



***Blood testing,
histopathology,
microbiological
investigations
and skin testing***



Why is this important?

- In some instances, investigations may be required to help:
 - Make or confirm the diagnosis
 - Establish prognosis
 - Exclude some diagnosis



Investigations – Blood testing

- FBC / FBP
- CRP
- Coagulation screen
- Iron studies
- B12
- Folate
- Blood glucose
- GTT
- Glycated haemoglobin
- U & E
- LFT
- Ca
- Phosphate
- Alkaline phosphatase
- Serology



Investigations – Blood testing



Diagnostic PATHOLOGY		Pathology Report		Myaree Telephone: (08) 9317 0555 (all hours) Results Enquiries 13 61 99 Specialist Diagnostic Services Pty Ltd (ABN) Co. Western Diagnostic Pathology ABN 84 007 190 043	
		SUITE 3/42-44 PARLIAMENT PLA WEST PERTH 6005 CC Drs: A FRYDRYCH. Collection Date:		Printed	
Sex: F					
ROUTINE HAEMATOLOGY:					
(RCC 3.90)	HAEMOGLOBIN	124	(115 - 155)	g/L	Normal File
(PCV 0.360)	MCV	92	(82 - 98)	fL	Notes Required
	RDW	13	(< 16)	%	Patient Notified
	MCHC	343	(320 - 360)	g/L	Patient Will Call
	PLATELETS	219	(150 - 400)	9/L	Make Appointment
	WHITE CELLS	7.9	(4.0 - 11.0)	9/L	Collect Prescription
	Neut 75%	5.9	(1.8 - 7.5)	"	On Correct Treatment
	Lymph 18%	1.4	(1.2 - 4.0)	"	Check With Doctor
	Mono 7%	0.6	(0.1 - 1.2)	"	
	Eosin 0%	0.0	(< 0.7)	"	
COMMENT: Red cells, white cells and platelets within normal limits.					

