Consensus Conference aimed to: a) define the diagnostic-therapeutic management of multisystem psoriasis both in the dermatological and rheumatological field; b) define the circumstances in which it is preferable or even mandatory, depending on the settings available, to rely on the opinion of the two specialists, jointly or in a deferred manner; c) define the possible collaboration settings between the two specialists and the related ways of interaction, suggesting a potential patient journey that can be used as a basis for future design and validation of National and/or local diagnostic therapeutic and assistance pathways (PDTAs).

## Materials and methods

The methodology chosen was the Consensus Development Program,[33] as described in the methodological manual by the National System for Guidelines.[34] This approach, unlike other methodologies, makes it possible to reach, in a relatively short time and through a formal process, an agreement by a credible and recognized group of experts and users on controversial topics.

According to the abovementioned methodology,[34] the Promoting Committee appointed a Technical Scientific Committee responsible for the scientific set up of the Conference. Three Experts were selected on the basis of specific skills to prepare and present a critical analysis of the available evidence to a multidisciplinary Jury Panel during the Conference (see also Committee compositions under further information section) and a set of critical questions to be answered in order to reach the final consensus (Figure 1).

The following general inclusion criteria were applied for the assessment and selection of literature:

a) systematic reviews with or without meta-analysis;
b) main updated guidelines;
c) previous Italian Consensus on psoriasis and PsA;
d) cross-sectional, case-control, and longitudinal studies (case reports, case series, unsystematic reviews, opinions of experts were excluded). These studies were selected based on the presence of internal validity criteria (adequacy of the study design, statistical analysis, presentation of results), adequacy of the sample. If multiple systematic reviews were available, only the most recent ones were considered;
e) if several reviews considered substantially different studies, the review with the greatest methodological validity was included;
f) in the possible selection among several systematic reviews, the consistency of the results between them was also assessed.

Before the Conference, the Promoting Committee provided each sub-Committee with a set of specific working instructions, in order to warrant a smoothness event implementation.

The Consensus Conference was arranged via webinar on 10 December 2021. The choice of a remote meeting instead of face-to-face was dictated by the uncertainties due to the current Covid-19

pandemic.

During the Consensus Conference the identified Experts discussed with the Jury Panel their report in order to detect the main issues in the management of psoriasis with and without a multi-organ involvement.

In the following month, the Writing Committee appointed by the Jury drew up the final consensus document, integrating the statements contained in the preliminary document with the relative motivations.

In the present consensus, we refer to three possible levels of care for PsA:

1st level: outpatients Dermatology and Rheumatology Clinics.

2nd level: dedicated Dermatology and Rheumatology Psoriasis and Arthritis Clinics.

3rd level: joint Dermatology-Rheumatology Care Units.

## Results: statements

### 1. Which should be the role(s) of the outpatient specialist (1st level)?

The outpatient dermatologists and rheumatologists should make the diagnosis, provide information to the patient about the disease, and assess/investigate whether a multi-organ involvement is present. They should set up therapy according to a set of current and updates Guidelines (selected on the basis of the current Consensus)[34–51] and to the indications of National and local Health Authorities.

The Jury Panel examined the answers to the questions submitted by the Experts on the core scope of the Conference (*i.e.* how and when setting up an effective cooperation of dermatologists and rheumatologists in order to improve the management of multi-organ psoriasis) and made the following statements.

### 2. When should the outpatient specialist refer the patient to 2nd level centers?

In case of failure of conventional\biological systemic therapies, the specialist should refer the patient to 2nd level centers. In the event that patients are discharged from these centers, the specialist should continue monitoring the patient. In case of high level of severity and/or multi-organ involvement, it is recommended to refer the patient directly to a 2nd level center.

### 3. When should the dermatologist request a visit with the rheumatologist?

The dermatologist should ask for the collaboration of the rheumatologist in particular in doubtful cases, *i.e.*, doubtful joint involvement, a particularly disabling joint component, arthralgia or arthritis onset during ongoing treatment, or ineffectiveness of treatment on the joint component.

### 4. When should the rheumatologist request a visit with the dermatologist?

The rheumatologist should ask for the collaboration of the dermatologist, in particular in doubtful cases, *i.e.,* when there is a severe skin component or in difficult-to-treat areas, at the onset of new cutaneous manifestations, or of ineffectiveness of treatment on the skin component.

