



Image Encyclopedia

Resource Guide

STANDBY

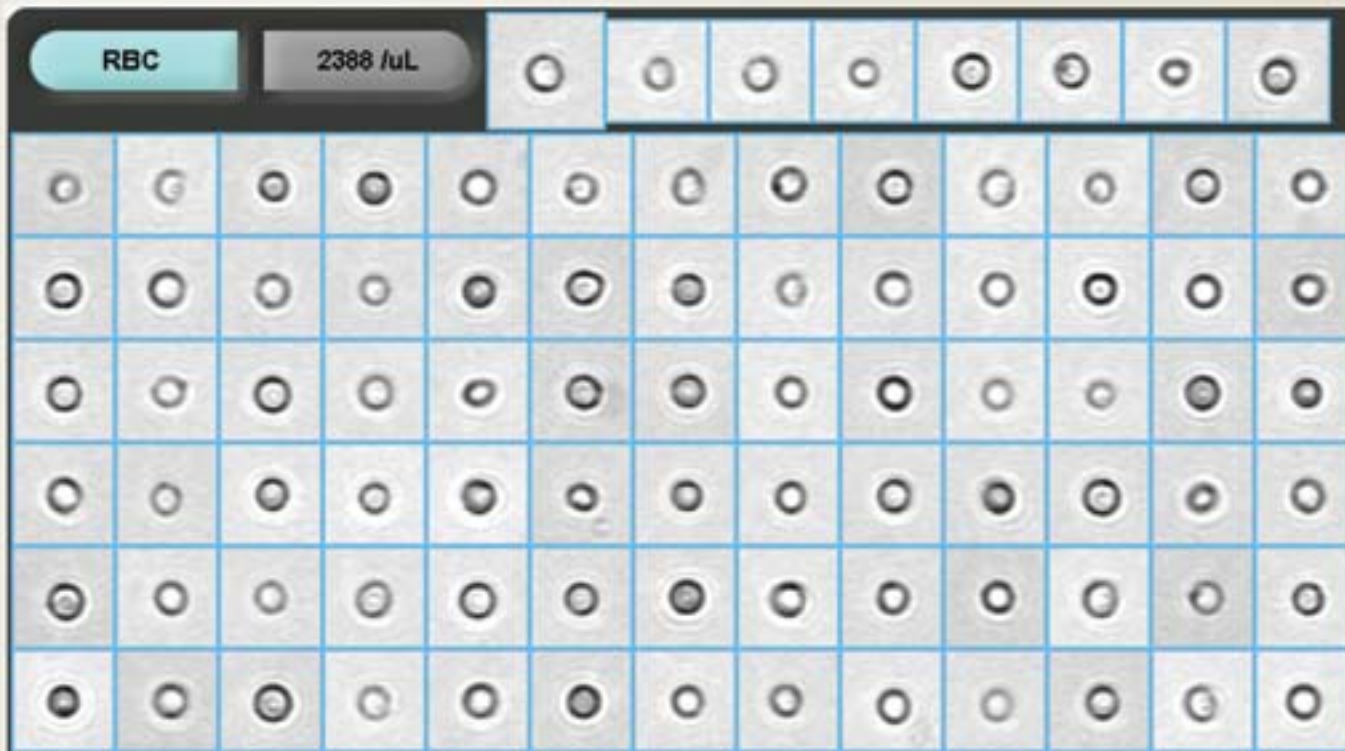
Specimens

Found List (10)

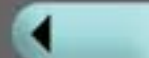
Instrument

RBC

2388 /uL



Erythrocytes or Red Blood Cells (RBC) are small, about 8 μm in diameter. They typically lack internal structure. On the iQ Series screen they appear as well focused rings with a central pallor that is quite evident. The presence of RBC indicates bleeding in the urinary tract or kidneys. RBCs may be accompanied by positive Blood on a chemistry strip.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

PNO11652
2004-07-17 12:30:02
0/3(164)
1:1

All Small Particles: 3794uL

OLU	Normal
H PRO	+2
BIL	-
URO	Normal
PH	5.0
H BLD	+3
KET	-
NIT	-
H LEU	75 Leu/uL
H CLA	Turbid
SPGR	1.020
COL	Yellow

Cleared flags:
CARRYOVER?

Results

STANDBY

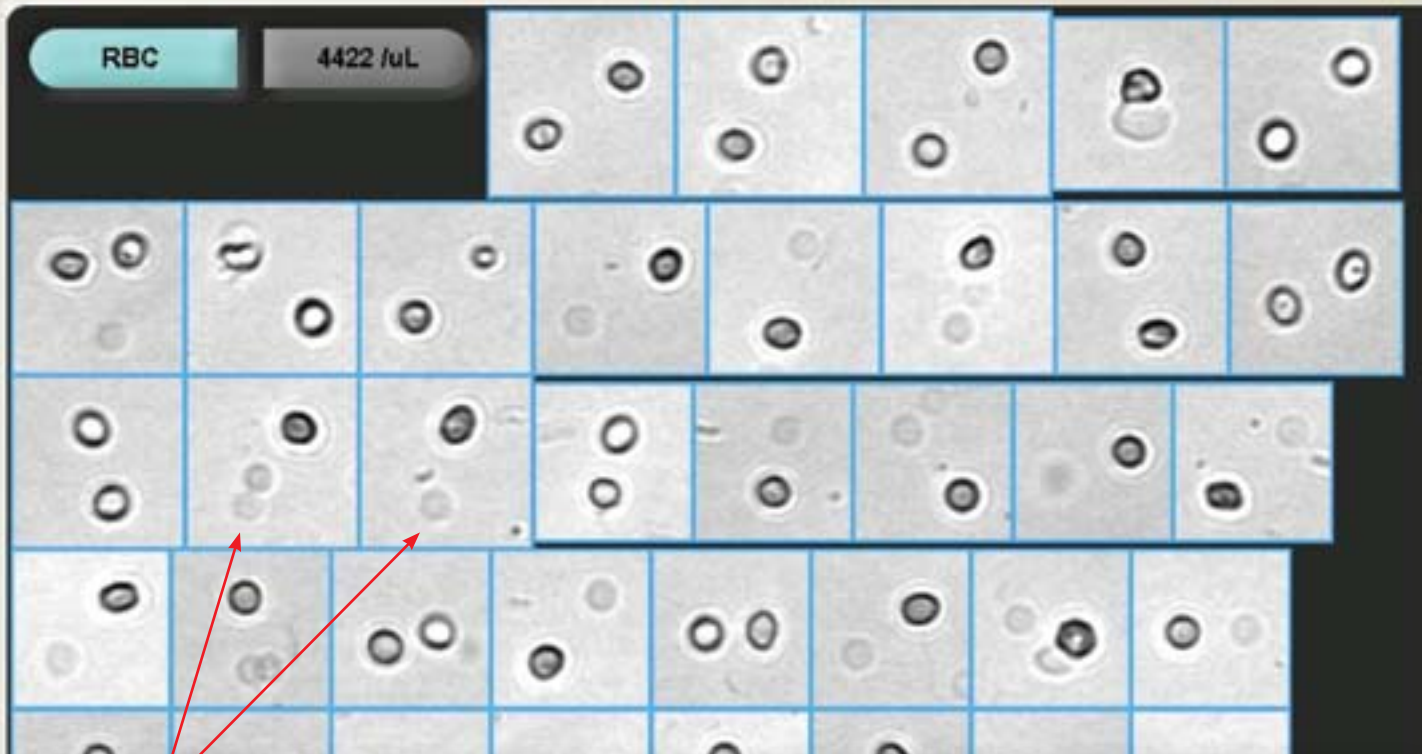
Specimens

Found List (1)

Instrument

RBC

4422 /uL



Ghost Cells – These are erythrocytes that have lost their hemoglobin usually because of swelling in hypotonic urine. They are found in RBC and UNCL. The operator may report them using the 'Edit Comment' feature.

WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>>
0425100125
2004-09-07 10:34:22
10/2(2)
1:1

All Small Particles: 84773u/L

GLU	Normal
PRO	+2
BIL	-
URO	Normal
PH	5.0
BLD	+3
KET	-
NIT	+2
LEU	500 Leukul
CLA	Turbid
SPGR	1.015
COL	Red

Cleared flags:
HIGH CONCENTRATION

Results

STANDBY

Specimens

Found List (1)

Instrument

ART

29 /HPF



Acanthocytes or G1 Cells– Dysmorphic erythrocytes. They are found in RBC and UNCL. If the laboratory chooses to report dysmorphic RBC, the user must move all images of dysmorphic RBC into DRBC. The percentage of isomorphic and dysmorphic RBC will be automatically calculated for the report.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>>
0425100125
2004-09-07 10:34:22
10/2(2)
1:1

All Small Particles: 84773/uL

GLU	Normal
PRO	+2
BIL	-
URO	Normal
PH	6.0
BLO	+3
KET	-
NIT	+2
LEU	500 Leu/uL
CLA	Turbid
SPGR	1.015
COL	Red

Cleared flags:
HIGH CONCENTRATION

Results



Image Encyclopedia

Resource Guide

OFF

Specimens

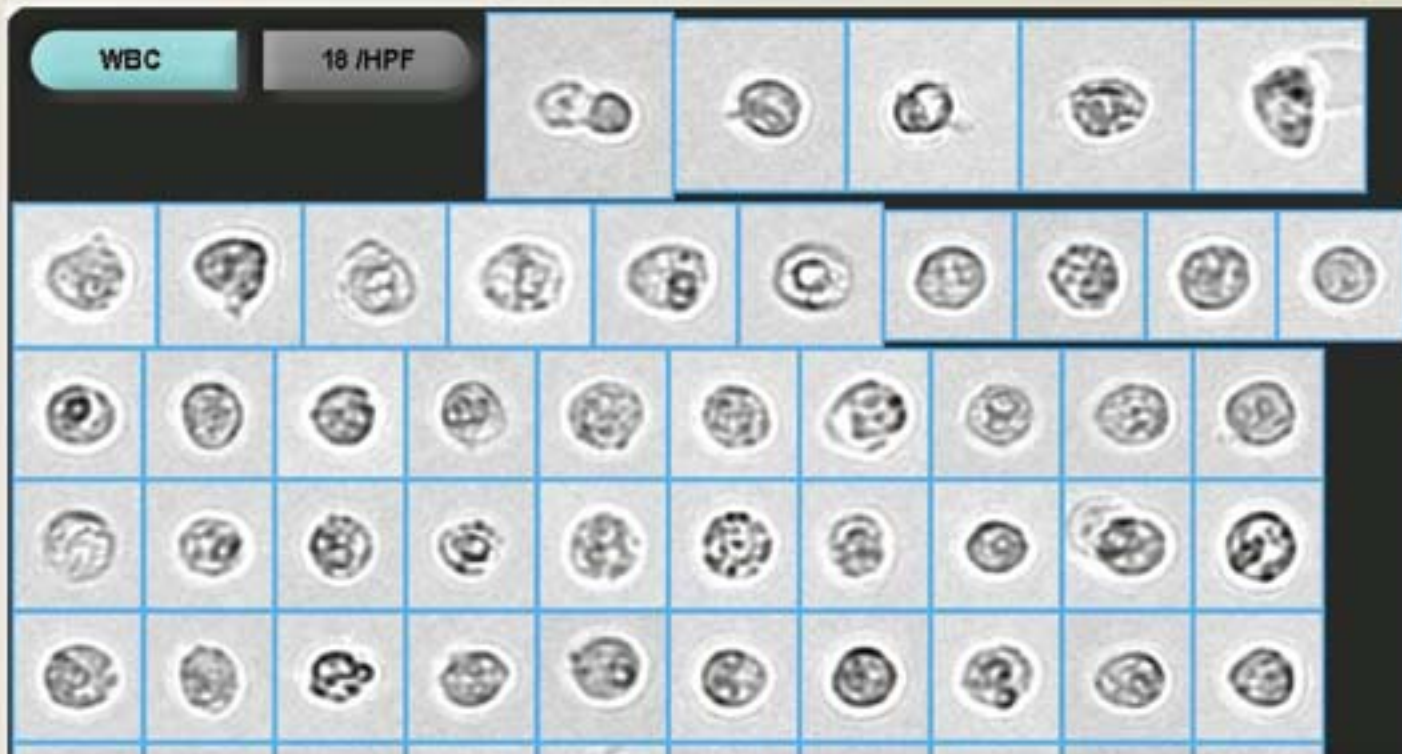
Found List (1974)

Instrument

Operator: [IRIS]

WBC

18 /HPF



Leukocytes or White Blood Cells (WBC) found in urine are typically neutrophils responding to an inflammatory or infectious process. They can be differentiated from RBC by their larger size and their internal structures, namely the nuclear lobes. The presence of WBC may be accompanied by positive Leukocyte esterase on chemistry strips.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

<<Released>> <<Imported>>

wbc, wbcc

2006-05-11 12:11:21

6.8

1:1

All Small Particles: 1121/uL

GLU	Normal
PRO	Neg
BIL	Neg
URO	Normal
PH	6.5
BLD	Neg
KET	Neg
HIT	Neg
LEU	500 Leuk/uL
CLA	Clear
SPGR	1.011
COL	Yellow

Results

Print Screen

OFF

Specimens

Found List (1974)

Instrument

Operator: [IRIS]

WBC

961 /HPF



WBC with Bacteria – Bacteria may often be seen in the background of WBC images. Note that the chemistry results show positive nitrite and leukocyte esterase.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

<<Released>> <<Imported>>

wbc,vbcc
2006-05-11 12:11:26
1/1
1:1

All Small Particles: 71436A/L

GLU	Normal
H	PRO 100 mg/dL
BIL	Neg
URO	Normal
PH	5.5
H	BLD > 1.0
KET	Neg
H	NIT +2
H	LEU 500 Leu/L
H	CLA Ex, Turbid
SPGR	1.018
COL	Light-Orange

Cleared flags:
HIGH CONCENTRATION

Results

Print Screen

OFF

Specimens

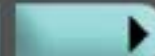
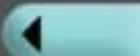
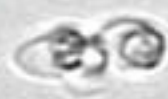
Found List (1974)

Instrument

Operator: [IRIS]

WBCC

MANY



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

<<Released>> <<Imported>>

Trichomonas - WBC

2006-05-11 12:11:44

0/1

1:1

All Small Particles: 2470/uL

Cleared flags:

ID

CHEM N/A

White Blood Cell Clumps (WBCC) – WBCC are typically found in urine samples containing large quantities of WBC. Their presence generally represents an acute infectious process.