Investigations – Blood testing



Investigations – Blood testing



■ Coagulation screen

→ APTT

→ PT

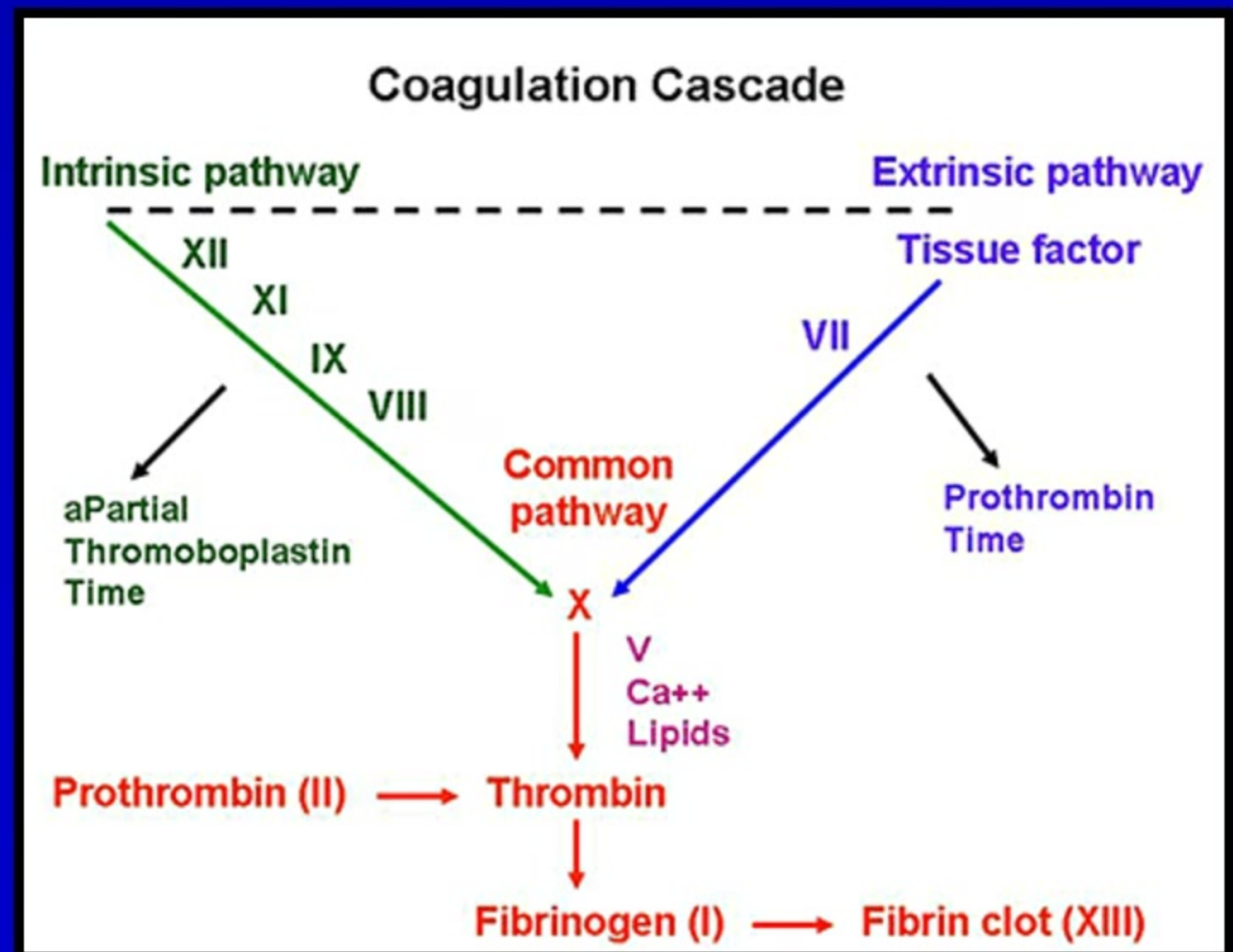
→ Fibrinogen

→ Thrombin time

→ FBC

→ Platelet count

→ Platelet function



Investigations – Blood testing



Investigations – Blood testing



Western Diagnostic Pathology		Pathology Report			Myaree Telephone: (08) 9317 0999 (all hours) Results Enquiries 13 61 99 Specialist Diagnostic Services Pty Ltd (RPA) t/a Western Diagnostic Pathology ABN 84 007 190 043		RCPA NATA		
DOB:				Sex: F		Ref. by DR.A. FRYDRYCH		Printed	
				Collection Date: 17/01/14					
CUMULATIVE IRON STUDIES									
Date	Iron umol/L	Transferrin umol/L	TFN Satn %	Ferritin ug/L	Lab.No.				
09/06/	4	37	5	22					
17/01/				5					
17/01/				5					
Ref:	(11 - 27)	(20 - 45)	(15 - 55)	(15 - 200)					
85927248 Consistent with iron deficiency.									

Investigations – Blood testing



Investigations – Blood testing



Western Diagnostic PATHOLOGY		Pathology Report		Myaree Telephone: (08) 9517 0999 (all hours) Results Enquiries 13 61 99 Specialist Diagnostic Services Pty Ltd (A Part of Western Diagnostic Pathology ABN 34 007 190 043)	
DOB:		Sex: F	Ref. by DR.A. FRYDRYCH		Printed
		Collection Date:			
GLUCOSE TOLERANCE TEST (75g glucose load)					
<u>Serum Glucose</u>					
Fasting	. . . :	3.9	mmol/L		
1 Hour	. . . :	5.3	mmol/L		
2 Hour	. . . :	4.4	mmol/L		
<u>Impaired Fasting</u>		<u>Impaired Tolerance</u>		<u>Diabetic</u>	
F 6.1 - 6.9		2 Hr 7.8 - 11.0		F > 6.9 or 2 Hr > 11.0	
<u>Gestational diabetes:</u> F > 5.4 or 2 Hr > 7.9					
Normal Glucose Tolerance.					

Investigations – Blood testing



Investigations – Blood testing



		Pathology Report			Myaree Telephone: (08) 9317 0999 (all hours) Results Enquiries 13 61 99 <small>Specialist Diagnostic Services Pty Ltd (A/PA) via Western Diagnostic Pathology ABN 84 097 190 643</small>			
						Printed		
Sex: F				Ref. by DR.A. FRYDRYCH		Collection Date:		
CUMULATIVE ELECTROLYTES (Serum)								
	Na	K	Cl	HCO ₃	Urea	Creat		
	mmol/L	mmol/L	mmol/L	mmol/L	mmol/L	umol/L		
	(134 - 146)	(3.4 - 5.5)	(95 - 108)	(22 - 32)	(3.0 - 8.0)	(30 - 100)		
Date	Time						Lab.No.	
17/01/	09:41	139	4.0	102	25	4.2	50	
eGFR :		> 90 mL/min/1.73m ²						
In accordance with current guidelines (Med J Aust 2012;197:222-223), we have changed the eGFR calculation to that of the CKD-EPI. This is expected to have minimal change to eGFR results.								