### 5. Which ways of interaction between dermatologists and rheumatologists are advisable?

The best way of interacting would be a joint Dermatology-Rheumatology care unit, *i.e.*, a 3rd level center that allows the patient to reduce waiting and decision time both for the diagnostic and the therapeutic component. Clinical evaluation should be done by both specialists for the selected cases, followed by collegial discussion. If the creation of a joint Dermatology-Rheumatology care unit is not possible, the two specialists should be located in the same site, to facilitate the access for patients. Also, there should be indirect routes via APP or website for the aforementioned patients initially assessed by the dermatologist as well as by the rheumatologist. Telemedicine could be useful for the direct discussion of cases.

### 6. How should a joint Dermatology-Rheumatology care unit be organized?

Third level centers should guarantee the possibility of direct booking of visits with double referral, optimizing resources and time. They should equip themselves with tools of epidemiological monitoring and databases to assess the clinical and socio-economic impact of the interventions and their safety. They should create a network with 1st level clinicians of both specialties, GPs, and other specialists involved in the management of psoriasis. They should ensure homogeneity in the access to treatment according to national and international guidelines, to overcome differences among regions and centers in the access to innovative therapies.

### 7. How to ensure the provision of multi-specialist services (dermatology and rheumatology) to patients?

Interaction between dermatologists and rheumatologists should be increased at local, regional, and national level with shared events and the creation of joint guidelines. Booking lists with preferential channels should be provided not only for the first visits and subsequent ones, but also for the instrumental examinations necessary for the evaluation of the severity of joint disease in patients awaiting therapy. Telemedicine should be implemented to allows case triage, joint evaluation during follow-up, and active discussion to reach shared therapies.

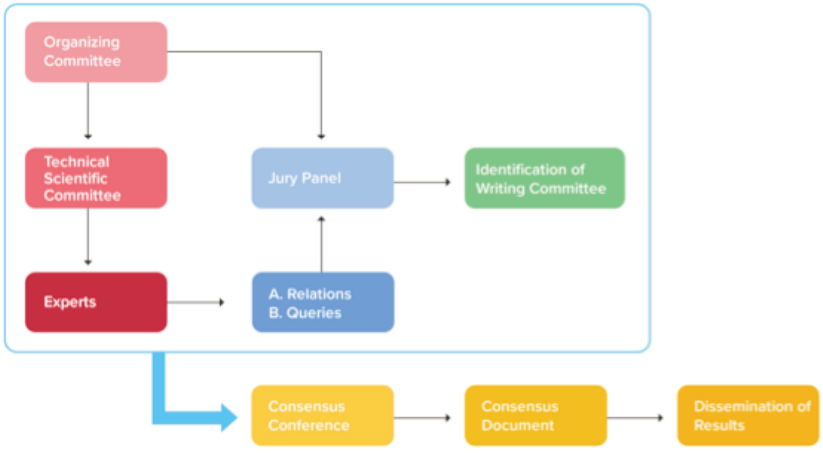


**Figure 1. Schematic representation of the Conference Committees & interaction flow.**

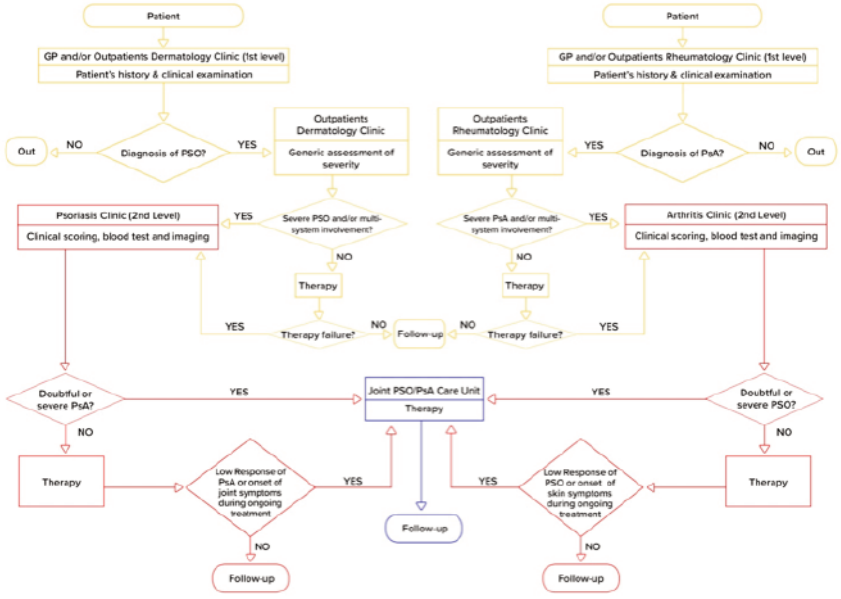


**Figure 2. Algorithm for a joint management of Psoriasis.**

### 8. Is it possible to propose an algorithm to guide dermatologists and rheumatologists in the management of multisystem psoriasis and that can be used for implementing specific local and/or regional integrated care pathway for psoriatic disease?