Results

Print Screen

STANDBY

Specimens

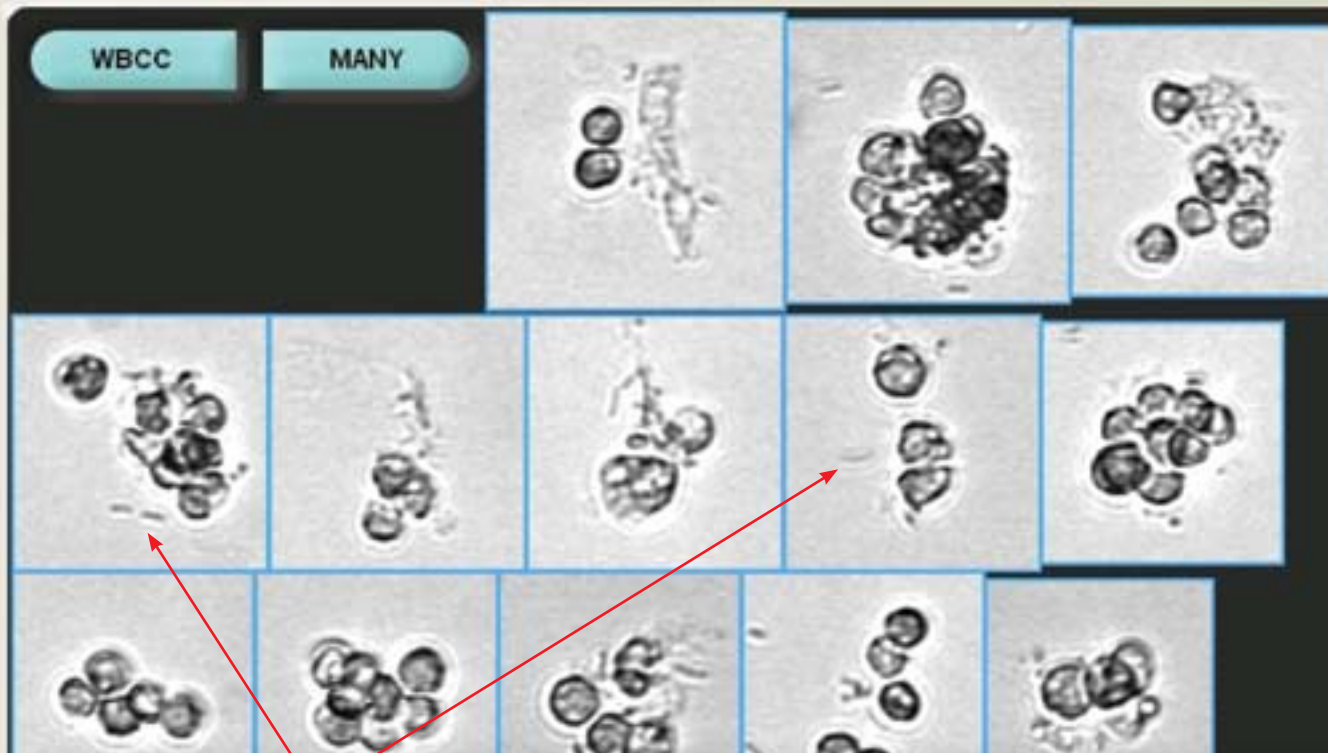
Found List (22)

Instrument

Operator: q

WBCC

MANY



WBCC with Bacteria – Just as WBC may be seen with bacteria, so may WBC Clumps. This sample also has nitrite and leukocyte esterase positive chemistry results.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

<<Released>> <<Imported>>

Bacteria

2006-08-24 13:49:38

8/7

1:1

All Small Particles: 38484/uL

GLU Neg

PRO Tr

BIL Neg

URO Pos

PH 6.8

BLD -

KET -

H INT Pos

H LEU 2+

CLA Turbid

H SPGR 1.020

COL Yellow

ASA N/A

Results

Print Screen



Image Encyclopedia

Resource Guide

OFF

Specimens

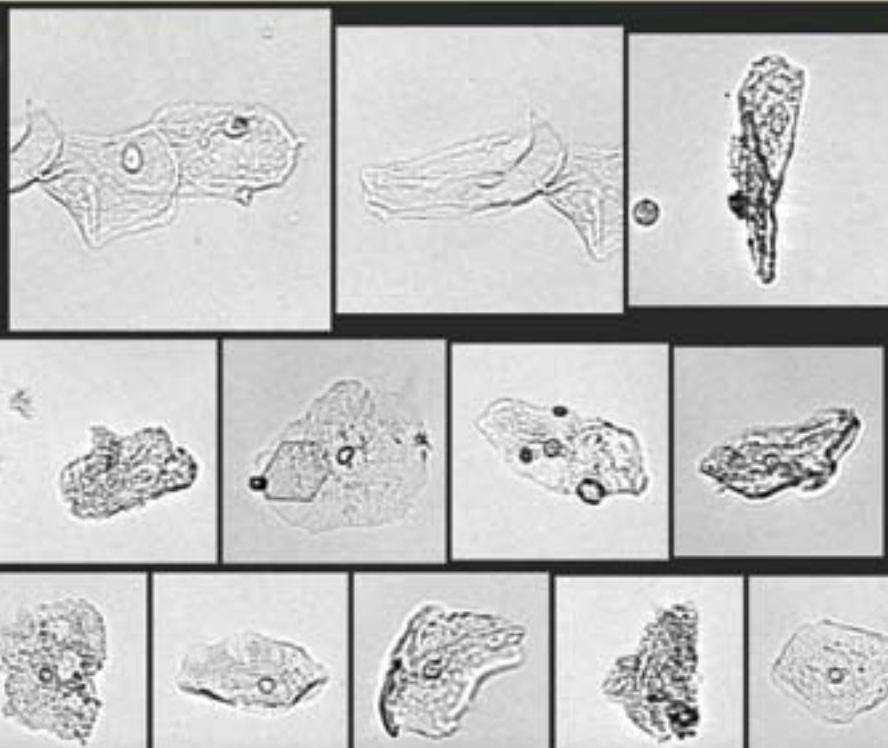
Found List (1974)

Instrument

Operator: [IRIS]

SQEP

7 /HPF



Squamous Epithelial Cells –Squamous epithelial cells (SQEP) are very large, thin cells with small nuclei and clear sharp edges. Their presence is generally not considered clinically significant.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

<<Released>> <<Imported>>

CVSTINE

2006-05-11 12:11:48

2/7

1:1

All Small Particles: 9038Aut

GLU	NEG
PRO	1+
BIL	NEG
URO	0.2to1.0 mg/dL
PH	6.0
GLD	1+
KET	NEG
NIT	NEG
LEU	2+
CLA	HAZY
SPGR	1.010
COL	Yellow

Cleared flags:

HIGH CONCENTRATION

Results

Print Screen

STANDBY

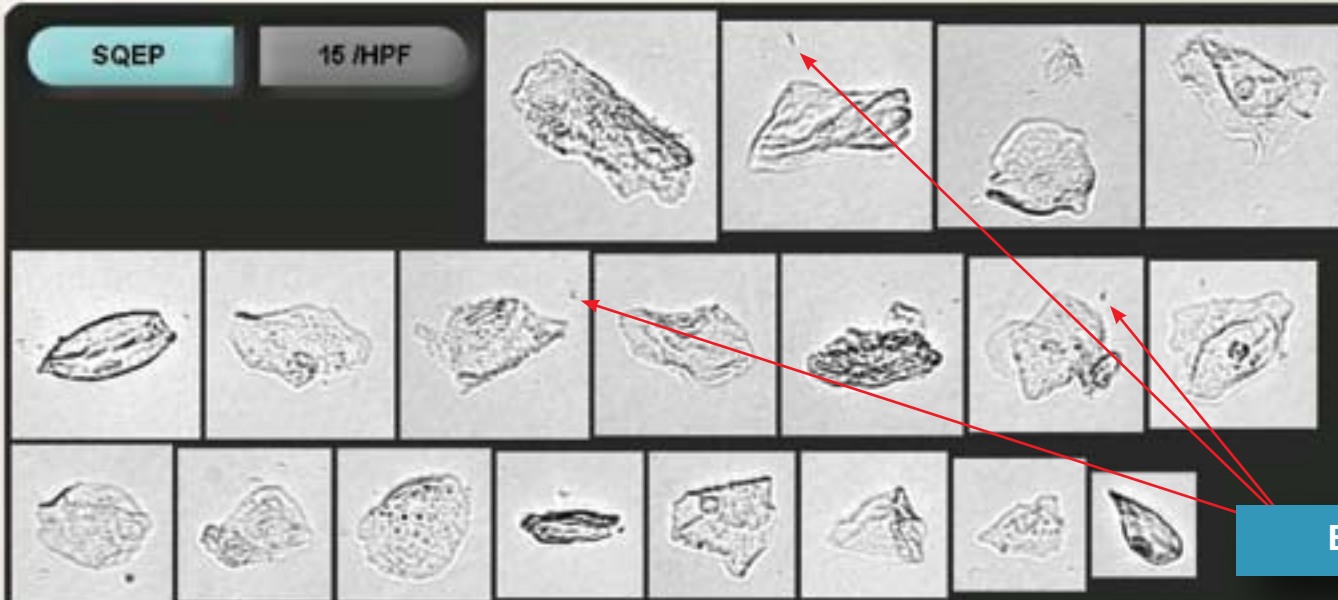
Specimens

Found List (76)

Instrument

SQEP

15 /HPF



Bacteria

Squamous Epithelial Cells - Increased numbers of SQEP usually represent contamination of the specimen. If high numbers of bacteria are present, they are often seen on and around squamous epithelial cells, as seen here. Note, with contamination it is unlikely to see nitrate positive chemistry results.

This sample is hazy and positive for leukocyte esterase, consistent with a yeast infection. This sample was positive for yeast.

WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>> <<Imported>>
Sqep with bact
2006-06-04 17:09:09
6/2(23)
1:1

All Small Particles: 22202/uL

GLU	Normal
H PRO	Trace(10mg/dL)
BIL	Negative
URO	<2.0
PH	7.0
BLD	Negative
KET	Negative
NIT	Negative
H LEU	Large(500)
H CLA	Hazy
SPGR	1.016
COL	Yellow

Cleared flags:
HIGH CONCENTRATION
Possible Amorphous

Results

Print Screen

STANDBY

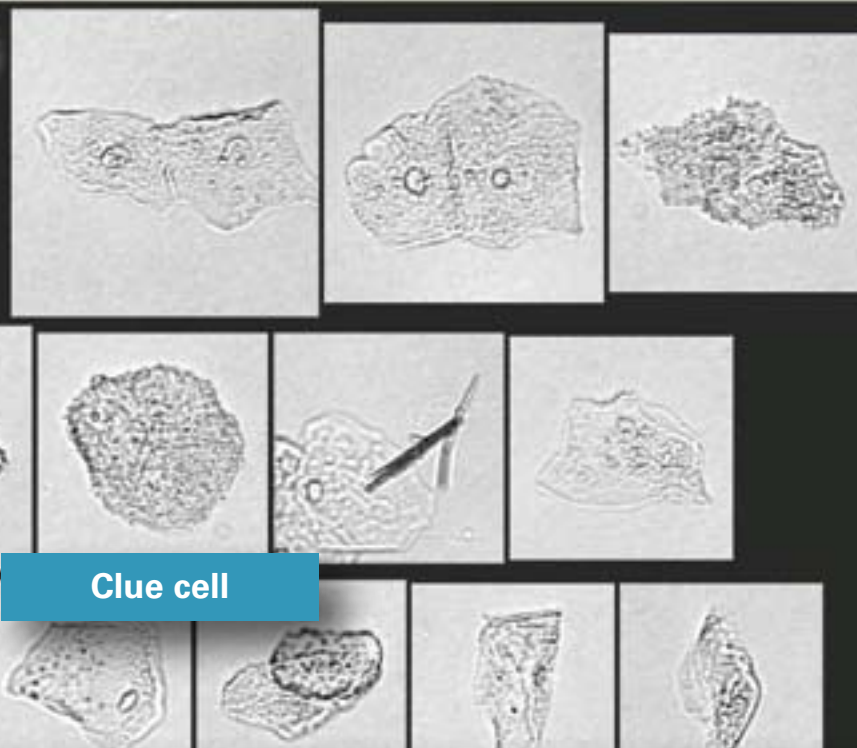
Specimens

Found List (76)

Instrument

SQEP

6 /HPF



Clue cell

SQEP and 'Clue Cells' – Clue cells are squamous epithelial cells covered with bacteria. They appear 'shaggy', as seen above, and the nucleus may not be visible due to the bacteria covering the cell. Clue cells are contaminants and are indicative of bacterial vaginosis.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>> <<Imported>>

171668-04

2006-08-04 17:09:44

4/1(31)

1:1

All Small Particles: 2535/uL

GLU	Normal
PRO	Negative
BIL	Negative
URO	<2.0
PH	5.0
BLD	Small
KET	Negative
HIT	Negative
LEU	Negative
CLA	Clear
SPGR	1.022
COL	Yellow

Results

Print Screen

OFF

Specimens

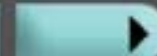
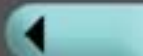
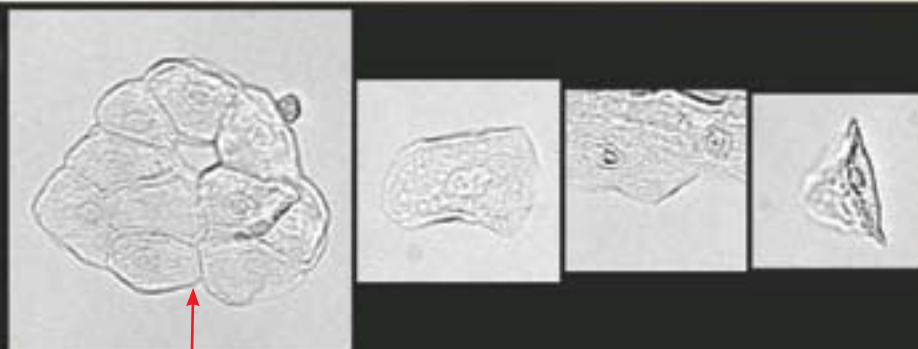
Found List (1974)

Instrument

Operator: [RIS]

SQEP

4 /uL



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

<<Released>> <<Imported>>

Trich-WBC-Hyaline Casts

2006-05-11 12:11:46

0/1

1:1

All Small Particles: 3015/uL

Cleared flags:

ID

CHEM N/A

Squamous Epithelial Cells with a Cell Sheet – Note that the iQ Series Analyzers are capable of clearly imaging single cells and cell sheets.

Results

Print Screen



Image Encyclopedia

Resource Guide

OFF

Specimens

Found List (1972)

Instrument

Operator: [IRIS]

BACT

MANY



Bacteria Clump

Bacteria – Bacteria may be seen as large rods or as chains of rods or cocci. Bacteria may also be visualized in the background of other images, especially WBC, WBCC, Mucus and Squamous Epithelial Cells. Bacteria, especially in the absence of WBC, may also be the result of contamination. Note the clump of bacteria, probably mixed in mucus.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

<<Released>>

IRIS15766

2006-05-18 11:49:38

3/3

1:1

All Small Particles: 36011/uL

II	GLU	300 mg/dL
	PRO	Neg
	BIL	Neg
	URO	Normal
	PH	5.5
	BLD	Neg
	KET	Neg
II	HIT	+2
	LEU	Negative
	CLA	Clear
	SPGR	1.009
	COL	Yellow

Results

Print Screen

STANDBY

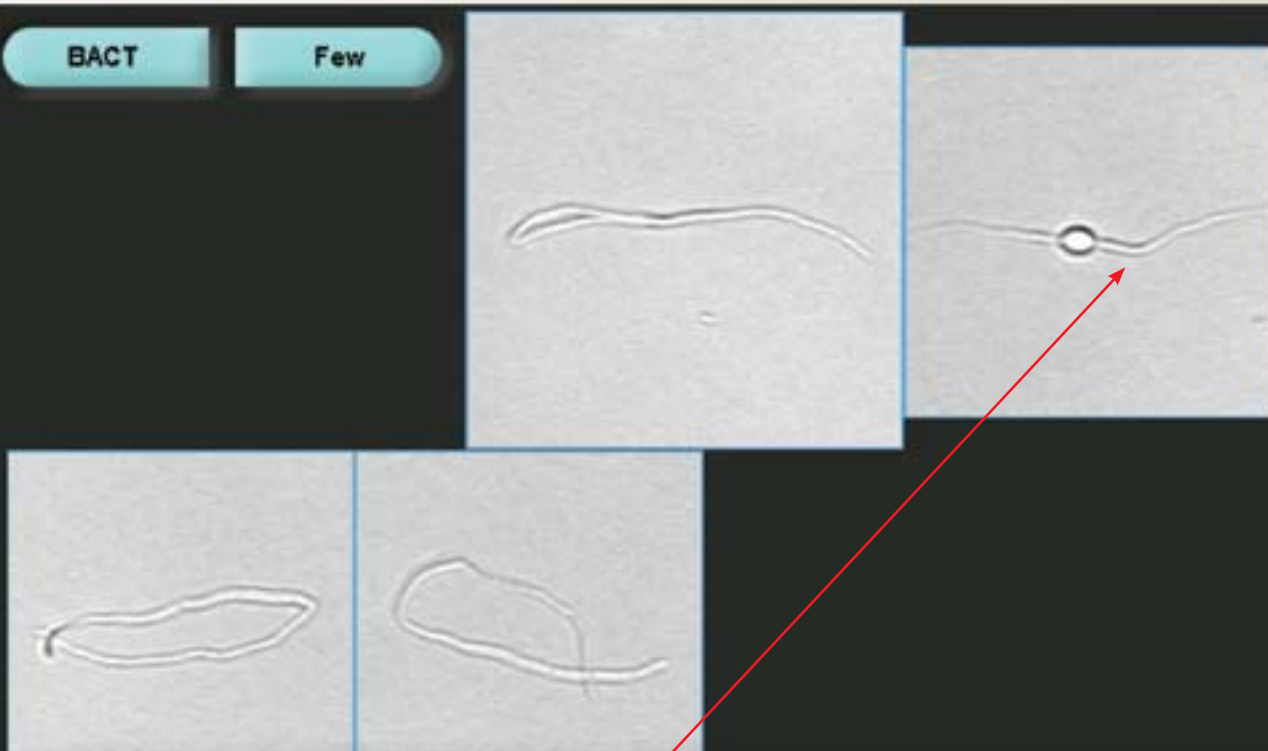
Specimens

Found List (10)

Instrument

BACT

Few



Gram Negative Bacteria on Antibiotics – This unusual formation may be found in Bacteria, Mucus or UNCL. The operator should move it to bacteria and may add a comment, if desired.

WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>> <<Imported>>

BD 151 T=72

2006-08-04 18:26:39

1/1(1657)

1:1

All Small Particles: 14004/uL

Results

Print Screen



Image Encyclopedia

Resource Guide

OFF

Specimens

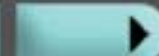
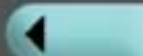
Found List (1974)

Instrument

Operator: [IRIS]

BYST

Few



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Yeast – Yeast are common contaminants of urine. A true yeast infection will generally be accompanied by a significant concentration of leukocytes. Yeast are distinguishable from erythrocytes (RBC) by their oval shape and thick cell walls. The most common forms are budding and pseudohyphae. If yeast are seen, the operator must account for any images found in UNCL.

Results

Print Screen

STANDBY

Specimens

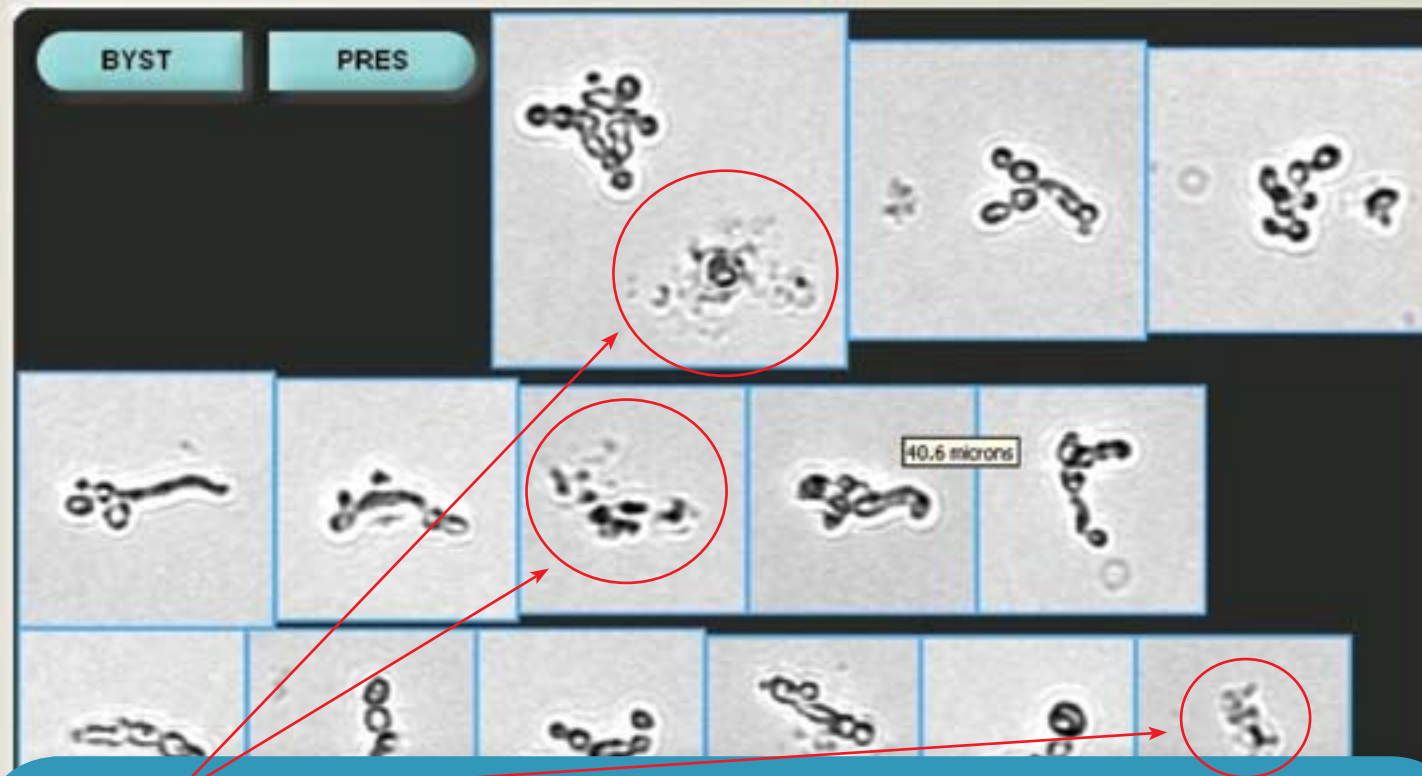
Found List (7)

Instrument

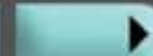
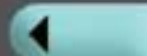
Operator: q

BYST

PRES



Budding Yeast – Note that even when budding yeast appear dark, as they do here, they still appear oval and rounded, not angular and sharp as amorphous crystals do.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Results

Print Screen

STANDBY

Specimens

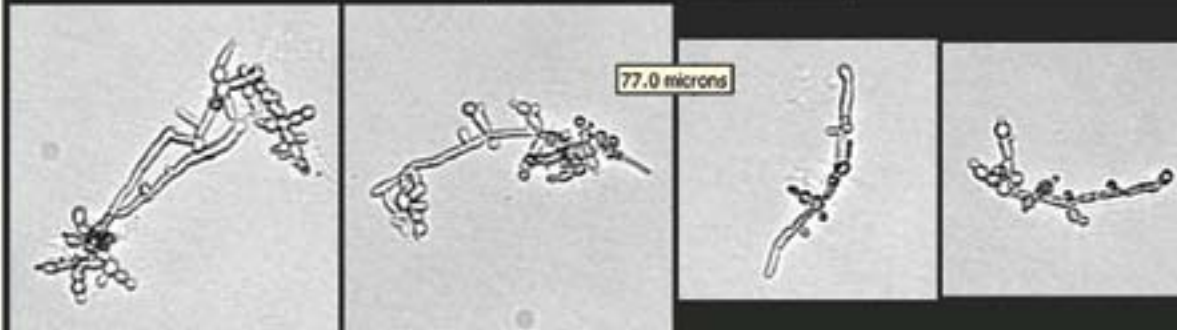
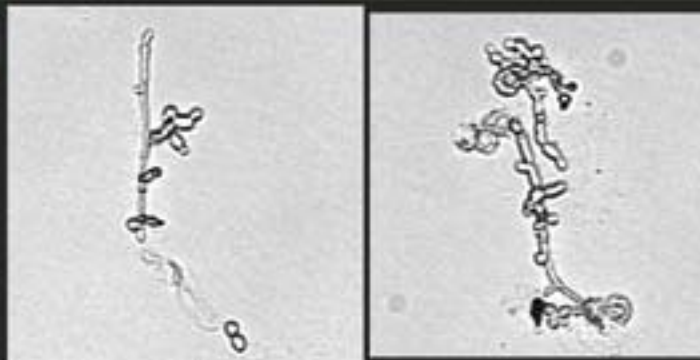
Found List (72)

Instrument

Operator: [IRIS]

HYST

Mod



Yeast with Pseudohyphae – These images will be found in BYST and/or UNCL. They must be sub-classified by the operator. If budding yeast are seen, the Unclassified category (UNCL) should be reviewed for the pseudohyphae type.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Results

Print Screen



Image Encyclopedia

Resource Guide

OFF

Specimens

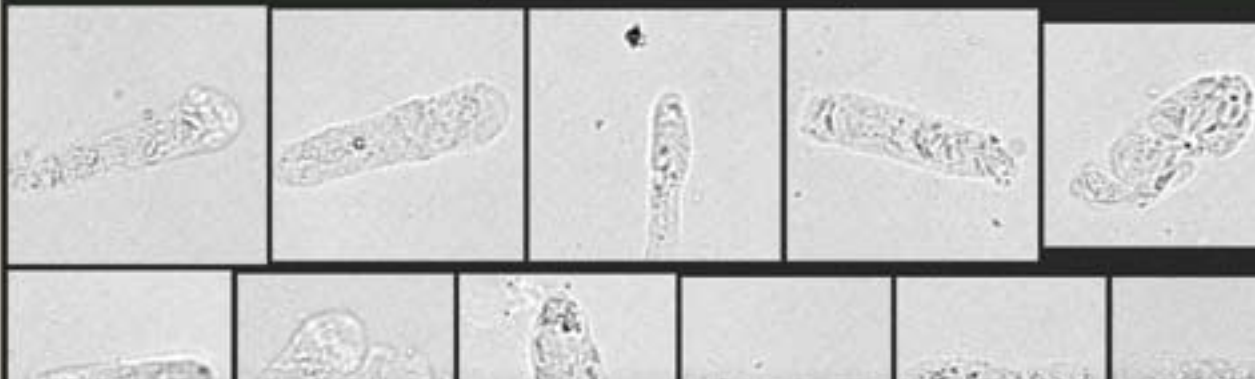
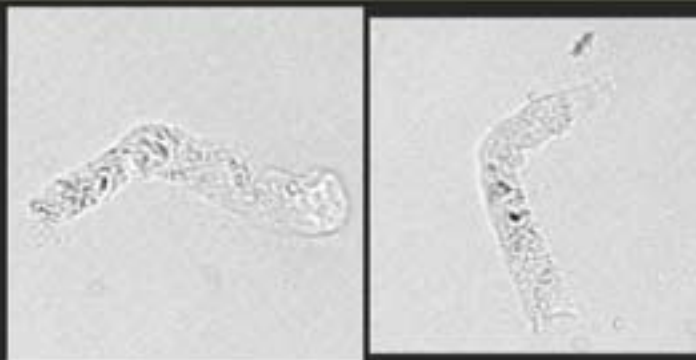
Found List (1974)

Instrument

Operator: [IRIS]

HYAL

259 /LPF



Hyaline Casts – Hyaline casts appear in the HYAL category, MUCS and UNCL. Hyaline casts are low contrast, low texture particles with fairly straight sides and rounded ends. A cast may be thick, thin, straight or convoluted depending on the tubule in which it was formed. If seen, Mucus and UNCL must be reviewed, and the presence of casts seen there must be accounted for by the operator.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

HYAL

RBCT

GRAN

WBCT

CELL

EPIC

WAXY

FATC

BROAD

UNCC

Results

Print Screen

OFF

Specimens

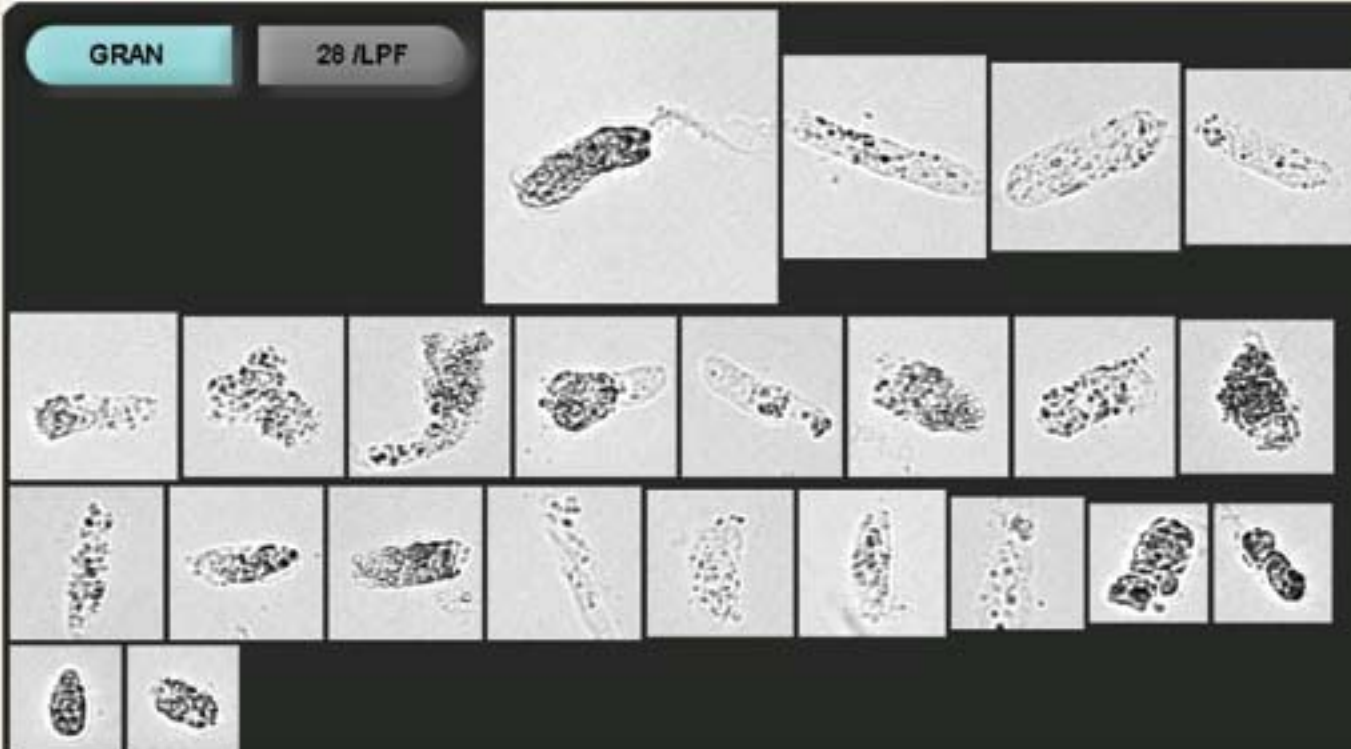
Found List (1973)

Instrument

Operator: [IRIS]

GRAN

26 /LPF



Granular Casts – These casts may be found in the unclassified cast (UNCC) and UNCL category. They must be sub-classified by the operator. Mucus and UNCL must also be reviewed for the presence of other types of casts. Granular casts may be high or low contrast and high or moderate texture particles. They have the same size and shape characteristics as Hyaline casts do. Granular casts indicate renal disease.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