Investigations – Blood testing

- Ca
- Phosphate
- Alkaline phosphatase
- Serology



Investigations – Biopsy



- Indications:
 - ✓ Lesions that have neoplastic or pre-malignant features or that are enlarging



Investigations – Biopsy



Investigations – Biopsy

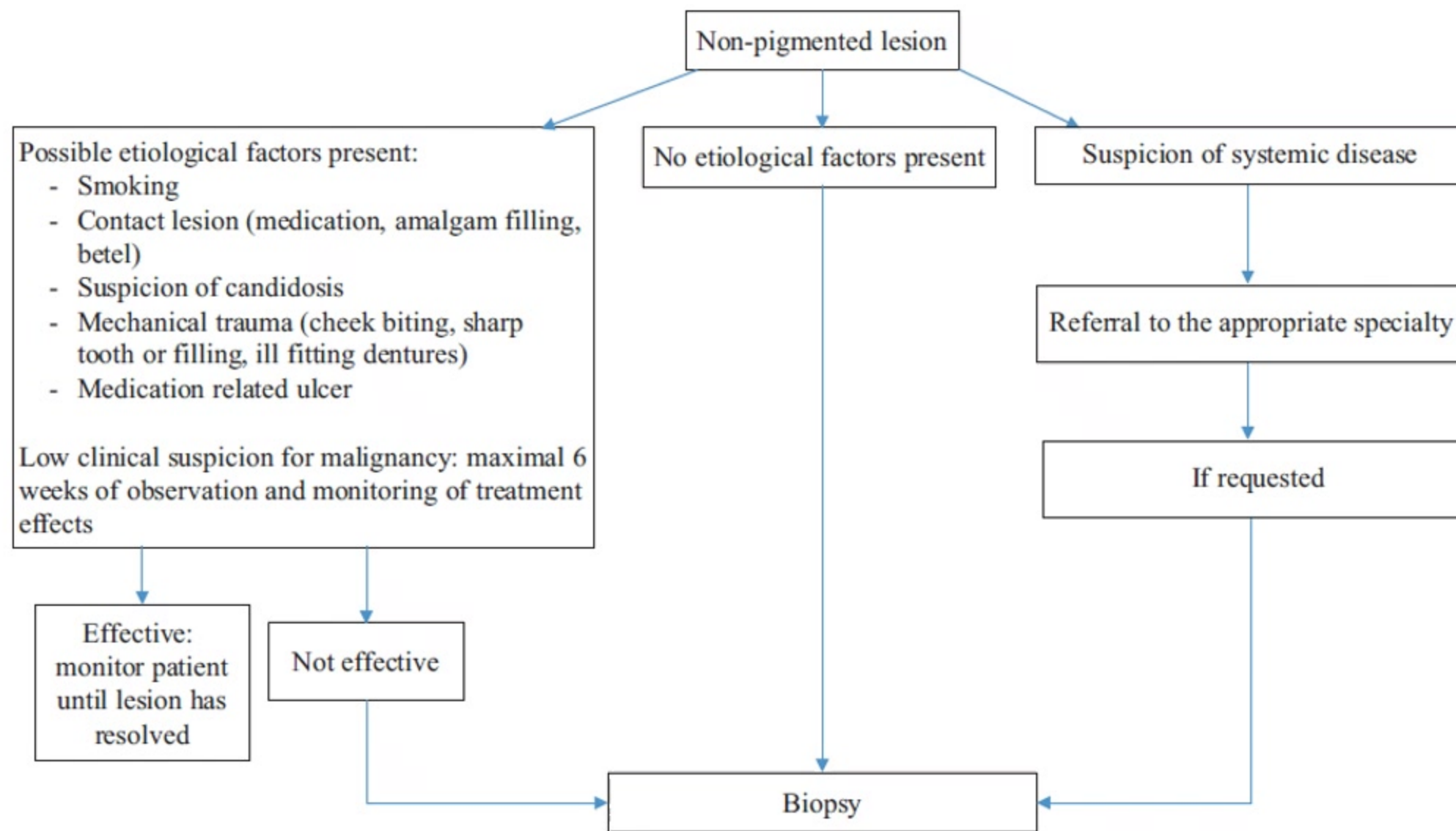





Fig. 1 Flowchart for non-pigmented mucosal lesions. (Adapted from van der Waal 2010)