In Italy, there are at least two examples of integrated care pathway independently developed by dermatologists and rheumatologists and used in the clinical practice[52-54] which have been reviewed by the panelists and used as a reference to propose a specific algorithm for the joint management of psoriasis in the clinical practice (Figure 2).

## Conclusions

As far as we know, the PSO-Amore project is the first consensus conference developed in Italy by a broad multidisciplinary team, involving also patients' advocate representatives, aimed to improve the management of patients with both psoriasis and PsA. However, in practice the communication between the two specialties is often lacking or delayed. The main conclusion of the consensus conference was the need of creating multidisciplinary settings with dermatologists and rheumatologists working together, in order to warrant the highest level of management of patients with psoriasis and PsA. The situations in which each specialist should ask for the collaboration of the other were defined. The organization of joint Dermatology-Rheumatology clinics was discussed. Also, alternative ways of communication between specialists were proposed, in case the creation of a joint clinic was not possible.

The conference was arranged according to the Italian Guidelines of the ISS, allowing a transparent assessment and discussion among the panelists. This generated a series of statements that can be used by both dermatologists and rheumatologists in their daily clinical practice. The results of the consensus were summarized as statements and not recommendations, since they were not based on levels of evidence, but on experts' opinion.

## References


1. Conrad C, Gilliet M. Psoriasis: from Pathogenesis to Targeted Therapies. Clin Rev Allergy Immunol 2018;54:102–13.
2. Kim WB, Jerome D, Yeung J. Diagnosis and management of psoriasis. Can Fam Physician 2017;63https://pubmed.ncbi.nlm.nih.gov/28404701/..
3. ADIPSO, ADOI, AIDA, SIDeMaST, SIMG. Report PACTA. La Psoriasi. Una patologia cutanea multiorgano. Nuovi paradigmi e strategie di tutela assistenziale. 2016.
4. de Oliveira M de FSP, Rocha B de O, Duarte GV. Psoriasis: classical and emerging comorbidities. An Bras Dermatol 2015;90:9.
5. Daniel BS. The multiple comorbidities of psoriasis: The importance of a holistic approach. Aust J Gen Pract 2020;49:433–7.
6. Ruderman EM, Tambar S. Psoriatic arthritis: prevalence, diagnosis, and review of therapy for the dermatologist. Dermatol Clin 2004;22:477–86.
7. Gladman DD. Psoriatic arthritis. Moderate-to-Severe Psoriasis, Third Ed 2008;8:239–58.
8. Moll JMH, Wright V. Psoriatic arthritis. Semin Arthritis Rheum 1973;3:55–78.
9. Ogdie A, Weiss P. The Epidemiology of Psoriatic Arthritis. Rheum Dis Clin North Am 2015;41:545–68.
10. Reich K, Krüger K, Mössner R, Augustin M. Epidemiology and clinical pattern of psoriatic arthritis in Germany: a prospective interdisciplinary epidemiological study of 1511 patients with plaque-type psoriasis. Br J Dermatol 2009;160:1040–7.
11. Radtke MA, Reich K, Blome C, Rustenbach S, Augustin M. Prevalence and clinical features of psoriatic arthritis and joint complaints in 2009 patients with psoriasis: results of a German national survey. J Eur Acad Dermatol Venereol 2009;23:683–91.
12. Khraishi M, Chouela E, Bejar M, et al. High prevalence of psoriatic arthritis in a cohort of patients with psoriasis seen in a dermatology practice. J Cutan Med Surg 2012;16:122–7.
13. Zhang F, Yang Q, Qu L, et al. Prevalence and characteristics of psoriatic arthritis in Chinese patients with psoriasis. J Eur Acad Dermatol Venereol 2011;25:1409–14.
14. Eder L, Haddad A, Rosen CF, et al. The Incidence and Risk Factors for Psoriatic Arthritis in Patients With Psoriasis: A Prospective Cohort Study. Arthritis Rheumatol (Hoboken, NJ) 2016;68:915–23.
15. Wilson FC, Icen M, Crowson CS, McEvoy MT, Gabriel SE, Kremers HM. Incidence and clinical predictors of psoriatic arthritis in patients with psoriasis: a population-based study. Arthritis Rheum 2009;61:233–9.
16. Villani AP, Rouzaud M, Sevrain M, et al. Prevalence of undiagnosed psoriatic arthritis among psoriasis patients: Systematic review and meta-analysis. J Am Acad Dermatol 2015;73:242–8.
17. Karmacharya P, Wright K, Achenbach SJ, et al. Diagnostic Delay in Psoriatic Arthritis: A Population-based Study. J Rheumatol 2021;48:1410–6.
18. Kavanaugh A, Helliwell P, Ritchlin CT. Psoriatic Arthritis and Burden of Disease: Patient Perspectives from the Population-Based Multinational Assessment of Psoriasis and Psoriatic