HYAL

RBCT

GRAN

WBCT

CELL

EPIC

WAXY

FATC

BROAD

UNCC

Results

Print Screen

STANDBY

Specimens

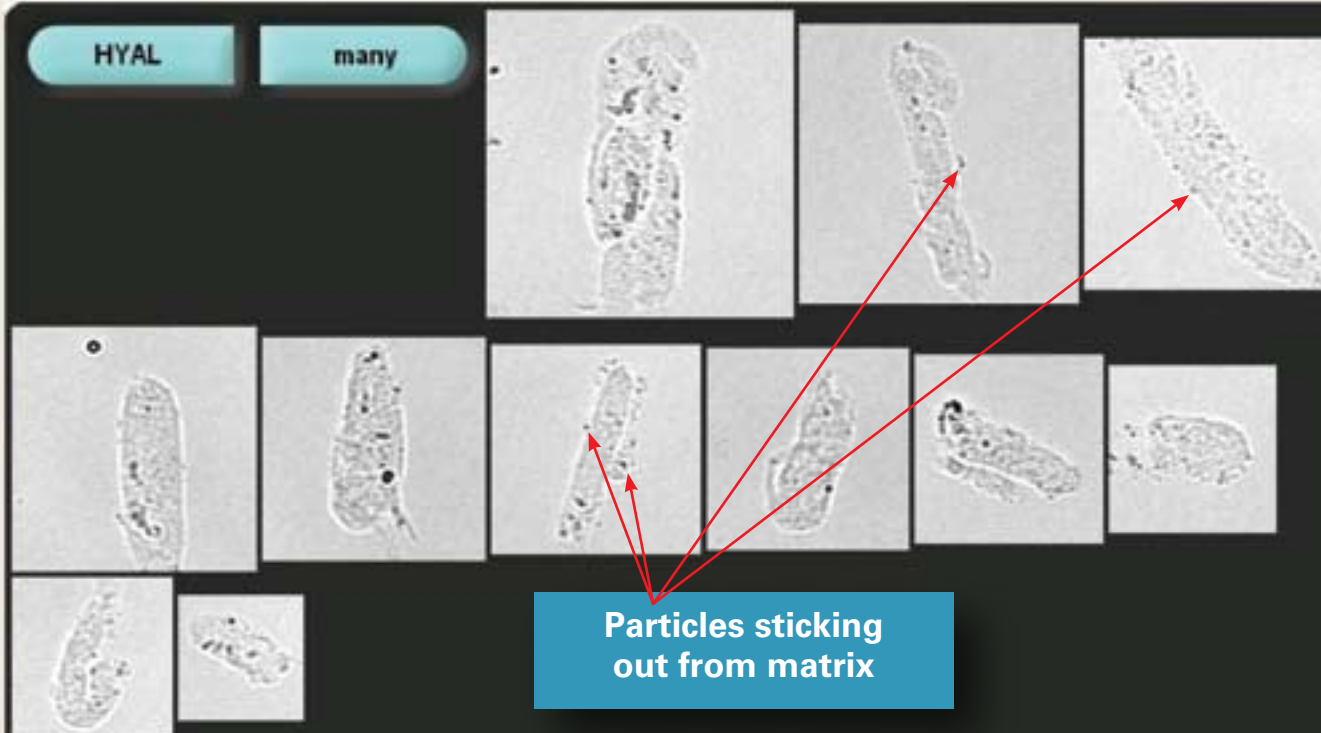
Found List (7)

Instrument

Operator: q

HYAL

many



Particles sticking
out from matrix

Hyaline, not Granular Casts – note that what appears to be granules in the casts are actually *on* the casts. This can be seen by looking at the edges. The particles can be seen sticking out from the protein matrix.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

HYAL

RBCT

GRAN

WBCT

CELL

EPIC

WAXY

FATC

BROAD

UNCC

Results

Print Screen

STANDBY

Specimens

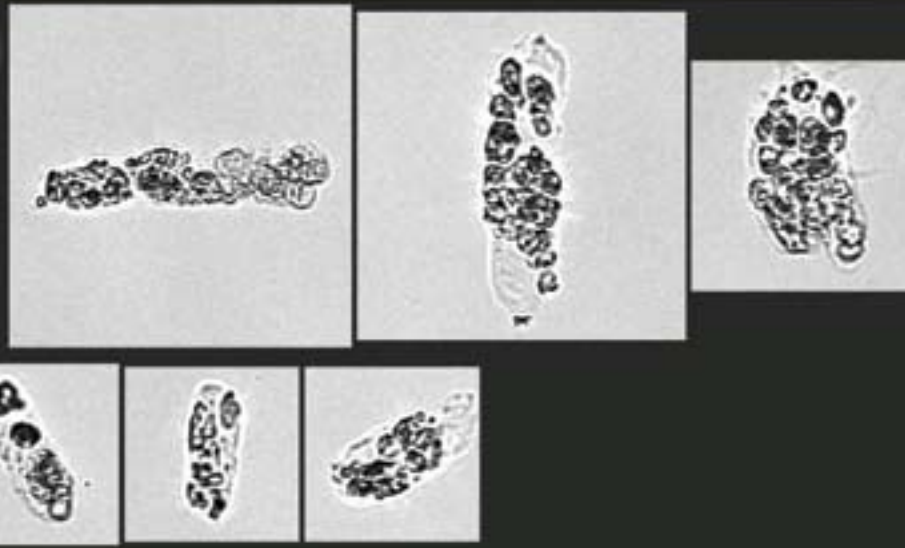
Found List (4)

Instrument

Operator: Tech

CELL

10 /LPF



Cellular Casts – these images may be found in UNCC and must be sub-classified by the operator. If any are found in UNCC, the operator must account for additional casts found in the Mucus and Unclassified categories. They have the same size and shape characteristics as other casts do. Cellular casts indicate renal disease.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

HYAL

RBCT

GRAN

WBCT

CELL

EPIC

WAXY

FATC

BROAD

UNCC

Results

Print Screen

STANDBY

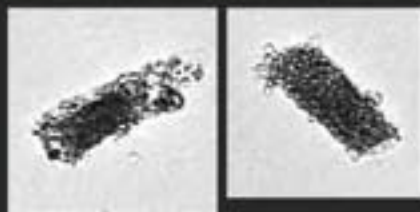
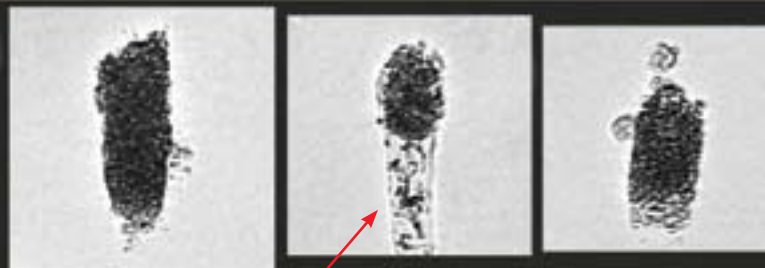
Specimens

Found List (76)

Instrument

RBCT

10 /LPF



RBC Casts – These images are generally found in UNCC or UNCL. The operator must sub-classify them and account for any images found in UNCL. Note the RBC/Granular nature of this cast. To confirm the identify of the cells in the casts, one of the images may be moved to the RBC category to allow the user to compare the size and shape of the included cells with free RBC. After comparison, the image should be returned to the proper category.

WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

HYAL

RBCT

GRAN

WBCT

CELL

EPIC

WAXY

FATC

BROAD

UNCC

Results

Print Screen

STANDBY

Specimens

Found List (22)

Instrument

Operator: q

WAXY

1 /LPF



Crack

Waxy Cast – Note the smooth appearance internally and the crack on the edge. Waxy casts may be found in UNCC, UNCL or Mucus. They must be sub-classified by the operator. Waxy casts are seen most often in chronic renal disease, but may also be seen in acute renal disease and allograft rejection.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

HYAL

RBCT

GRAN

WBCT

CELL

EPIC

WAXY

FATC

BROAD

UNCC

Results

Print Screen

STANDBY

Specimens

Found List (76)

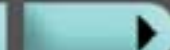
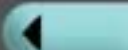
Instrument

BROAD

1 /LPF



74.2 microns



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

HYAL

RBCT

GRAN

WBCT

CELL

EPIC

WAXY

FATC

BROAD

UNCC

Broad Hyaline Cast – The image may be moved to the 'Broad' category if the laboratory reports this category. If not, the image may be left in HYAL. The size of the frame is 74.2 μm as indicated by the size bar. This allows the user to estimate the width of the cast at approximately 30 μm . To access the size bar, hover the cursor over the image without clicking. The bar will appear, indicating the dimension of the square.

Results

Print Screen



Image Encyclopedia

Resource Guide

OFF

Specimens

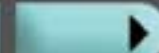
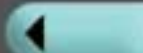
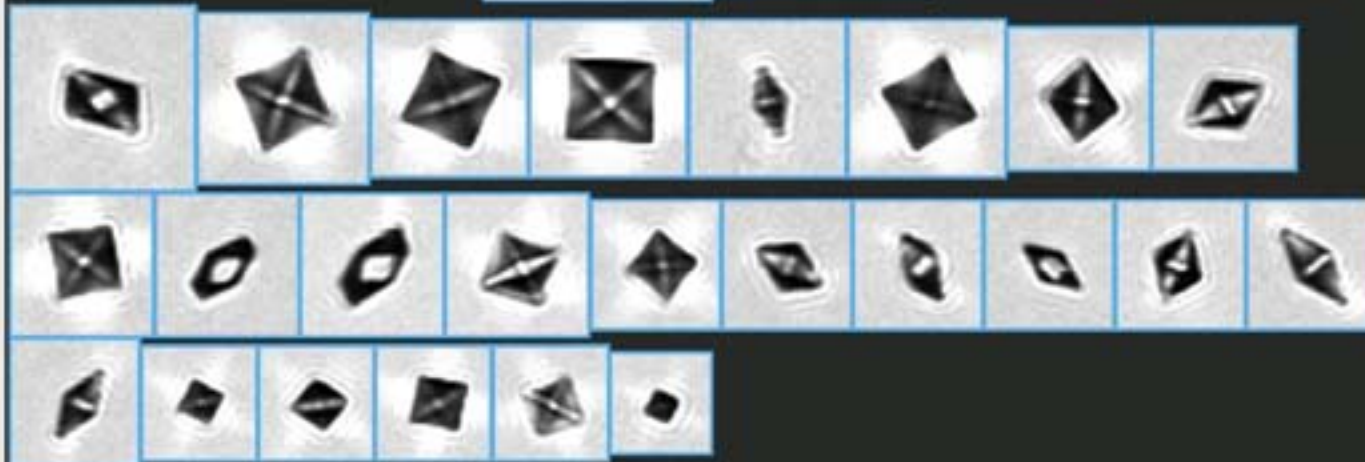
Found List (1974)

Instrument

Operator: [IRIS]

CAOX

OCC



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Calcium Oxalate – Other than amorphous, this is the most commonly seen crystal because they may be found in urine of any pH. The images may be found in Unclassified Crystals (UNCX) or UNCL and the operator must sub-classify them and account for any seen in UNCL. Calcium oxalate may be seen in many forms. The most common form exhibits a highly refractile cross, as seen above, but it may also be seen in barrel, ovoid or dumbbell forms.

Results

Print Screen

STANDBY

Specimens

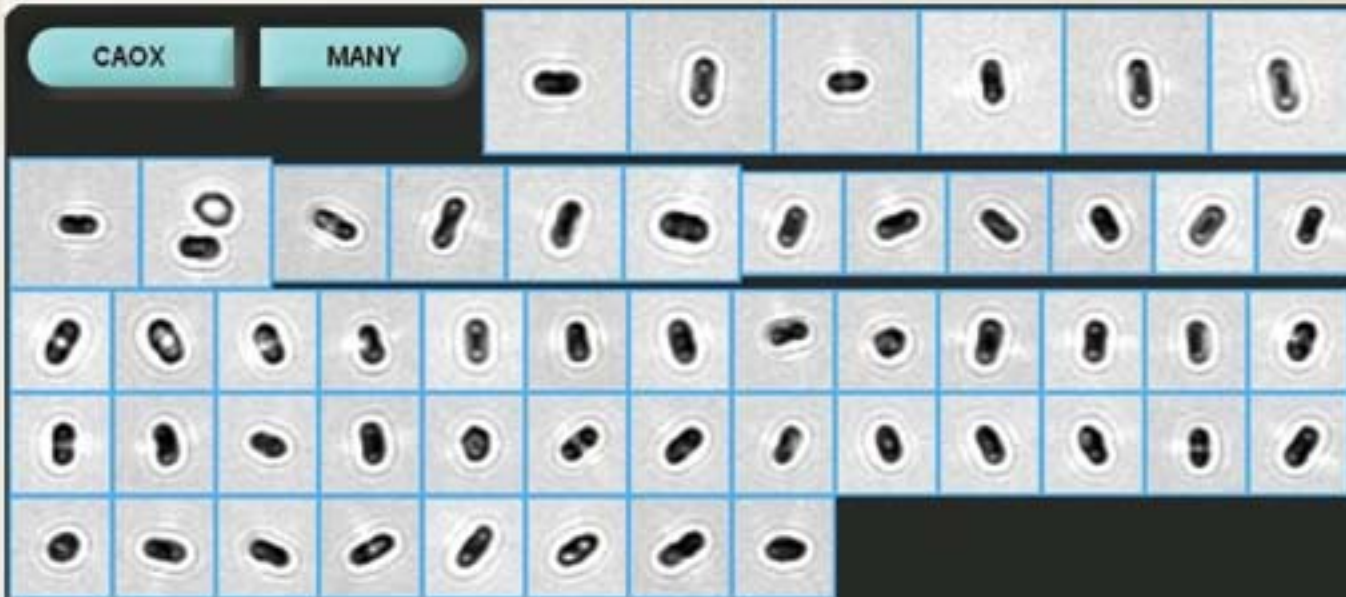
Work List (27)

Instrument

Operator: q

CAOX

MANY



Calcium Oxalate Monohydrate (Dumbbell Form)– The crystal in this form has the same clinical indications as the other forms. It is treated the same way by the operator.

Increased numbers of CaOx crystals may be seen after ingestion of ethylene glycol (antifreeze) and in severe, chronic renal disease.

WBC

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Results

Print Screen

OFF

Specimens

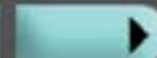
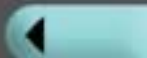
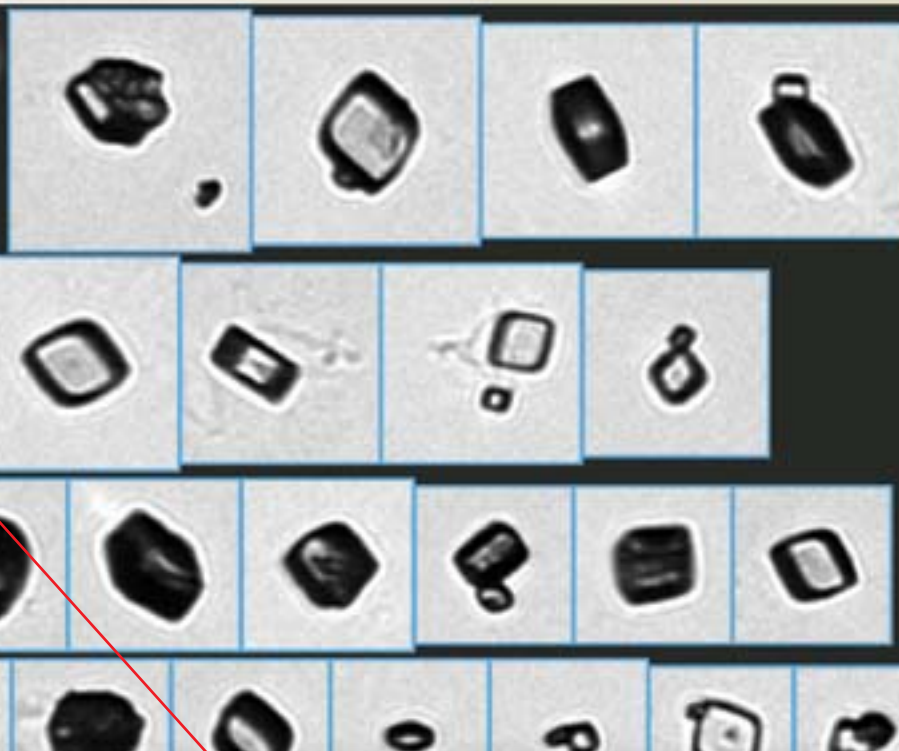
Found List (1974)

Instrument

Operator: [IRIS]

URIC

MANY



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Uric Acid Crystals #1 – These crystals are found in the unclassified crystal category and must be sub-classified by the operator. They are only seen in urine of pH <5.7. These crystals may take many shapes and sizes, as seen above and on the next screen. Note the added barrel forms at the upper left. Excretion of clinically significant numbers may be found in gout and increased purine metabolism (e.g., after receiving cytotoxic medications, like chemotherapy).

