PATIENT INFORMATION LEAFLET

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Sjögren's Syndrome

An autoimmune disease of dry eyes, dry mouth and beyond

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Sjögren's syndrome is one of the most common chronic autoimmune diseases worldwide, yet it remains widely under-recognised. This leaflet has been prepared for patients attending our clinic to explain — clearly and accurately — what Sjögren's syndrome is, how it develops, how it is diagnosed, and how it can be effectively managed. It is intended to complement, not replace, your consultation with your rheumatologist.

9:1	0.3–1%	40–60
Female : male ratio in primary disease	Estimated global prevalence	Typical age of onset (years)

What this leaflet covers

1. What is Sjögren's syndrome?
2. How common is it? — global and Pakistani data
3. Why does it happen? — pathogenesis explained
4. Recognising the symptoms
5. How the diagnosis is made
6. Treatment — symptomatic and systemic
7. Living well with Sjögren's syndrome
8. When to seek urgent advice

1. What is Sjögren's syndrome?

Sjögren's syndrome is a chronic, systemic autoimmune disease in which the immune system mistakenly attacks the body's own moisture-producing glands — chiefly the lacrimal (tear) glands and the salivary glands. The hallmark consequences are persistent dry eyes (*keratoconjunctivitis sicca*) and a dry mouth (*xerostomia*), together known as the **sicca complex**.

The disease was first described in 1933 by Dr Henrik Sjögren, a Swedish ophthalmologist, who recognised a cluster of women with dry eyes, dry mouth and arthritis. We now know that Sjögren's is far more than a 'dryness' disease: it is a true systemic illness that may affect the joints, skin, lungs, kidneys, nerves and blood, and it carries a small but real long-term risk of lymphoma.

Primary versus secondary disease

Type	Definition	Typical context
Primary Sjögren's syndrome	Occurs on its own, without another connective-tissue disease.	Approximately 60–70% of all cases.
Secondary Sjögren's syndrome	Occurs alongside another autoimmune disease.	Most often rheumatoid arthritis, systemic lupus erythematosus (SLE), systemic sclerosis or autoimmune thyroid disease.

> **Did you know?**
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> Sjögren's syndrome is the **second most common** systemic autoimmune rheumatic disease after rheumatoid arthritis. Despite this, the average time from first symptoms to diagnosis is often several years — early specialist referral makes a real difference.

2. How common is Sjögren's syndrome?

Global figures

Reported prevalence varies considerably depending on the classification criteria used and the population studied. The most reliable systematic reviews suggest:

- **Global prevalence** of primary Sjögren's syndrome is estimated at approximately **0.01–1%** of the adult population, with most rigorous studies placing it between **0.05% and 0.3%**.
- **Annual incidence** ranges from approximately **3 to 6 new cases per 100,000 person-years**.
- Women are affected approximately **nine times more often than men** (≥ 85% of all patients are female).
- Peak age at diagnosis is between **40 and 60 years**, although the disease can occur at any age, including in adolescents.
- Sjögren's may be present in around **30% of patients with rheumatoid arthritis** and a similar proportion of those with SLE (secondary Sjögren's).

Data from Pakistan

Dedicated population-based epidemiological studies on Sjögren's syndrome in Pakistan remain limited, and the disease is widely believed to be underdiagnosed in our setting. However, useful information can be drawn from laboratory and hospital-based series:

- A large laboratory series from Shaukat Khanum Memorial Cancer Hospital, Lahore (*Imran et al., Cureus, 2023*) examined 1,100 ANA-positive sera from Pakistani patients. **Anti-Ro/SSA antibodies were the second most frequent extractable nuclear antigen (ENA) at 17.2%**, and anti-Ro52 was the most frequent at 19.8% — confirming that the serological signature of Sjögren's syndrome is common in our patient population.
- Across hospital-based rheumatology cohorts in Karachi and Lahore, Sjögren's syndrome is consistently identified as one of the principal connective-tissue diseases seen in specialist clinics, alongside rheumatoid arthritis and SLE.
- The female predominance and middle-age peak observed in international studies are mirrored in Pakistani case series; in the Shaukat Khanum laboratory data, **75.5% of ANA-positive patients were women**, with the largest single age group being 30 to under 40 years.
- Case reports from Pakistani institutions continue to describe unusual manifestations of Sjögren's — including dermatological and ophthalmic presentations — underscoring the importance of awareness among general practitioners and other specialists.

> **A note on local awareness**
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> Many Pakistani patients are seen first for chronic dry eyes by ophthalmologists, or for recurrent dental caries and oral discomfort by dentists, before the underlying systemic cause is identified. Persistent sicca symptoms — particularly in women over 40 — deserve a rheumatology referral.