Arthritis (MAPP) Survey. Rheumatol Ther 2016;3:91–102.
19. Lebwohl MG, Kavanaugh A, Armstrong AW, Van Voorhees AS. US Perspectives in the Management of Psoriasis and Psoriatic Arthritis: Patient and Physician Results from the Population-Based Multinational Assessment of Psoriasis and Psoriatic Arthritis (MAPP) Survey. Am J Clin Dermatol 2016;17:87–97.
20. Ocampo V, Gladman D. Psoriatic arthritis. In: Moderate-to-Severe Psoriasis, Third Edition. CRC Press; 2008. p. 239–58.
21. Daudé E, Castañ eda S, Suá rez C, et al. Clinical practice guideline for an integrated approach to comorbidity in patients with psoriasis. J Eur Acad Dermatology Venereol 2013;27:1387–404.
22. Gottlieb A, Merola JF. Psoriatic arthritis for dermatologists. J Dermatolog Treat 2020;31:662–79.
23. Ritchlin CT, Kavanaugh A, Gladman DD, et al. Treatment recommendations for psoriatic arthritis. Ann Rheum Dis 2009;68:1387–9.
24. Gisondi P, Altomare G, Ayala F, et al. Consensus on the management of patients with psoriatic arthritis in a dermatology setting. J Eur Acad Dermatol Venereol 2018;32:515–28.
25. Cañete JD, Daudén E, Queiro R, et al. Recommendations for the coordinated management of psoriatic arthritis by rheumatologists and dermatologists: a Delphi study. Actas Dermosifiliogr 2014;105:216–32.
26. Queiro R, Coto P. Multidisciplinary care for psoriatic disease: Where we are and where we need to go. Rheumatology (Oxford) 2017;56:1829–31.
27. Cobo-Ibáñez T, Villaverde V, Seoane-Mato D, et al. Multidisciplinary dermatology-rheumatology management for patients with moderate-to-severe psoriasis and psoriatic arthritis: a systematic review. Rheumatol Int 2016;36:221–9.
28. Queiro R, Coto P, Rodríguez J, et al. Multidisciplinary Care Models for Patients With Psoriatic Arthritis. Reumatol Clin 2017;13:85–90.
29. Velez NF, Wei-Passanese EX, Husni ME, Mody EA, Qureshi AA. Management of psoriasis and psoriatic arthritis in a combined dermatology and rheumatology clinic. Arch Dermatol Res 2012;304:7–13.
30. Soleymani T, Reddy SM, Cohen JM, Neimann AL. Early Recognition and Treatment Heralds Optimal Outcomes: the Benefits of Combined Rheumatology-Dermatology Clinics and Integrative Care of Psoriasis and Psoriatic Arthritis Patients. Curr Rheumatol Rep 2017;20.
31. Luelmo J, Gratacós J, Moreno Martínez-Losa M, et al. Multidisciplinary psoriasis and psoriatic arthritis unit: report of 4 years' experience. Actas Dermosifiliogr 2014;105:371–7.
32. Samycia M, McCourt C, Shojania K, Au S. Experiences From a Combined Dermatology and Rheumatology Clinic: A Retrospective Review. J Cutan Med Surg 2016;20:486–9.
33. Black N, Murphy M, Lamping D, et al. Consensus development methods: a review of best practice in creating clinical guidelines. J Health Serv Res Policy 1999;4:236–48.
34. Candiani G, Colombo C, Daghini R, et al. Manuale Metodologico SNLG-ISS. Come organizzare una conferenza di consenso. 2013. https://www.psy.it/wp-content/uploads/2018/02/Manuale-Metodologico-Consensus.pdf.
35. Napolitano M, Caso F, Scarpa R, et al. Psoriatic arthritis and psoriasis: differential diagnosis. Clin Rheumatol 2016;35:1893–901.
36. Menter A. Psoriasis and psoriatic arthritis overview. Am J Manag Care 2016;22:s216–24.
37. Eder L, Haddad A, Rosen CF, et al. The Incidence and Risk Factors for Psoriatic Arthritis in Patients With Psoriasis: A Prospective Cohort Study. Arthritis Rheumatol (Hoboken, NJ) 2016;68:915–23.
38. Gottlieb A, Merola JF. Psoriatic arthritis for dermatologists. J Dermatolog Treat 2020;31:662–79.
39. Brandon A, Mufti A, Gary Sibbald R. Diagnosis and Management of Cutaneous Psoriasis: A Review. Adv Skin Wound Care 2019;32:58–69.