Results

Print Screen

OFF

Specimens

Found List (1974)

Instrument

Operator: [IRIS]

URIC

OCC



Uric Acid Crystals #2 – Uric acid may vary in size and can even appear in a pseudo-cast formation as seen here. Note there is no protein matrix surrounding the crystals as there would be in a true crystal cast.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Results

Print Screen

STANDBY

Specimens

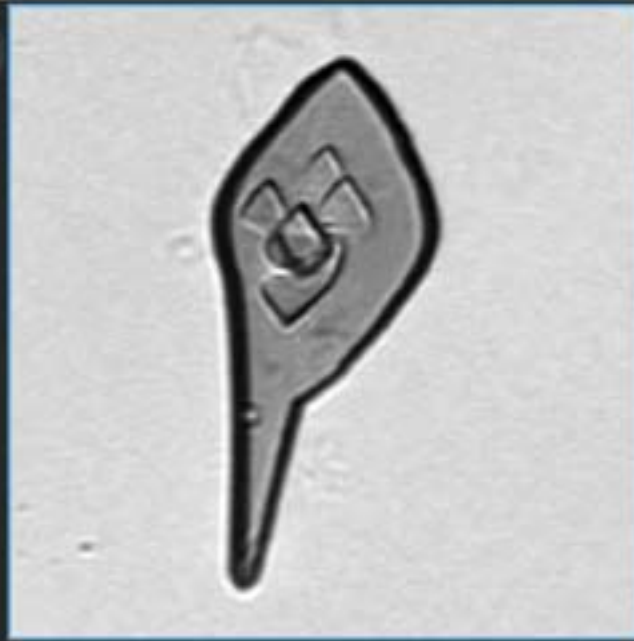
Found List (31)

Instrument

Operator: q

URIC

PRESENT



Uric Acid Crystals #3 - Note this interesting formation with new crystals layering on top of the large one.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Results

Print Screen

STANDBY

Specimens

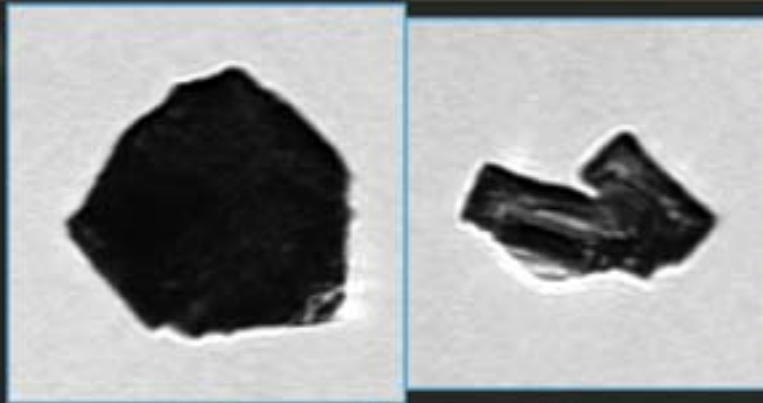
Found List (72)

Instrument

Operator: [IRIS]

URIC

RARE



Uric Acid Crystals #4 – Unusual formation of uric acid crystals.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Results

Print Screen

OFF

Specimens

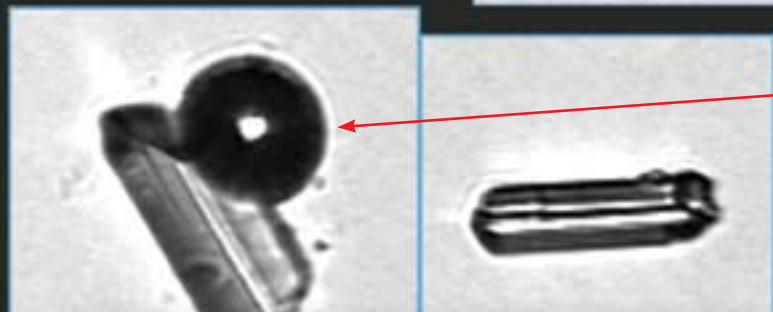
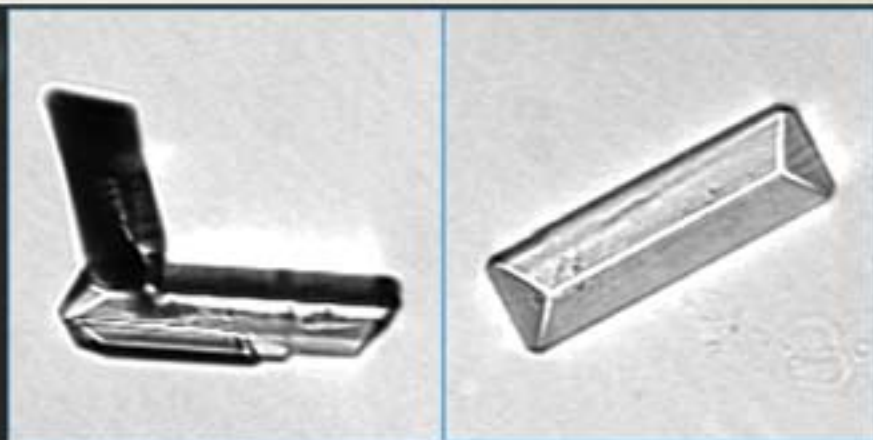
Found List (1973)

Instrument

Operator: [IRIS]

TPO4

OCC



Air bubble

Triple Phosphate Crystals #1 –Their most common form is a prism commonly described as a “coffin lid”, but they may take other forms. Note the air bubble in the lower left of the image above.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Results

Print Screen

STANDBY

Specimens

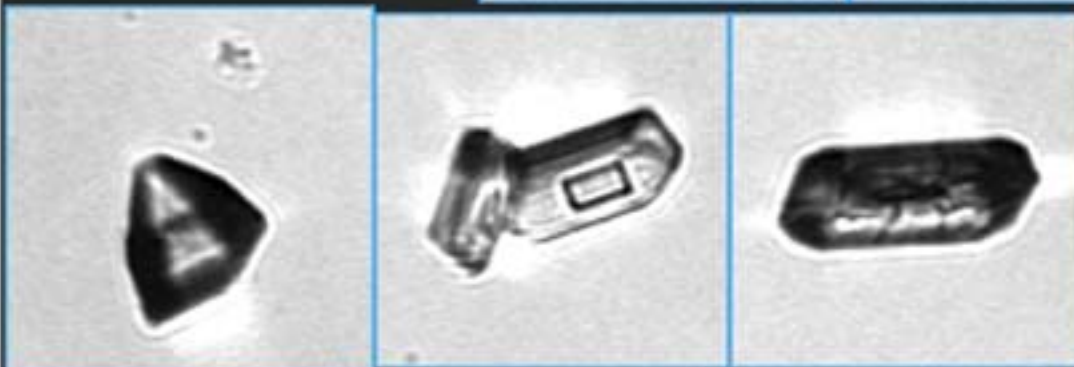
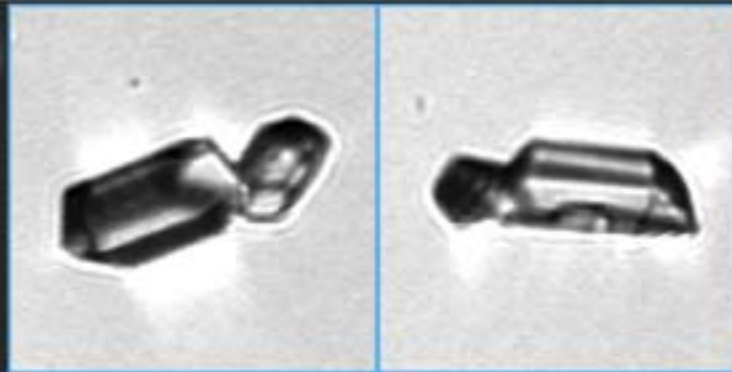
Found List (7)

Instrument

Operator: q

TPO4

OCC



Triple Phosphate Crystals #2 – These crystals can be found in alkaline or neutral urines and may be found in UTIs with pH>7. The images are found in UNCX and UNCL. The operator must sub-classify them. The crystals may form renal calculi.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Results

Print Screen

STANDBY

Specimens

Found List (7)

Instrument

Operator: q

CAPH

RARE



Calcium Phosphate Crystals – These crystals, found in alkalkine urine, form as single rods, usually with one flat and one pointed end. They may group into a rosette or star pattern. They may be called 'stellar phosphates'.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Results

Print Screen

STANDBY

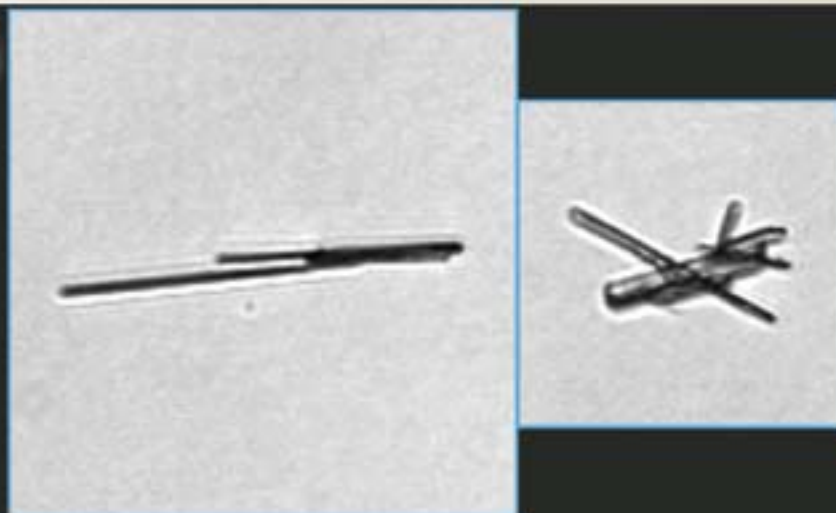
Specimens

Found List (76)

Instrument

CACB

RARE



X-ray Dye Crystals – This crystal, which was identified as CaCb, was found in a sample with a pH of 5.0. This is not possible for CaCb. The acid pH combined with the blunt ends make it likely to be Renografin, an x-ray dye. The images may be found in UNCX or UNCL. Report these crystals by comment.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

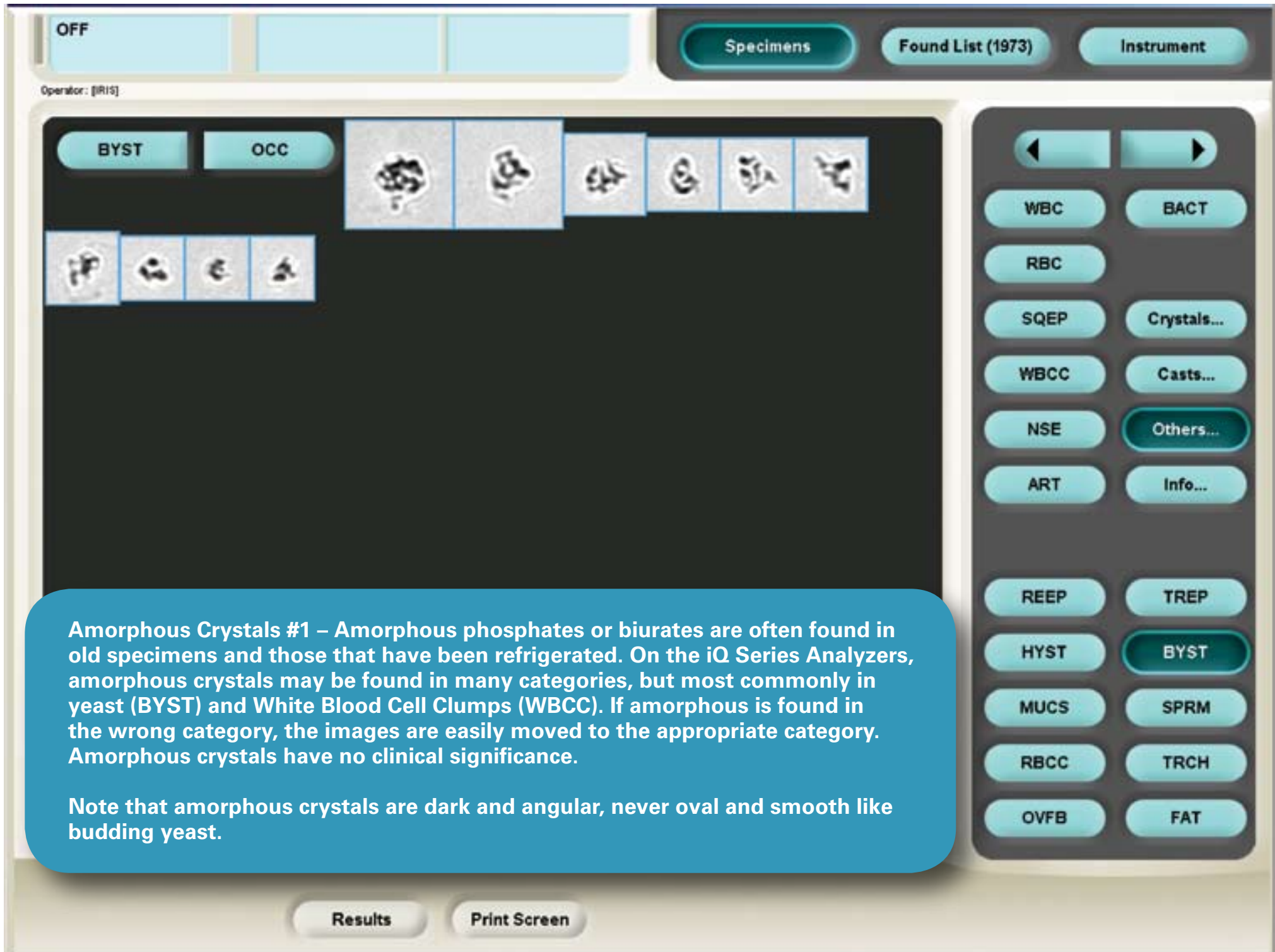
CYST

LEUC

TYRO

Results

Print Screen



STANDBY

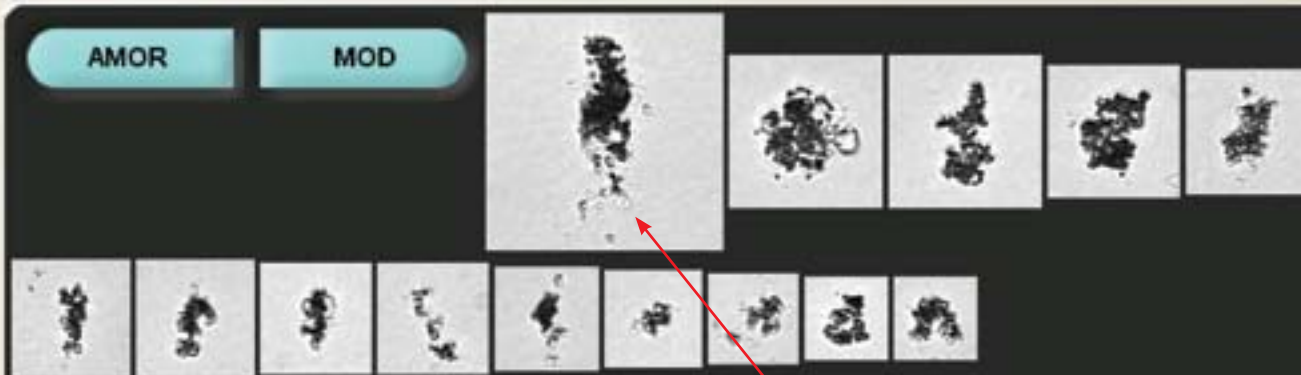
Specimens

Found List (76)

Instrument

AMOR

MOD



Amorphous #2 – Note the high contrast, high texture particles and the variety of shapes. This one could be interpreted as a cast, but note that the sides are not even or parallel and no protein matrix surrounds the crystals.

WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

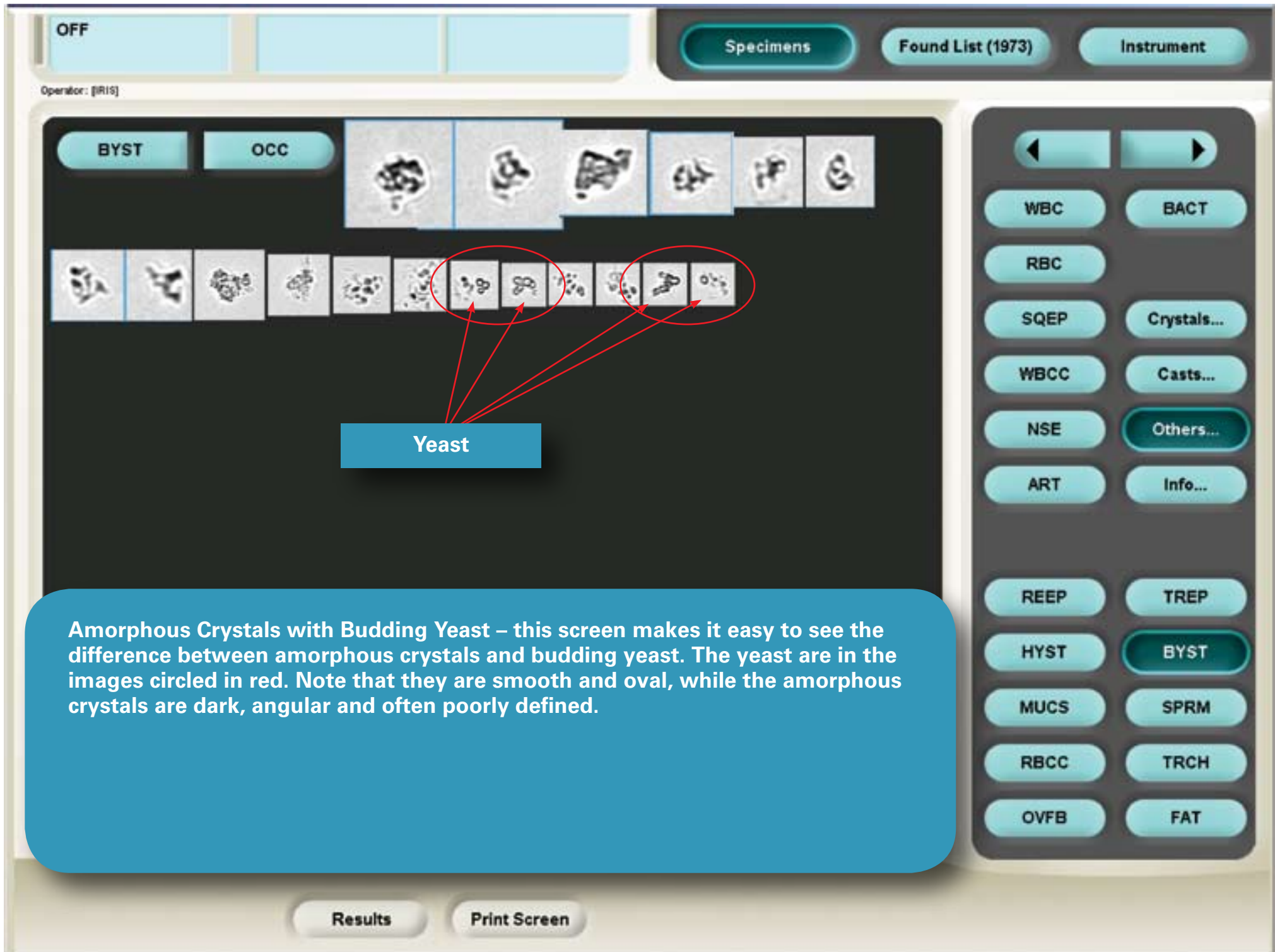
CYST

LEUC

TYRO

Results

Print Screen



STANDBY

Specimens

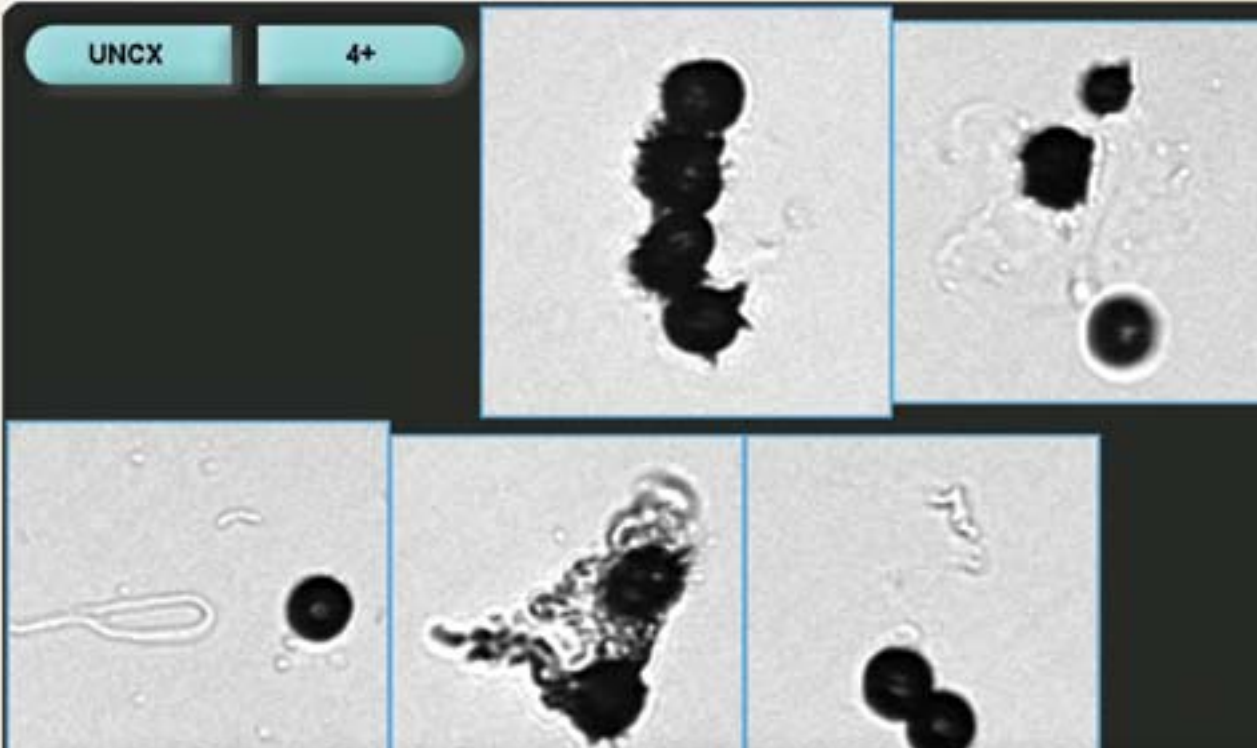
Found List (72)

Instrument

Operator: [IRIS]

UNCX

4+



Ammonium Biurate, commonly known as “thornapples” or “thorny apples,” appear frequently in old urine specimens with pH>5.7, but are rare in fresh urine. They have no clinical significance in either case.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Results

Print Screen

STANDBY

Specimens

Found List (4)

Instrument

Operator: Tech

CYST

POS



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Cystine Crystals #1 – These images will be found in Unclassified Crystals (UNCX) and must be sub-classified by the operator. Additional images may be found in UNCL and must be accounted for by the operator. Cystine should not be reported without a confirmatory test.

Results

Print Screen

OFF

Specimens

Found List (1974)

Instrument

Operator: [IRIS]

CYST

PRESENT



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Cystine Crystals #2 –Cystine crystals, while not common, do indicate a disease process, usually an inborn error of amino acid transport in the kidney. Cystine is clinically important because cystine calculi may form, possibly leading to obstruction, infection and renal insufficiency.

Results

Print Screen

STANDBY

Specimens

Found List (7)

Instrument

Operator: q

UNCX

OCC

Notch

Cholesterol Crystals – These images show rectangular, flat plates with a distinctive notch. They should be reported as cholesterol after confirming acidic urine and birefringence. These rare crystals are seen with lipiduria and/or chyluria (conditions leading to rupture of lymphatic vessels into the renal tubules). Since there is no button for 'CHOL', the operator must use the 'Edit Comment' feature to report this clinically significant crystal.

WBC

BACT

RBC

SOEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

CAOX

AMOR

UNCX

URIC

TPO4

CACB

CAPH

CYST

LEUC

TYRO

Results

Print Screen



Image Encyclopedia

Resource Guide

OFF

Specimens

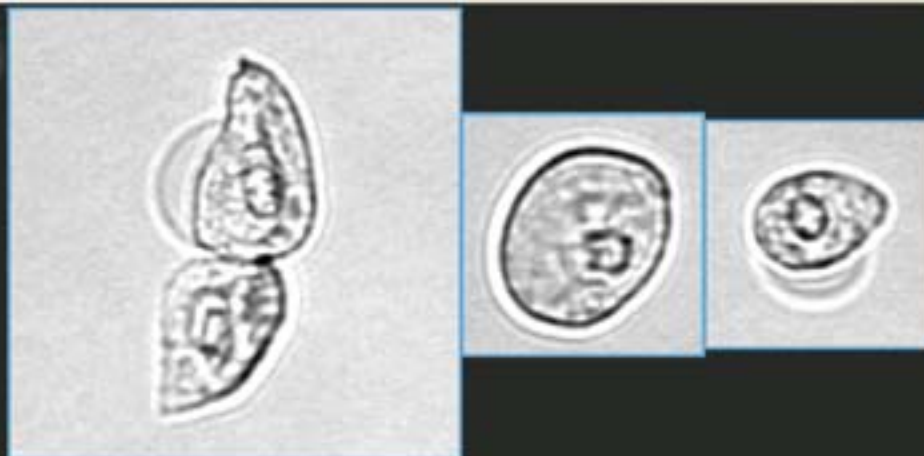
Found List (1974)

Instrument

Operator: [IRIS]

TREP

4 /LPF



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Transitional Epithelial Cells (TREP) #1 – These images are found in NSE and UNCL. The operator must sub-classify the images and account for any found in UNCL. A few transitional epithelial cells are normal. Increased numbers may be seen with urinary tract infection. Sheets may be seen after instrument procedures like catheterization. Sheets seen in the absence of an instrument procedure require investigation as they may indicate a pathological process.

Results

Print Screen

STANDBY

Specimens

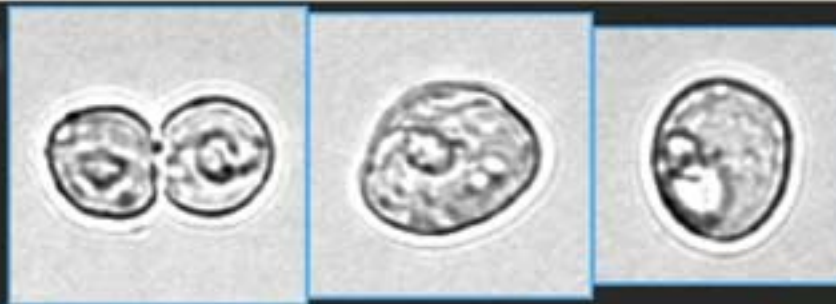
Found List (22)

Instrument

Operator: q

TREP

4 /HPF



Transitional Epithelial Cells #2.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Results

Print Screen

STANDBY

Specimens

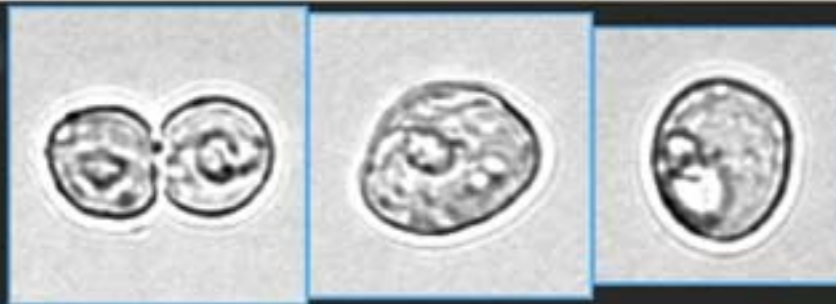
Found List (22)

Instrument

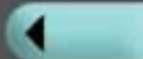
Operator: q

TREP

4 /HPF



Transitional Epithelial Cells #2. Transitional epithelial cells are most commonly 30-40 μm in size and round to pear shaped, but deep transitional epithelial cells may have different sizes and shapes ranging from smaller and rounder to columnar and caudate.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Results

Print Screen

OFF

Specimens

Found List (1183)

Instrument

TREP

< 1 /HPF

Columnar

Caudate

Transitional Epithelial Cells #3 – Note caudate and columnar forms. The columnar cells could easily be called cellular casts unless the operator notes that each has only one inclusion – the nucleus.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Results

STANDBY

Specimens

Found List (74)

Instrument

TREP

< 1 /HPF



Transitional Epithelial Cells #4 – Here we see caudate cells and a grouping of caudate cells.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>> <<Imported>>

181535-84K

2006-01-31 16:40:04

40(144)

1:1

All Small Particles: 451/uL

GLU	Normal
PRO	Negative
BIL	Negative
URO	<2.0
PH	5.8
BLD	Negative
KET	Negative
NIT	Negative
LEU	Negative
CLA	Clear
SPGR	1.000
COL	Yellow

Results

Print Screen

STANDBY

Specimens

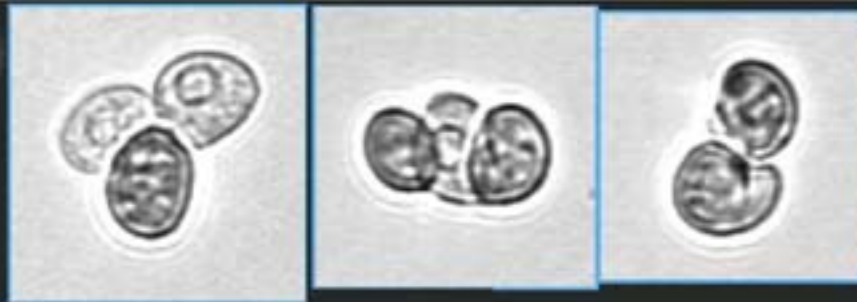
Found List (7)

Instrument

Operator: q

REEP

4 /LPF



Renal Epithelial Cells (REEP) #1 – These cells are generally smaller than transitional epithelial cells. The nucleus is larger and the cells often have one or more flat sides. They may be small and rounded as shown here, or larger and more columnar when from the renal calyces. These cells indicate a variety of renal disease states.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Results

Print Screen

STANDBY

Specimens

Found List (72)

Instrument

Operator: [IRIS]

REEP

< 1 /HPF



Renal Epithelial Cells (REEP) #2 – Renal epithelial cells are often found in pairs or small groups.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Results

Print Screen



Image Encyclopedia

Resource Guide

OFF

Specimens

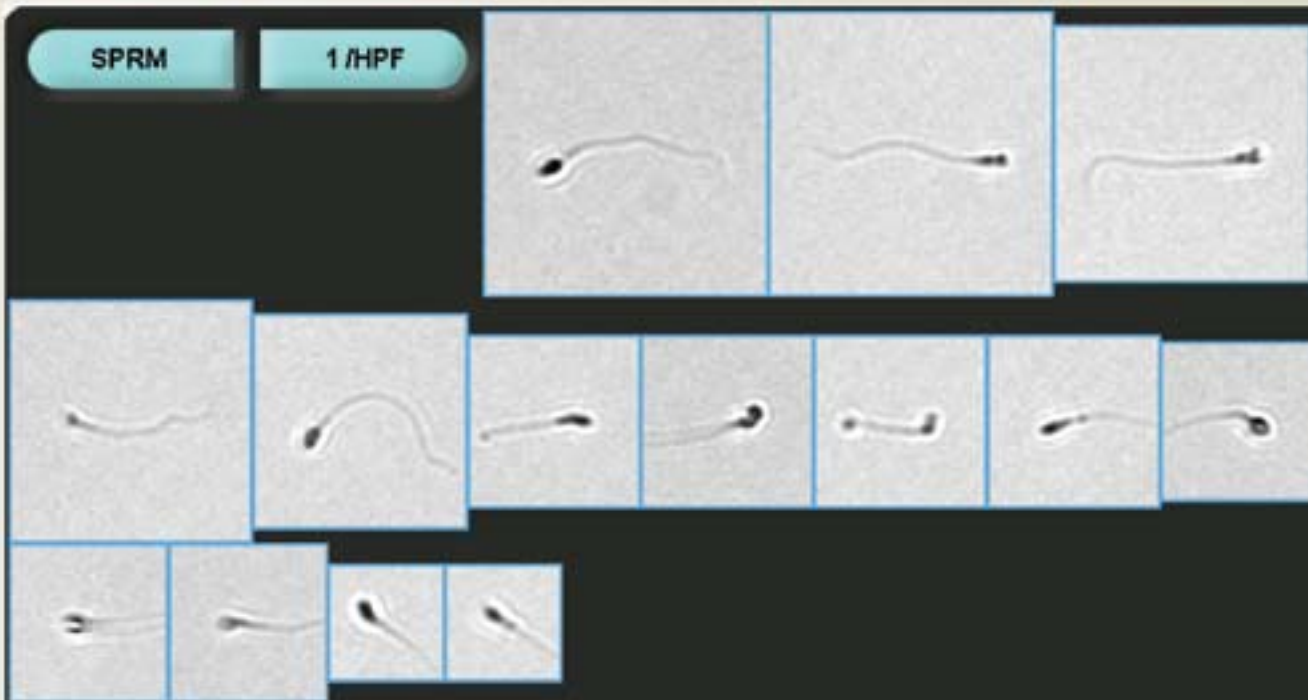
Found List (1974)

Instrument

Operator: [IRIS]

SPRM

1 /HPF



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Sperm – Images of sperm may also appear in the Bacteria, Mucus or UNCL categories. The user should move any images in Bacteria or Mucus to the Sperm category. Images that are not sperm may be identified as sperm by the instrument. These are generally a dark spot (like a small crystal) with mucus attached. The operator should remove such images to ART. Sperm rarely has clinical significance but may have forensic significance. Some labs do not report Sperm.