Investigations – Biopsy

 <p>647 Murray St, West Perth, W.A. 6005 Tel (08) 9476 5222 Fax (08) 9324 1287 www.clinipathpathology.com.au</p> <p>REQUESTING DOCTOR (SURNAME, INITIALS, ADDRESS, PROVIDER No.)</p>	PATIENT SURNAME _____ GIVEN NAMES _____		LABORATORY BARCODE ONLY <small>CL004 03/12</small>																									
	D.O.B. _____	SEX _____			PHONE NUMBER _____	SURGERY FILE# _____																						
ADDRESS _____																												
CLINICAL NOTES _____ _____				Hospital status of patient at collection or date of service • Private patient in private hospital or approved day hospital facility <input type="checkbox"/> YES <input type="checkbox"/> NO • Private patient in recognised hospital <input type="checkbox"/> YES <input type="checkbox"/> NO • Public patient in a recognised hospital <input type="checkbox"/> YES <input type="checkbox"/> NO • Outpatient of recognised hospital <input type="checkbox"/> YES <input type="checkbox"/> NO																								
				TRANSFUSION DATE REQUIRED: _____ TIME: _____ REASON FOR TRANSFUSION: _____ IN THE LAST 3 MONTHS HAS THE PATIENT BEEN: PREGNANT <input type="checkbox"/> YES <input type="checkbox"/> NO TRANSFUSED <input type="checkbox"/> YES <input type="checkbox"/> NO																								
FASTING <input type="checkbox"/> DIABETIC <input type="checkbox"/> LIPID LOWERING DRUG <input type="checkbox"/> PREGNANT <input type="checkbox"/>		CERVICAL CYTOLOGY THERAPEUTIC DRUG MONITORING																										
DATE PREVIOUS SMEAR: ____/____/____ LMP: ____/____/____ THIN PREP <input type="checkbox"/> SITE: CERVIX <input type="checkbox"/> VAULT <input type="checkbox"/> POST PARTUM <input type="checkbox"/> POST MENOPAUSE <input type="checkbox"/> ABN BLEED <input type="checkbox"/> HORMONE RX <input type="checkbox"/> IUCD <input type="checkbox"/> CX SUSPICIOUS <input type="checkbox"/>		<table border="1"> <thead> <tr> <th>DRUG</th> <th>DAILY DOSE</th> <th>LAST DOSE</th> <th>DATE</th> <th>TIME</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </tbody> </table>	DRUG	DAILY DOSE	LAST DOSE	DATE	TIME																					COLLECTOR TO COMPLETE I certify that the blood specimen(s) accompanying this request was drawn from the patient named above and I established the identity of this patient by direct enquiry and/or by inspection of wrist band, and immediately upon the blood being drawn I labelled and signed the sample tube(s). NAME: _____ SIGN: _____ TIME: _____ DATE: _____
DRUG	DAILY DOSE	LAST DOSE	DATE	TIME																								
TESTS REQUESTED _____ _____																												
URGENT <input type="checkbox"/> PHONE <input type="checkbox"/> FAX <input type="checkbox"/>		RESULTS BY: ____/____/____ TIME: _____																										
COPY TO: _____		DOCTOR'S SIGNATURE AND DATE _____ ____/____/____																										
<input type="checkbox"/> D (Self determine)		Practitioner Use Only (Reason for Patient being unable to sign) _____																										
  <p>Accredited for compliance with NPAAC Standards and ISO 15189 Clinipath Pathology Pty Ltd trading as Clinipath Pathology and Bunbury Pathology. ABN 57 008 811 185, a subsidiary of Sonic Healthcare Limited (APA) ABN 24 004 196 909</p>		ACCOUNT INFORMATION <input type="checkbox"/> MEDICARE <input type="checkbox"/> PRIVATE <input type="checkbox"/> REBATE <input type="checkbox"/> DVA <input type="checkbox"/> Assignment Copy <input type="checkbox"/> MEDICARE / DVA NUMBER _____ (DIRECT BILL AND DVA P1 TO PROVIDE CARD DETAILS AND SIGN MEDICARE ASSIGNMENT) COMPANY OR OTHER ACCOUNT DETAILS _____		SAMPLE DETAILS <table border="1"> <tr><td>SST</td><td>HISTO</td></tr> <tr><td>EDTA</td><td>PAP</td></tr> <tr><td>GLUC</td><td>TP</td></tr> <tr><td>CIT</td><td>URINE</td></tr> <tr><td>SNG</td><td>SWAB</td></tr> <tr><td>PNG</td><td>FAEC</td></tr> <tr><td>ACD</td><td>SPUT</td></tr> <tr><td>BPT</td><td>OTHER</td></tr> </table>	SST	HISTO	EDTA	PAP	GLUC	TP	CIT	URINE	SNG	SWAB	PNG	FAEC	ACD	SPUT	BPT	OTHER								
SST	HISTO																											
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PNG	FAEC																											
ACD	SPUT																											
BPT	OTHER																											
MEDICARE ASSIGNMENT (Section 20A of the Health Insurance Act) By this declaration I assign my right to benefits to the Approved Pathology Practitioner who will render the requested pathology service(s). _____		PATIENT'S SIGNATURE AND DATE _____ ____/____/____																										