40. Girolomoni G, Griffiths CEM, Krueger J, et al. Early intervention in psoriasis and immune-mediated inflammatory diseases: A hypothesis paper. J Dermatolog Treat 2015;26:103–12.
41. Ibrahim G, Buch M, Lawson C, Waxman R, Helliwell P. Evaluation of an existing screening tool for psoriatic arthritis in people with psoriasis and the development of a new instrument: the Psoriasis Epidemiology Screening Tool (PEST) questionnaire - PubMed. Clin Exp Rheumatol 2009;27:469–74.
42. Tinazzi I, Adami S, Zanolin EM, et al. The early psoriatic arthritis screening questionnaire: a simple and fast method for the identification of arthritis in patients with psoriasis. Rheumatology (Oxford) 2012;51:2058–63.
43. Amatore F, Villani AP, Tauber M, et al. French guidelines on the use of systemic treatments for moderate-to-severe psoriasis in adults. J Eur Acad Dermatol Venereol 2019;33:464–83.
44. Gisondi P, Altomare G, Ayala F, et al. Italian guidelines on the systemic treatments of moderate-to-severe plaque psoriasis. J Eur Acad Dermatol Venereol 2017;31:774–90.
45. Lambert JLW, Segaert S, Ghislain PD, et al. Practical recommendations for systemic treatment in psoriasis in case of coexisting inflammatory, neurologic, infectious or malignant disorders (BETA-PSO: Belgian Evidence-based Treatment Advice in Psoriasis; part 2). J Eur Acad Dermatol Venereol 2020;34:1914–23.
46. Gossec L, Baraliakos X, Kerschbaumer A, et al. EULAR recommendations for the management of psoriatic arthritis with pharmacological therapies: 2019 update. Ann Rheum Dis 2020;79:S700–12.
47. Menter A, Strober BE, Kaplan DH, et al. Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with biologics. J Am Acad Dermatol 2019;80:1029–72.
48. Menter A, Gelfand JM, Connor C, et al. Joint American Academy of Dermatology-National Psoriasis Foundation guidelines of care for the management of psoriasis with systemic nonbiologic therapies. J Am Acad Dermatol 2020;82:1445–86.
49. Elmets CA, Lim HW, Stoff B, et al. Joint American Academy of Dermatology-National Psoriasis Foundation guidelines of care for the management and treatment of psoriasis with phototherapy. J Am Acad Dermatol 2019;81:775–804.
50. Elmets CA, Korman NJ, Prater EF, et al. Joint AAD-NPF Guidelines of care for the management and treatment of psoriasis with topical therapy and alternative medicine modalities for psoriasis severity measures. J Am Acad Dermatol 2021;84:432–70.
51. Elmets CA, Leonardi CL, Davis DMR, et al. Joint AAD-NPF guidelines of care for the management and treatment of psoriasis with awareness and attention to comorbidities. J Am Acad Dermatol 2019;80:1073–113.
52. De Pasquale R, Foti R, Pettinato M, Visalli E. Psoriasis and Psoriatic Arthitis. The experience of the P.O. "Vittorio Emanuele" Catania: PDTA presentation. Exp Manag Psoriatric Arthitis (EMPATHY). 2019.
53. Malara G. Percorso Diagnostico

Terapeutico Assistenziale (PDTA) del paziente con Psoriasi [Diagnostic Therapeutic Assistance Path of patients with Psoriasis]. 2020. https://ospedalerc.it/files/simonecarullo/PDTA/pdta psoriasi.pdf. Accessed 8 Feb 2022.
54. Visalli E, Crispino N, Foti R. Multidisciplinary Management of Psoriatic Arthritis: The Benefits of a Comprehensive Approach. Adv Ther 2019;36:806–16.
55. Gisondi P, Fargnoli MC, Amerio P, et al. Italian adaptation of EuroGuiDerm guideline on the systemic treatment of chronic plaque psoriasis. Ital J Dermatol Venerol 2022;157:1-78.

## Composition of the Consensus Conference Committees

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