3. Why does Sjögren's syndrome happen?

The precise cause of Sjögren's syndrome remains unknown, but it arises from a complex interplay between **genetic susceptibility**, **environmental triggers** (in particular viral infections) and **hormonal influences**. The end result is a self-sustaining autoimmune attack on the exocrine glands.

The key steps in pathogenesis

1 Genetic susceptibility
Certain HLA class II alleles — notably HLA-DR3, HLA-DRB1*03:01 and HLA-DQ2 — increase the risk of developing Sjögren's syndrome. Family clustering is recognised, but most cases occur sporadically.

2 Environmental trigger
Viral infections (particularly Epstein–Barr virus, hepatitis C virus, and possibly cytomegalovirus and HTLV-1) are believed to act as initiating triggers in genetically predisposed individuals, by inducing aberrant activation of the innate immune system.

3 Epithelial activation
The salivary and lacrimal gland epithelial cells themselves become 'active participants' in the autoimmune process. They upregulate type I interferon pathways, present autoantigens (Ro/SSA and La/SSB) on their surface, and recruit immune cells.

4 Lymphocytic infiltration
Dense focal infiltrates of CD4-positive T cells and B cells accumulate around the ducts of the affected glands — the histological hallmark known as **focal lymphocytic sialadenitis**. This is the lesion sought on minor salivary gland (lip) biopsy.

5 Autoantibody production
Hyperactivated B cells produce characteristic autoantibodies — particularly **anti-Ro/SSA** and **anti-La/SSB** — and the disease becomes self-perpetuating.

6 Glandular dysfunction

Inflammation, glandular cell apoptosis, and antibodies against muscarinic (M3) receptors and aquaporin-5 water channels together impair the release and flow of saliva and tears, producing the dryness that patients experience.

7 Lymphoma risk

In a minority of patients, the chronic B-cell activation can — over many years — drive the development of mucosa-associated lymphoid tissue (MALT) lymphoma. Regular monitoring allows early detection.

The hormonal connection

The strong female predominance — together with onset clustering around the perimenopausal years — points to an important role for sex hormones. Falling oestrogen levels at menopause are thought to remove a protective effect on the glandular epithelium, helping to explain why so many women present in their fifth and sixth decades.

4. Recognising the symptoms

Symptoms range widely from mild dryness to disabling systemic disease. They are best understood as **glandular** features (caused by dryness) and **extra-glandular** features (caused by inflammation elsewhere in the body).

Glandular (sicca) symptoms

System	Common symptoms
Eyes	A persistent gritty or 'sandy' sensation; burning; redness; blurred vision; stringy mucus discharge; intolerance of bright light, wind or air-conditioning; difficulty wearing contact lenses.
Mouth	A dry, sticky mouth; difficulty swallowing dry foods without sipping water; needing to wake at night to drink; altered or reduced taste; a burning tongue; hoarseness; recurrent oral thrush; rapid dental decay and gum disease.
Salivary glands	Episodic or persistent swelling of the parotid or submandibular glands, which may be painful and is sometimes mistaken for mumps or infection.
Skin	Dry, itchy skin; reduced sweating.
Nose, throat & airways	Nasal crusting and nosebleeds; a chronic dry cough; recurrent sinusitis.
Genital tract	Vaginal dryness, dyspareunia and recurrent candidiasis — particularly common and often under-discussed.

Extra-glandular (systemic) symptoms

Around **30–50%** of patients with primary Sjögren's syndrome develop one or more manifestations outside the exocrine glands. Recognising these is important because they often require systemic treatment.

- **Profound fatigue** — frequently the most disabling symptom and disproportionate to any other physical finding.
- **Joints and muscles** — symmetrical inflammatory arthralgia in around half of patients; frank non-erosive arthritis in around one in five. Myalgia is common.
- **Skin** — small-vessel vasculitis (palpable purpura on the legs), Raynaud's phenomenon, annular erythema, and photosensitivity.
- **Lungs** — chronic dry cough, interstitial lung disease (particularly non-specific interstitial pneumonia and lymphocytic interstitial pneumonia) and small-airway disease.
- **Kidneys** — interstitial nephritis and distal (type 1) renal tubular acidosis, which may cause unexplained hypokalaemia or kidney stones.
- **Nervous system** — peripheral sensory neuropathy, sensory ganglionopathy, autonomic neuropathy, and (rarely) central nervous system involvement.
- **Blood** — anaemia, leucopenia, thrombocytopenia, and raised inflammatory markers; polyclonal hypergammaglobulinaemia is common.
- **Lymphoma** — the lifetime risk of non-Hodgkin lymphoma (typically MALT lymphoma of the parotid) is increased **5- to 20-fold**; persistent unilateral parotid swelling, low complement and cryoglobulinaemia are warning signs.