Results

Print Screen

OFF

Specimens

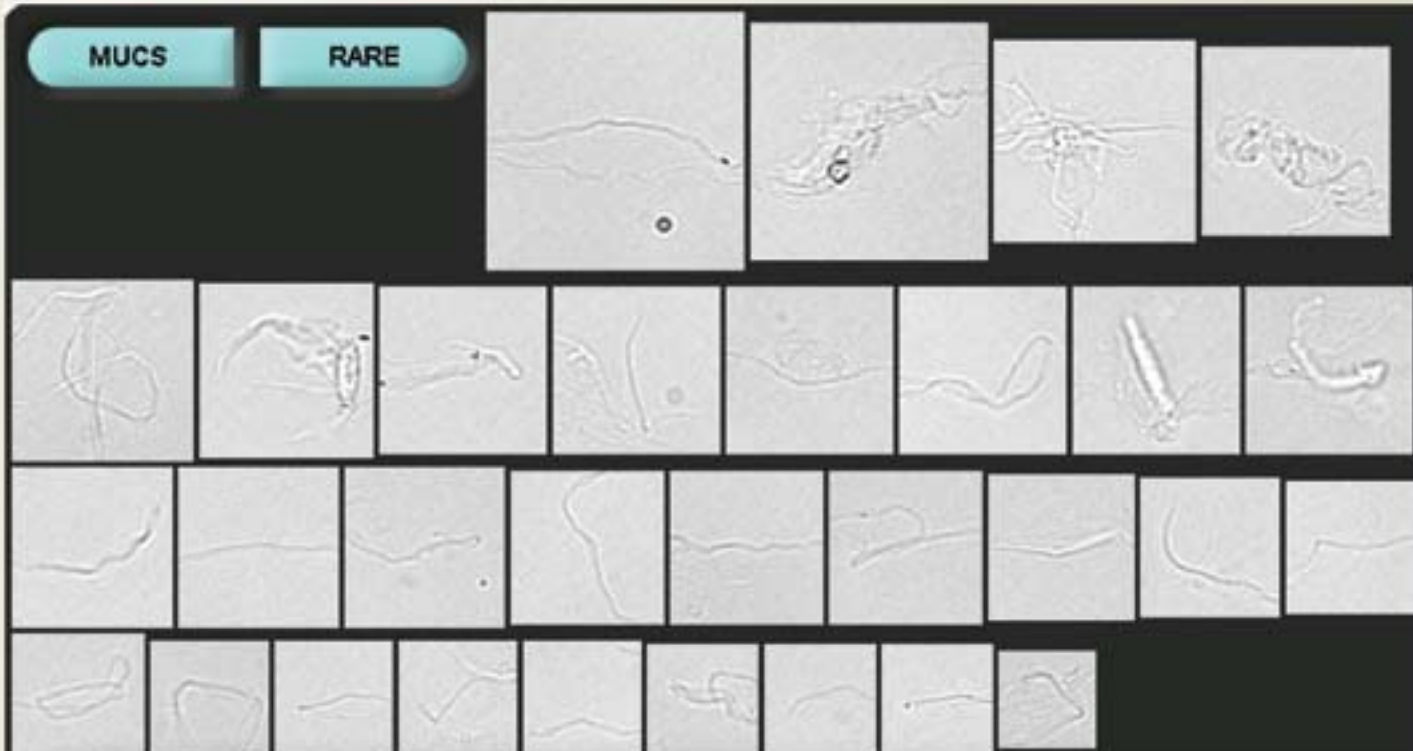
Found List (1973)

Instrument

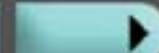
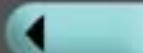
Operator: [IRIS]

MUCS

RARE



Mucus – Mucus has no clinical significance. The presence of mucus may be loosely correlated with urine protein. Bacteria is often seen trapped in mucus in images from the iQ Series Analyzers. Casts, especially hyaline casts, may be classified as Mucus and should be moved to the appropriate category by the operator. Occasionally, mucus may be classified as HYAL. These images should be moved to MUCS.



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Results

Print Screen

OFF

Specimens

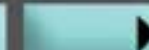
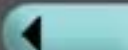
Found List (1974)

Instrument

Operator: [IRIS]

TRCH

MANY



WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Flagellae

Trichomonas – The iQ Series Analyzers will place images of Trichomonads into the WBC and UNCL categories. The operator may move them into the Trich category. The presence of 'WBC' in the absence of bacteria or yeast is a hint to look for the pear shaped bodies and flagella that are often seen even in a still photo. A wet mount is the specimen of choice for identification of Trichomonas infection.

Results

Print Screen

STANDBY

Specimens

Found List (47)

Instrument

SQEP

13 /uL



E. vermicularis ova

Enterobius Vermicularis Ova – These images may be found most commonly in SQEP, UNCC or UNCL. They indicate fecal contamination of the urine and a parasitic infection. The operator can report the presence of the parasite by using the 'Edit Comment' feature.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>>

45613Y/10/05

2005-10-29 15:56:41

6/2(56840)

1:1

All Small Particles: 16027/uL

Cleared flags:

HIGH CONCENTRATION

Results

Print Screen

STANDBY

Specimens

Found List (47)

Instrument

SQEP

13 /uL



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>>

45613Y/10/05

2005-10-29 15:56:41

6/2(56840)

1:1

All Small Particles: 16027/uL

Cleared flags:

HIGH CONCENTRATION

Schistosoma Haematobium Ova – These images may be found most commonly in SQEP, HYAL, UNCC or UNCL. They indicate a parasitic infection. The operator can report the presence of the parasite by using the 'Edit Comment' feature.

Results

Print Screen



Image Encyclopedia

Resource Guide

STANDBY

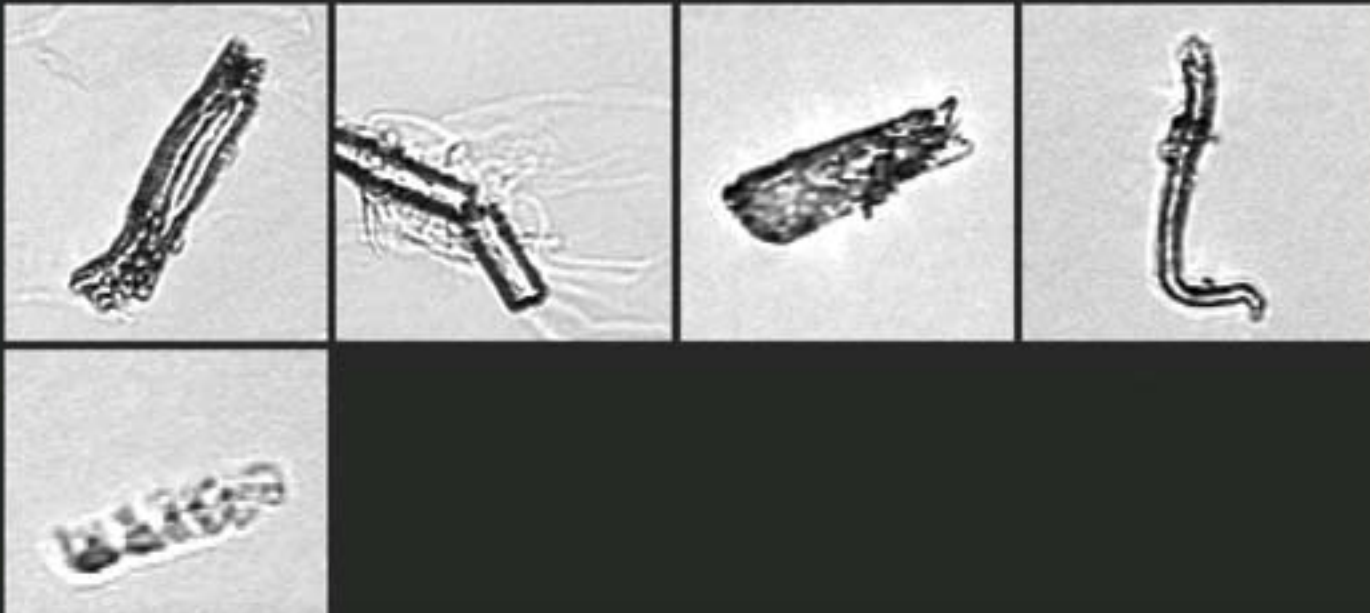
Specimens

Found List (76)

Instrument

UNCL

1478/ μ L



Artifacts - The images above are fibers and other artifacts. They should not be identified as casts.

WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>> <<Imported>>

171254-84L

2006-08-04 17:00:35

1/7(932)

1:1

All Small Particles: 812/ μ L

GLU	Normal
PRO	Negative
BIL	Negative
URO	<2.0
PH	5.5
BLD	Negative
KET	Negative
HIT	Negative
LEU	Negative
CLA	Clear
SPGR	1.014
COL	Yellow

Results

Print Screen

STANDBY

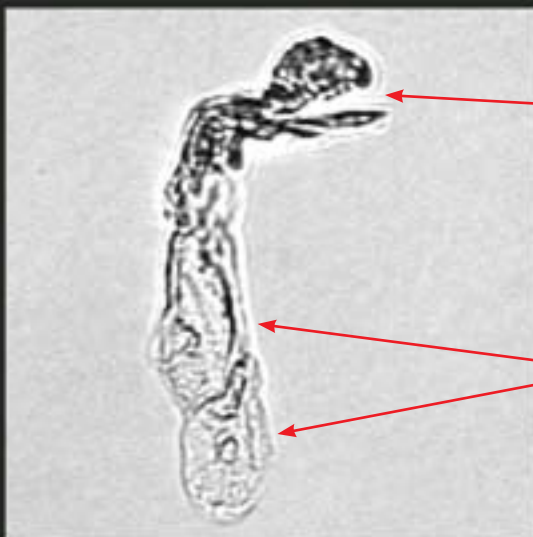
Specimens

Found List (76)

Instrument

UNCC

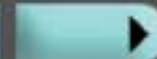
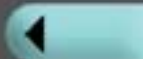
14/μL



Artifact

Squamous
epithelial cells

Pseudo Casts - The images above are cells in unusual formations, not casts. Note the irregular shapes and the lack of a protein matrix surrounding the cells. The image on the left is three cells attached end to end. The image on the right is of two squamous epithelial cells attached end to end with a highly refractive section at the top.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>> <<Imported>>

171254-84L

2006-08-04 17:00:35

1/7(932)

1:1

All Small Particles: 812/μL

GLU	Normal
PRO	Negative
BIL	Negative
URO	<2.0
PH	5.5
BLD	Negative
KET	Negative
HIT	Negative
LEU	Negative
CLA	Clear
SPGR	1.014
COL	Yellow

Results

Print Screen

STANDBY

REF Calibration
Stale Data

Specimens

Found List (76)

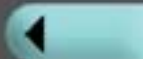
Instrument

UNCC

14/μL



Pseudo Casts - The images above are squamous epithelial cells. Since this cell type is so thin, it can easily roll into a form that can be mistaken for a cast. They may be found in SQEP, UNCL or sometimes, Mucus. If found in MUCS, the images should be moved to the SQEP category.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>> <<Imported>>
171254-04L
2006-08-04 17:00:35
1/7(932)
1:1

All Small Particles: 812/μL

GLU	Normal
PRO	Negative
BIL	Negative
URO	<2.0
PH	5.5
BLD	Negative
KET	Negative
HIT	Negative
LEU	Negative
CLA	Clear
SPGR	1.014
COL	Yellow

Results

Print Screen

STANDBY

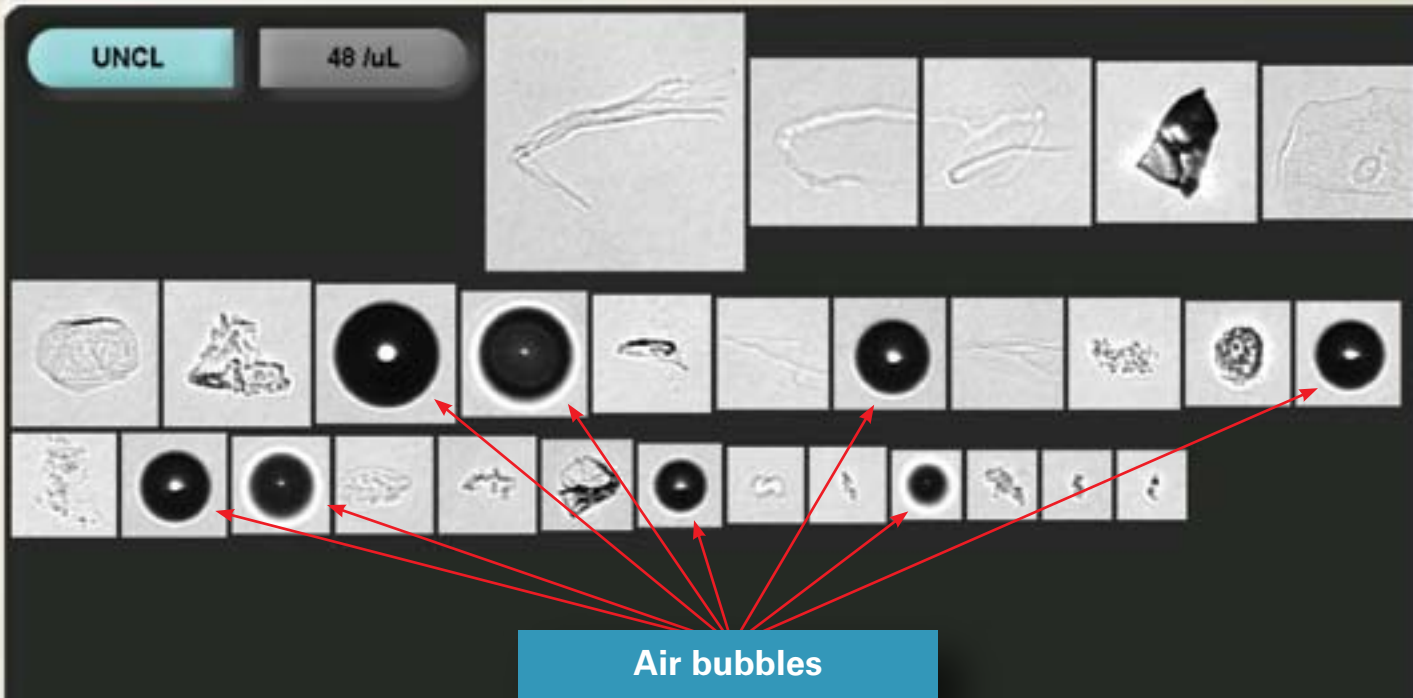
Specimens

Found List (76)

Instrument

UNCL

48 /uL



Air Bubbles in UNCL – Air bubbles may be large or small, but they always look like these images: a perfect dark circle often with a bright center. If found in any category other than UNCL, the operator should move the images to ART if the number of images affects the clinical interpretation of the result.