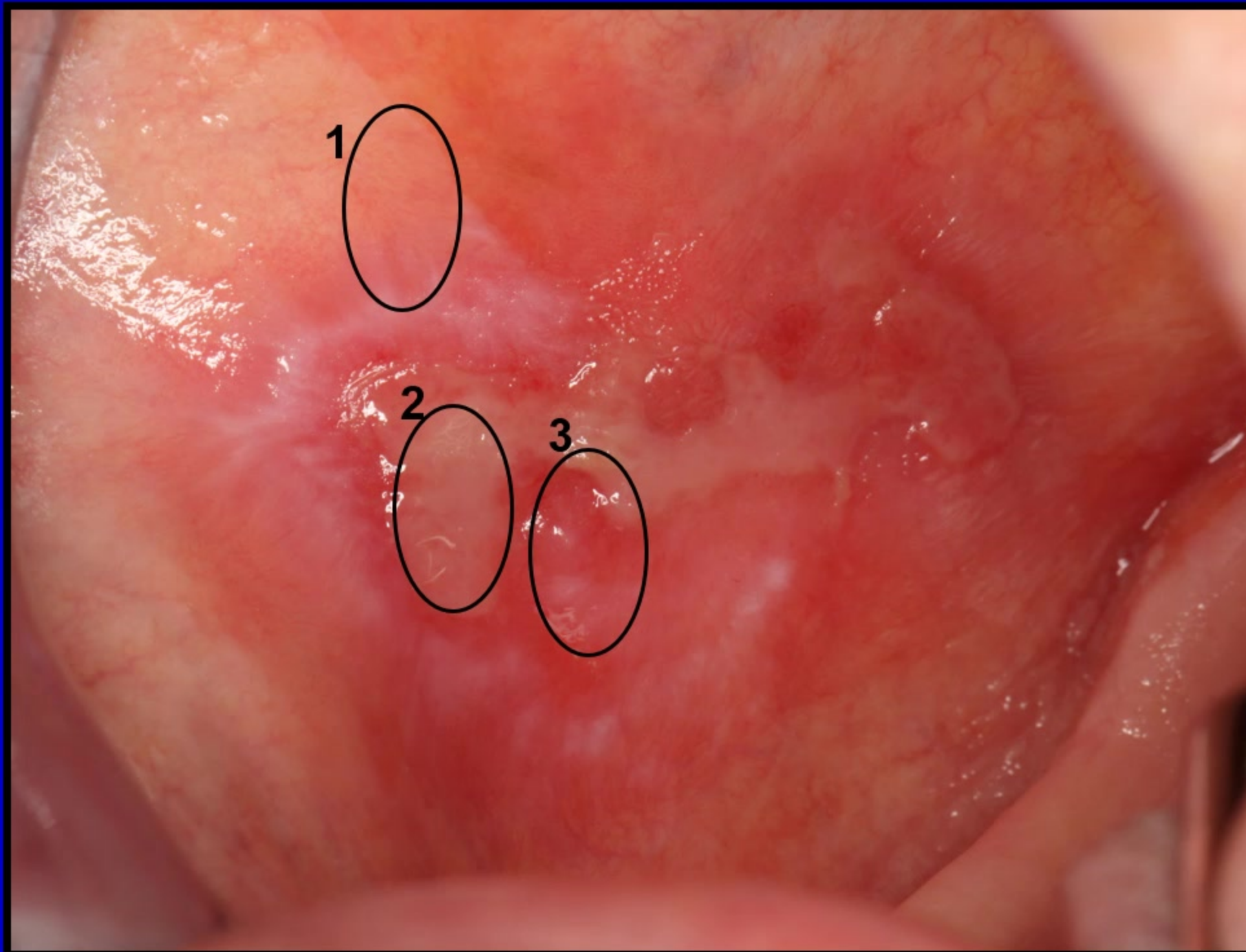


Investigations – Biopsy

- Appropriate biopsy contains tissue that is representative of the most severe and significant change in the lesion and is suitable for pathologic assessment.