> **A common clinical picture**

A woman in her late forties or fifties with several years of dry eyes and mouth, troublesome fatigue, mild joint pains, and accelerated dental decay — often labelled with 'menopausal symptoms' or 'fibromyalgia' for years before the correct diagnosis is made. If this sounds familiar, please ask for a rheumatology assessment.

5. How the diagnosis is made

There is no single test that proves Sjögren's syndrome. The diagnosis is built from a careful clinical history, examination, blood tests, objective measures of dryness, and — where appropriate — a salivary gland biopsy. In specialist practice, the internationally agreed **2016 ACR/EULAR classification criteria** are used both to support diagnosis and to confirm eligibility for research and clinical trials.

The diagnostic workup

- **History and examination** — confirming persistent dry eyes and dry mouth for at least three months, with no obvious alternative cause such as medication side effects or previous head-and-neck radiotherapy.
- **Schirmer's test** — a small strip of filter paper is placed in the lower eyelid for five minutes; ≤ 5 mm of wetting indicates significantly reduced tear production.
- **Ocular staining** — fluorescein or lissamine green eye drops highlight surface damage. An ocular staining score of ≥ 5 (or van Bijsterveld score ≥ 4) supports the diagnosis.
- **Unstimulated salivary flow rate** — measured over 15 minutes; ≤ 0.1 mL/min indicates reduced salivary function.
- **Serology** — anti-Ro/SSA antibodies are the key serological marker; anti-La/SSB, antinuclear antibody (ANA) and rheumatoid factor are also frequently positive. Routine tests include full blood count, ESR, CRP, renal and liver profile, immunoglobulins and complement (C3, C4).
- **Minor salivary gland (labial) biopsy** — a small biopsy of the inner lip examined for **focal lymphocytic sialadenitis with a focus score of ≥ 1 per 4 mm^2**. This is the diagnostic gold standard when serology is negative or the clinical picture is unclear.
- **Imaging** — salivary gland ultrasound is increasingly used as a non-invasive screening tool, demonstrating characteristic hypoechoic foci.

The 2016 ACR/EULAR classification criteria — at a glance

A patient with suggestive symptoms (and no exclusion criteria such as recent radiotherapy, active hepatitis C, HIV, sarcoidosis, amyloidosis, graft-versus-host disease, or IgG4-related disease) can be classified as having Sjögren's syndrome when the sum of the weighted items reaches ≥ **4**:

Item	Weight
Anti-Ro/SSA antibody positive	**3**
Focal lymphocytic sialadenitis on labial gland biopsy (focus score ≥ 1 per 4 mm^2)	**3**
Abnormal ocular staining score (≥ 5, or van Bijsterveld ≥ 4) in at least one eye	**1**
Schirmer's test ≤ 5 mm in five minutes in at least one eye	**1**
Unstimulated whole-saliva flow rate ≤ 0.1 mL per minute	**1**

Source: Shiboski CH et al. Ann Rheum Dis 2017;76:9–16.

Conditions that can mimic Sjögren's syndrome

Several conditions produce similar dryness and must be excluded: chronic hepatitis C, HIV-associated diffuse infiltrative lymphocytosis syndrome, sarcoidosis, IgG4-related disease, amyloidosis, graft-versus-host disease, prior head-and-neck radiotherapy, and drug-induced dryness (anticholinergics, antihistamines, antidepressants and diuretics).

6. Treatment

There is no cure for Sjögren's syndrome, but a great deal can be done to relieve symptoms, prevent complications and treat systemic disease. Management is tailored to the individual, with an emphasis on the **EULAR 2020 recommendations** for the topical and systemic treatment of primary Sjögren's syndrome.

A. Symptomatic care for dryness

Target	Treatment options
Dry eyes	• Preservative-free artificial tears used regularly throughout the day • Lubricating ointments at night • Topical ciclosporin 0.05% or lifitegrast eye drops for moderate disease • Short courses of topical corticosteroid drops for flares (specialist supervision) • Punctal plugs to retain tears in selected patients • Environmental measures: humidifiers, avoiding direct air-conditioning, regular screen breaks, wraparound spectacles in dusty conditions
Dry mouth	• Frequent small sips of water; sugar-free chewing gum or lozenges to stimulate flow • Saliva substitutes (sprays, gels, lozenges) particularly at night • **Pilocarpine** 5 mg orally up to four times daily, or **cevimeline** 30 mg three times daily — muscarinic agonists that stimulate residual gland function • Meticulous oral hygiene, twice-yearly dental review, fluoride toothpaste, topical fluoride varnish • Prompt treatment of oral candidiasis with topical antifungals
Dry skin & nose	Emollient creams, lip balms, saline nasal sprays and nasal gels.
Vaginal dryness	Water-based lubricants, vaginal moisturisers and — where appropriate — topical oestrogen under gynaecological advice.