WBC

BACT

RBC

Crystals...

SQEP

Casts...

WBCC

Others...

NSE

ART

Info...

<<Released>> <<Imported>>
171254-84L
2006-08-04 17:00:35
1/7(932)
1:1

All Small Particles: 812/uL

GLU	Normal
PRO	Negative
BIL	Negative
URO	<2.0
PH	5.5
BLD	Negative
KET	Negative
HIT	Negative
LEU	Negative
CLA	Clear
SPGR	1.014
COL	Yellow

Results

Print Screen

STANDBY

Specimens

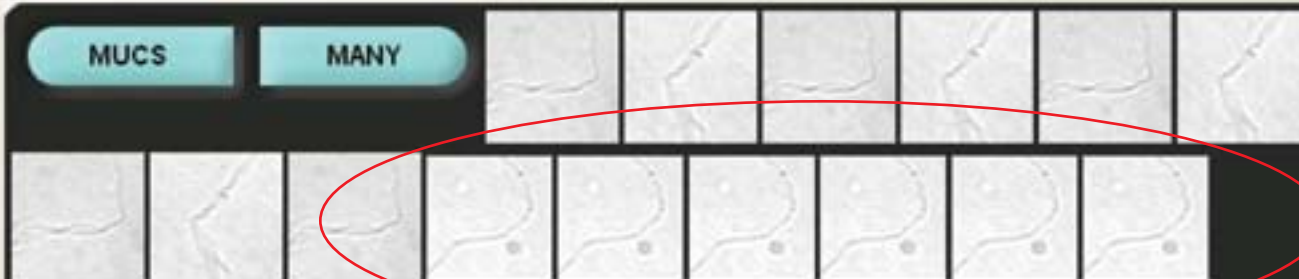
Found List (22)

Instrument

Operator: q

MUCS

MANY



Repeat images

Time to Clean the Flow Cell – Any time repeat images are seen, the flow cell must be thoroughly cleaned.

WBC

BACT

RBC

SQEP

Crystals...

WBCC

Casts...

NSE

Others...

ART

Info...

REEP

TREP

HYST

BYST

MUCS

SPRM

RBCC

TRCH

OVFB

FAT

Results

Print Screen



Image Encyclopedia

Resource Guide

STANDBY

Specimens

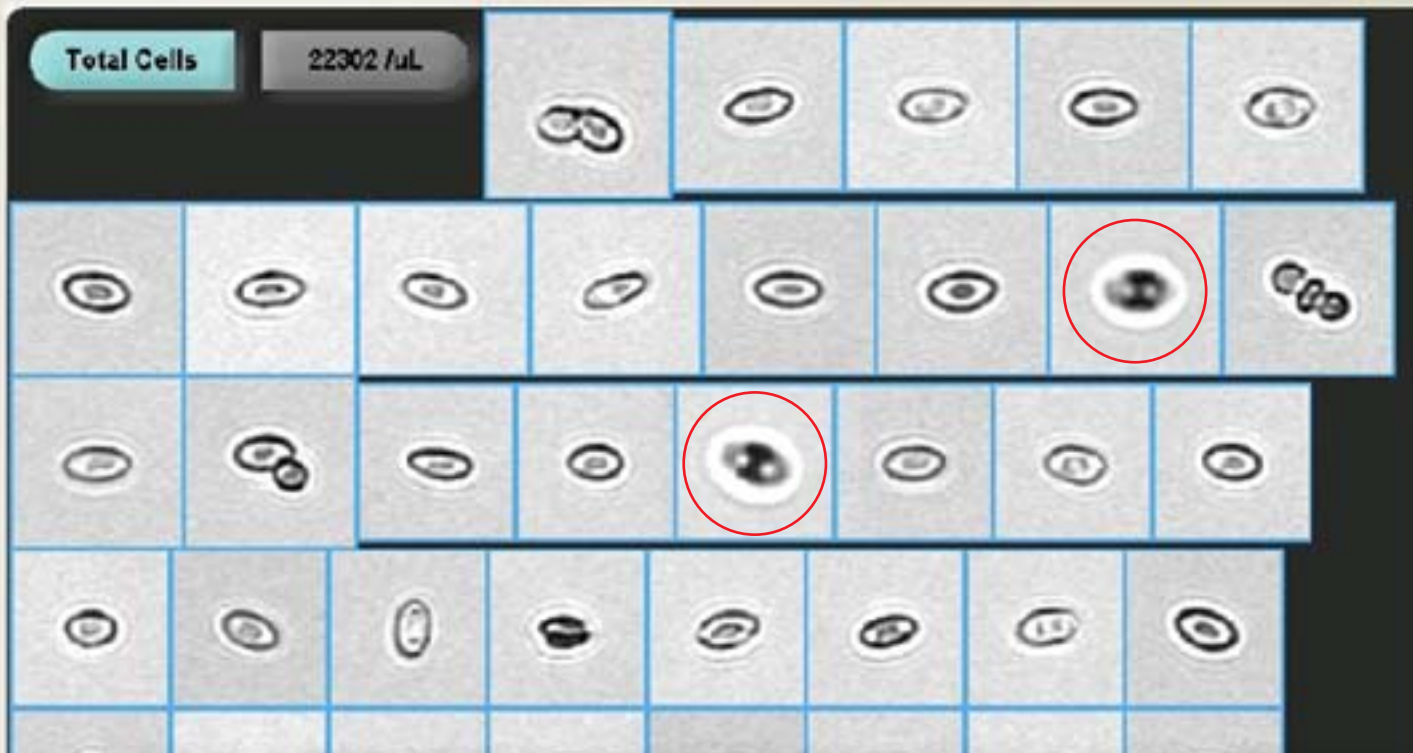
Found List (16)

Instrument

Operator: Manager

Total Cells

22302 /uL



Total Cells

Bacteria

Crystals

ART(Total)

<<Released>>

Cerebrospinal Fluid

1

2006-09-21 13:55:07

26/3

1:5

Body Fluid Control – Total cells. The cells that should be moved to ART are circled. Remove any unfocused particles because it is impossible to identify them.

Results

Print Screen

STANDBY

Specimens

Found List (16)

Instrument

Operator: Manager

Nucleated Cells

1633 /uL



Nucleated Cells

ART(Nuel)

<<Released>>

Cerebrospinal Fluid

1

2006-09-21 13:55:07

2613

1:5

Body Fluid Control – Nucleated cells. These cells appear to be erythrocytes. They are, only not human ones. The control material contains preserved human RBC and preserved avian RBC. The avian RBC are nucleated and thus behave exactly as nucleated cells should. Do not be concerned by the appearance.

Results

Print Screen

OFF

Specimens

Found List (1973)

Instrument

Operator: [IRIS]

Total Cells

89717 /uL



Total Cells

Bacteria

Crystals

ART(Total)

<<Released>> <<Imported>>

Cerebrospinal Fluid

csf

2006-05-11 12:11:52

26/3

1:100

Cleared flags:

ID

Total Cells Screen for Body Fluids – This is a CSF sample. The operator must move any artifact found to ART. Pay close attention to the refraction rings around the particle images. These rings indicate a well focused image. Any image that is not well focused should be placed in ART.

Results

Print Screen

OFF

Specimens

Found List (1973)

Instrument

Operator: [IRIS]

Nucleated Cells

345 /uL



Nucleated Cells

ART(Nucl)

<<Released>> <<Imported>>
Cerebrospinal Fluid
csf
2006-05-11 12:11:52
26/3
1:100

Cleared flags:
ID

Nucleated Cells Screen for Body Fluids – This is the same CSF sample. The operator must move any artifact found to ART. Again, pay attention to the refraction rings. Any image that is not well focused should be placed in ART.

Results

Print Screen

STANDBY

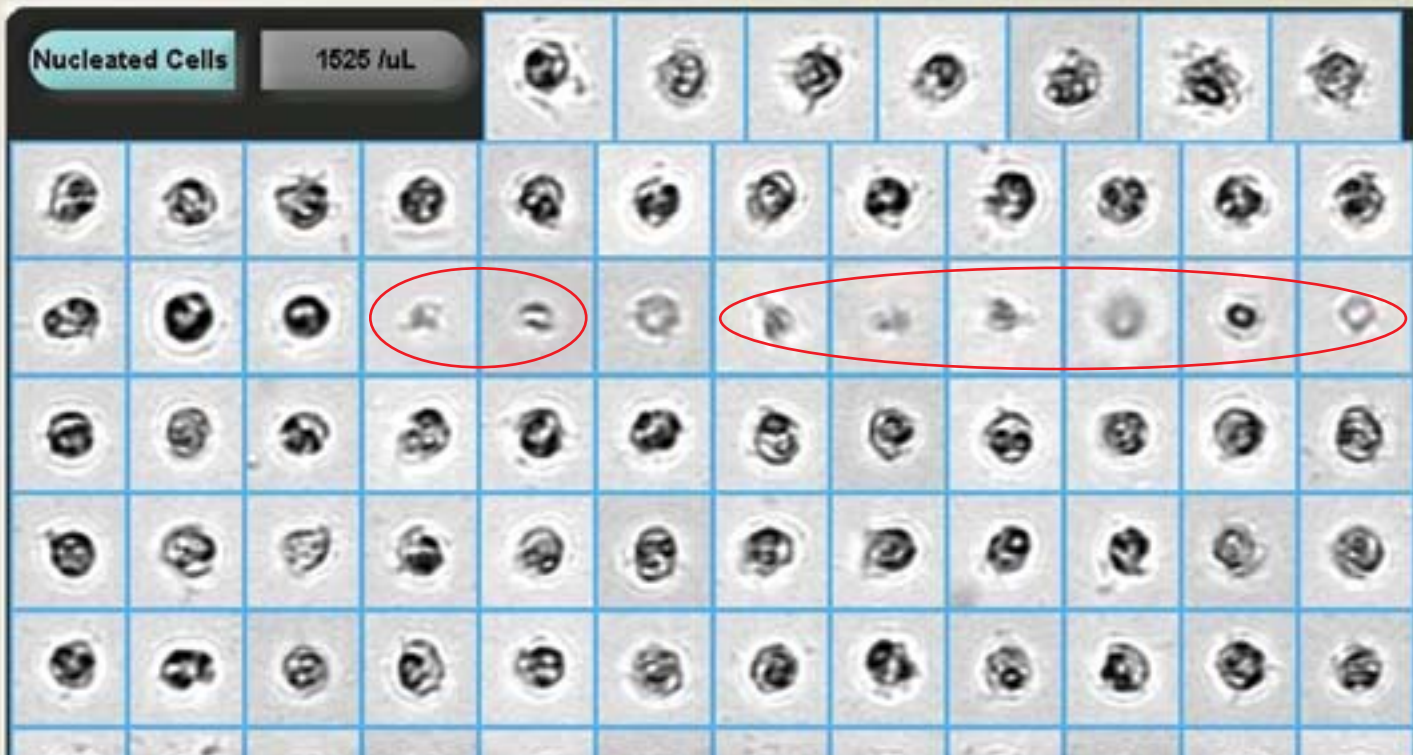
Specimens

Found List (16)

Instrument

Operator: Manager

UN-E SEROUS NUC2 1-20 BF



Nucleated Cells

ART(Nucl)

<<Released>> <<Imported>>
Serosus Fluid
serous
2006-09-21 14:04:20
26/3
1:20

Nucleated Cells Screen for Body Fluids – This is a serous sample. Again, pay attention to the refraction rings. The circled images should be moved to ART.

Results

Print Screen

OFF

Specimens

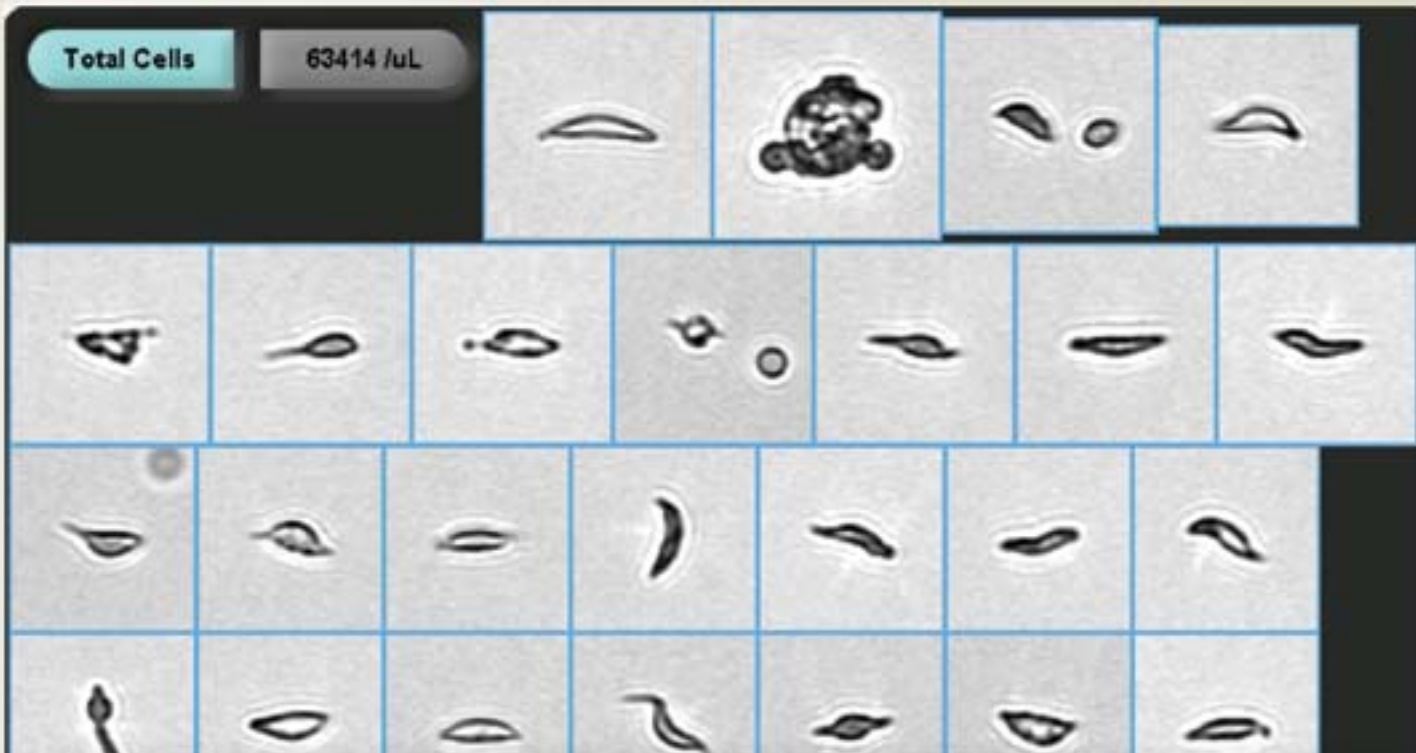
Found List (1973)

Instrument

Operator: [IRIS]

Total Cells

63414 /uL



Total Cells

Bacteria

Crystals

ART(Total)

<<Released>> <<Imported>>

Serous Fluid

Sickle Patient

2006-05-11 12:12:24

27/3

1:50

Sickled Cells in Serous Fluid – This is the Total Cells Screen from a Serous Fluid sample. The iQ Series Analyzers allow the user to see and report many cellular abnormalities that simple cell counters may miss.

Results

Print Screen