Investigations – Biopsy





Investigations – Biopsy

- Procedure
 - Site selection
 - LA
 - Size
 - Haemostasis



Investigations – Biopsy

	Pathology Report	Results Enquiries: 13 61 99 www.wdp.com.au	Accreditation Number 1158 Accredited for compliance with ISOAC standards and ISO 15189	
		Specialist Diagnostic Services Pty Ltd, ABN 84 007 190 043 APA No. 000042, trading as Western Diagnostic Pathology		
		DR A. FRYDRYCH SUITE 3/42-44 PARLIAMENT PLA WEST PERTH 6005	Printed	
		CC Drs: A FRYDRYCH.		
	Sex: F	Collection Date:		
HISTOPATHOLOGY REPORT ACCESSION No.				
Clinical Notes: OLP left tongue.				
Macroscopic Description: Pot 1: Left tongue: One pale tissue 5x3x2mm.				
Microscopic Description: Three levels were viewed. The specimen is covered by stratified squamous parakeratotic epithelium. An intact basal layer is evident. Nothing of note can be seen in the lamina propria or submucosa.				
Conclusion: Oral lichen planus.				
Reported by:				
Pathologist Signature:				

Norm
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Prescrip

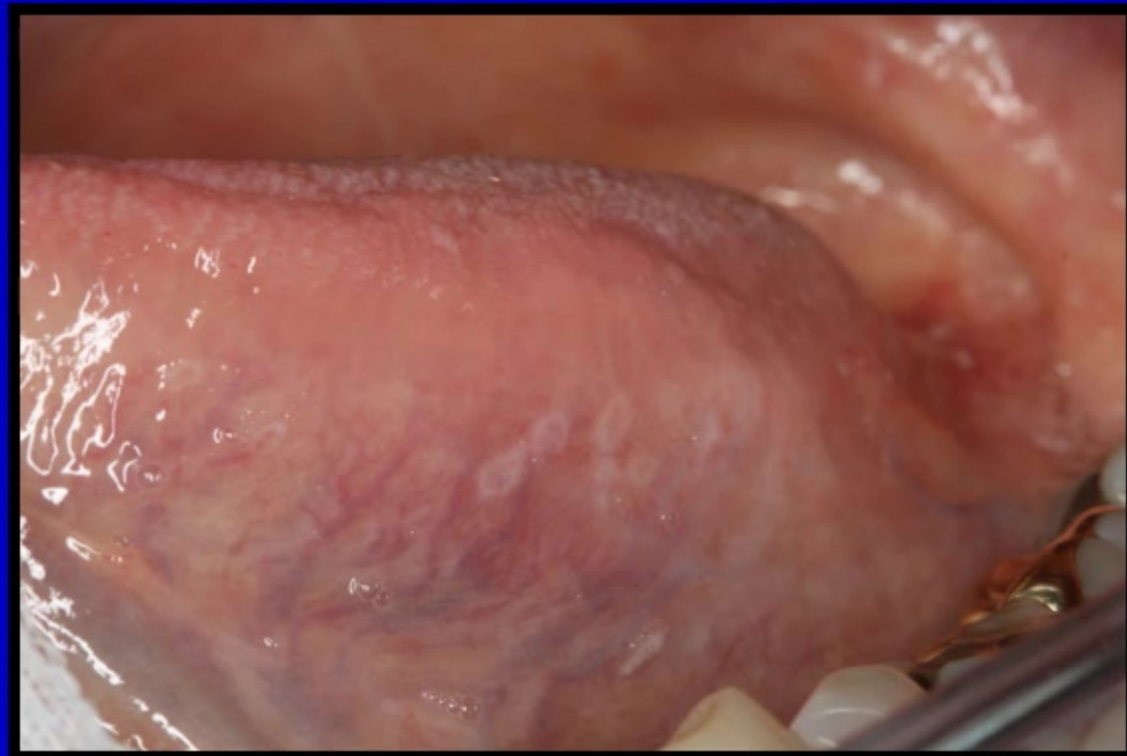
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Investigations – Microbiological investigations

- Swabs
 - Culture and sensitivity
 - PCR



Investigations – Imaging

- Imaging



- Radiography
- Computed axial tomography (CT)
- Bone scans
- Positron emission tomography (PET)
- Magnetic resonance imaging (MRI)
- Ultrasound scanning

Communication



Resources



<https://www.rcpa.edu.au/Manuals/RCPA-Manual>