B. Treating extra-glandular and systemic disease

Systemic medication is reserved for patients with significant inflammatory or organ-involving disease. Choice and intensity are guided by the severity score (ESSDAI), the organ involved, and the patient's overall context.

- **Hydroxychloroquine** — widely used as first-line systemic therapy, particularly for fatigue, arthralgia, mild arthritis and skin manifestations.
- **Corticosteroids** — short courses for flares, vasculitis, severe arthritis or neurological involvement, used at the lowest effective dose.
- **Conventional disease-modifying drugs** — methotrexate, leflunomide, azathioprine or mycophenolate mofetil for persistent inflammatory disease or interstitial lung disease.
- **Cyclophosphamide** — reserved for severe vasculitis or progressive organ-threatening disease.
- **Biologic therapy** — **rituximab** (anti-CD20) has the best evidence for severe systemic disease, particularly cryoglobulinaemic vasculitis and refractory parotid swelling. Newer agents under active investigation include belimumab, iscalimab, ianalumab and dazodalibep.
- **Pain and fatigue strategies** — graded aerobic exercise, sleep optimisation, cognitive-behavioural therapy and treatment of co-existing fibromyalgia and depression.

C. Avoiding aggravating factors

- Review all medications with your doctor — antihistamines, tricyclic antidepressants, anticholinergics, decongestants and many diuretics worsen dryness.
- Stop smoking and limit alcohol — both irritate the mucous membranes.
- Avoid prolonged exposure to dry, air-conditioned or windy environments where possible.

- Limit sugary drinks and snacks — these accelerate dental decay in an already dry mouth.

7. Living well with Sjögren's syndrome

Most patients with Sjögren's syndrome can lead full and active lives. The disease is usually slowly progressive and rarely shortens life expectancy in the absence of severe systemic features. A few practical principles make a real difference.

- **Stay engaged with your rheumatologist** — regular review (usually 6–12 monthly) allows early detection of organ involvement and lymphoma.
- **Look after your teeth** — six-monthly dental review, fluoride toothpaste twice daily, fluoride mouth rinse, and prompt treatment of decay. Sugar-free gum can be a simple but powerful adjunct.
- **Look after your eyes** — an annual ophthalmology review and a regular drops routine are far more effective than occasional use.
- **Move regularly** — graded exercise, including walking, swimming and yoga, helps fatigue, mood, joint pain and bone health.
- **Mind your bones** — patients on long-term steroids or with limited sun exposure should discuss bone-protection (calcium, vitamin D, and where indicated, bisphosphonates).
- **Vaccinations** — keep routine immunisations up to date; influenza and pneumococcal vaccines are recommended, particularly if you are on immunosuppression. Live vaccines should be discussed first.
- **Pregnancy** — Sjögren's is compatible with successful pregnancy, but anti-Ro/SSA antibodies carry a 1–2% risk of neonatal lupus and congenital heart block. Always plan pregnancy with your rheumatologist and obstetrician.
- **Mental wellbeing** — chronic illness and fatigue take a toll. Support groups, counselling and family understanding all help.

8. When to seek urgent advice

Please contact the clinic, or attend a hospital, promptly if you experience any of the following:

- **New, persistent or one-sided swelling** of a parotid or other salivary gland
- **Unexplained weight loss, fevers or night sweats**
- A **new purpuric or bruise-like rash**, particularly on the lower legs
- **Sudden numbness, tingling or weakness** in the limbs or face
- **Worsening breathlessness or a new persistent cough**
- **Blood in the urine, frothy urine, or marked leg swelling**
- **Severe eye pain or sudden change in vision**
- A **severe oral infection** that is not settling with usual measures

A word from your rheumatologist

Sjögren's syndrome is a long-term condition, but it is also one in which a good partnership between patient and clinician makes a real difference. The more you understand the disease, the better you will be able to look after yourself. Please bring this leaflet to your next appointment, mark anything that resonates with your own experience, and we will go through it together.

— Dr Saira Khan, Consultant Rheumatologist

Selected references

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***Important note:** This leaflet is for general information only and does not replace personal medical advice. Every patient is different; please discuss any questions or concerns directly with Dr Saira Khan or another qualified rheumatologist. Version 1.0 — May 2026.*